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We will be glad to see you among the authors of “Arctic and North”!

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Maritime Shipping on the Northern Sea Route: Need for Greater Emphasis on Mutual Cooperation and a Non-Negotiable Safety Culture. Part II*

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Abstract. The opening of the Northern Sea route (NSR) due to the melting of the Arctic sea ice ushers in many opportunities. The International Maritime Organization has introduced several regulations for shipping and the training of seafarers. The Northern Sea Route has several challenges with respect to the infrastructure and the harsh weather conditions. The recent incident onboard the Viking Sky cruise liner was a reminder of such challenges. The Norwegian authorities responded admirably, and the Search and Rescue operation was conducted with the necessary coordinated effort in the shortest possible time. Other incidents along the NSR and increasing ship casualties in the Arctic region which have been analyzed with reference to the adequacy of existing regulations. The author's opinion is that these incidents bring out a need to examine the adequacy of the Polar code, infrastructure along the NSR and the current state of Search and Rescue (SAR). From a practical point of view the Norwegian experience would be of interest to all Arctic states and the IMO. The evolution of the Polar Code and the challenges in implementation are discussed. The article puts forth several recommendations for improving cooperation and safety with the aim of making the NSR a viable alternative route. This article can be used for educational purposes at universities. It is relevant for civil servants, shipping authorities, search and rescue authorities and researchers involved in developing the Arctic sea routes and specifically the Northern Sea route.
Keywords: *Arctic, Arctic routes, Arctic sea ice cover, The Northern sea route (NSR), Russia, Search and Rescue (SAR), vessel traffic patterns, cooperation.*

"All passengers and crew are safe…Throughout all of this; our first priority was for the safety and wellbeing of our passengers and our crew…We would like to thank the Norwegian emergency services for their support and skill displayed in managing the situation in very challenging weather conditions" [1].
(Statement by the company Viking Cruises)

The Polar Code

The sinking of the MS Explorer, with the stranding of some 154 passengers and crew in waters off the Antarctic Peninsula in 2007, prompted the IMO to transform earlier voluntary guidelines related to shipping in the polar regions into a mandatory instrument [21, Grant G.S., p. 190]. The Arctic states reached a consensus that a mandatory Polar code was required based upon the

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[1] See: Simon Calder, Viking Sky: Why Things Went Wrong, What Happened and What's Next, 24 March 2019. URL: https://www.independent.co.uk/travel/news-and-advice/viking-sky-what-happened-storm-norway-emergency-evacuation-coast-a8837371.html (accessed 31.03.2019).

recommendations of the Arctic Council's Arctic Marine Shipping Assessment released in 2009 [14, Brigham L., p. 179]. The IMO's mandatory Polar Code to improve shipping safety in the Arctic and Antarctica was adopted by the IMO's Marine Safety Committee (MSC) in November 2014 [22, Yamada H., p. 185]. Resolution MEPC.265(68), adopting the text of amendments to MARPOL that make the environment-related provisions of the Polar Code mandatory was adopted by the IMO's Marine Environmental Protection Committee (MEPC) in May 2015 [21, Grant G.S., p. 190]. The aim is to provide for safe ship operation and the protection of the polar environment by addressing risks present in polar waters and not adequately mitigated by other instruments. The IMO adopted the International Code for Ships Operating in Polar Waters (Polar Code) and related amendments to make it mandatory under both the International Convention for the Safety of Life at Sea (SOLAS), 1974 and the International Convention for the Prevention of Pollution from Ships (MARPOL), 1973 as modified by the Protocol of 1978 and amendments issued by the IMO from time to time [23, IMO, pp. 1-6]. The IMO Polar Code entered into force on January 01, 2017. This marked a historic landmark in the Organisation's work to protect ships and people aboard them, both seafarers and passengers, in the harsh environment of the waters surrounding the two poles. The Polar Code is intended to cover the full range of shipping-related matters relevant to navigation in waters surrounding the two poles – ship design, construction and equipment; operational and training concerns; search and rescue; and, equally important, the protection of the unique environment and eco-systems of the polar regions. The Polar Code includes mandatory measures covering safety part (part I-A) and pollution prevention (part II-A) and recommendatory provisions for both (parts I-B and II-B) [23, IMO, p. 7]. The responsibility for enforcement rests primarily with the flag states, and in certain circumstances to the port states [14, Brigham L., p. 181].

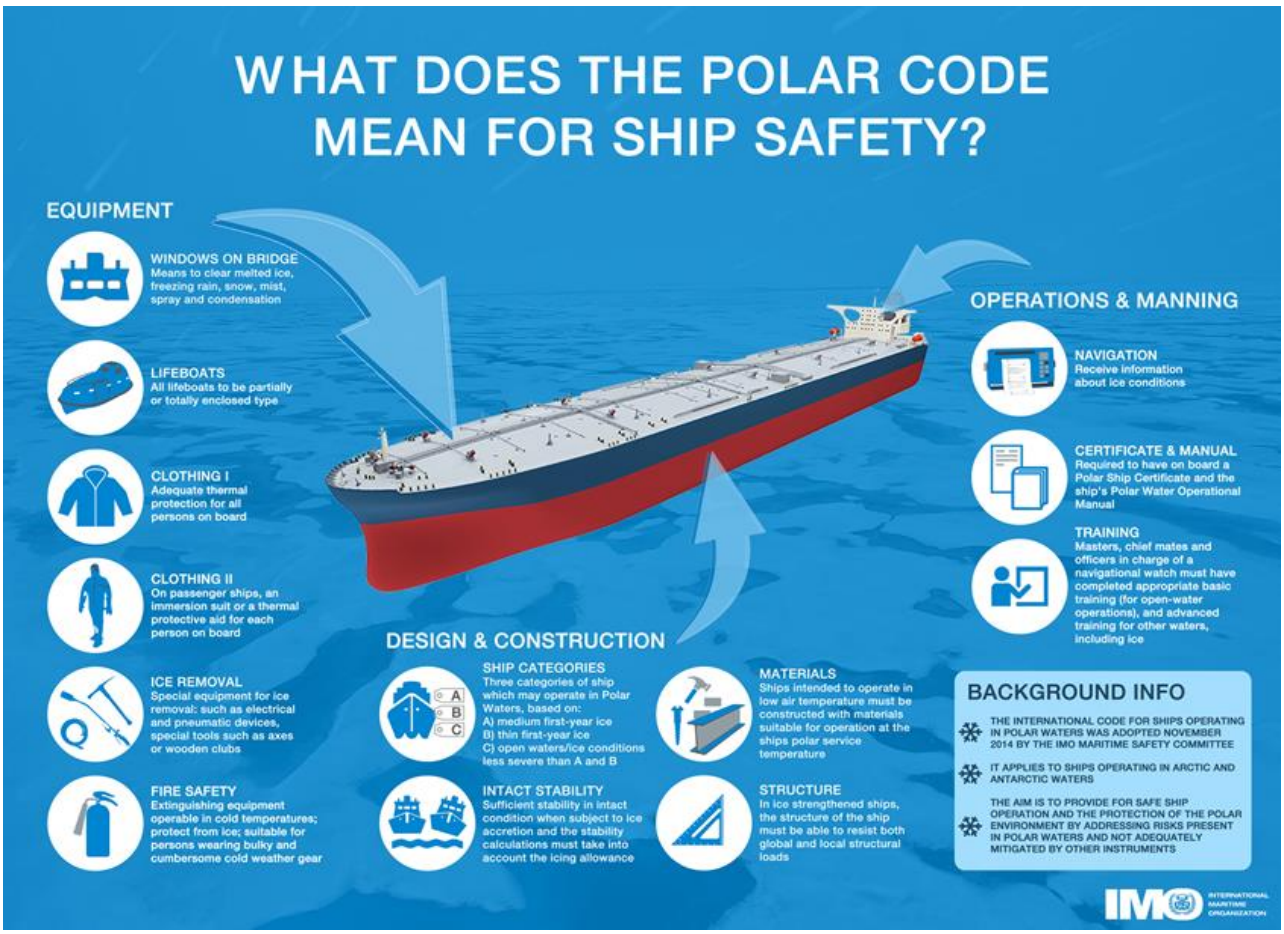

Fig. 1. What does the Polar Code mean for Ship Safety[2].

The Polar Code covers the full range of design, construction, equipment, operational, training, search and rescue and environmental protection matters relevant to ships operating in the inhospitable waters surrounding the two poles[3]. The salient aspects of the Polar Code for ship safety relating to design and construction are: "Three categories of ships may operate in polar waters based on (a) medium first-year ice, (b) thin first-year ice and (c) open water or ice conditions less severe than (a) and (b). There must be sufficient stability in intact condition when subject to ice accretion and the stability calculations must consider the icing allowance. In ice strengthened ships, the structure of the ship must be able to resist both global and local structural loads. Ships intended to operate in low air temperatures must be constructed with materials suitable for operation at the ships polar service temperature"[4].

For example, a fleet of six Arc7 shuttle tankers were built by Samsung Heavy Industries, Busan, Korea to comply with the Polar Code. These are operated under Russian flag and used to maintain year-round operation of the Arctic Gate Project, which is dedicated to developing Norvoportovskoye, an oil and gas condensate field that is one of the largest fields in the Yamal

[2]What does the Polar Code mean for Ship Safety? January 2017. URL: http://www.imo.org/en/MediaCentre/HotTopics/polar/Documents/Polar%20Code%20Ship%20Safety%20-%20Infographic_RUSSIAN.pdf#search=POlar%20Code (accessed 31.03.2019).
[3] Ibid.
[4] Ibid.

peninsula and it is important for strategic development of the NSR. The experience indicated that if the ice conditions are relatively favourable (ice thickness 1.2 m), ice tankers of Arc6 and Arc7 class can be used with virtually no icebreaker assistance. At the International Scientific Round table conference: "Logistics in the Arctic: problems of international cooperation" held in Saint Petersburg in November 2019, whilst presenting the case study researchers stated that these transportation schemes were not accepted 10-15 years ago [24, Ogarcov S., Kozmenko S.,Teslya A. pp. 6-7]. The other main argument against involving the tanker fleet is that it is of utmost importance to preserve the environment and eliminating oil spills in sea waters is complex under ice conditions. Due to the unstable ice situation and rapid transfer of ice by the currents and winds, navigation along the NSR requires the usage of not only icebreaker assistance but also transport and cargo vessels of Arctic class [8, Tianming G., Erokhin V., p. 7]. In the opinion of the author, more extensive trials would need to be carried out to validate the proposal put forth by the authors at the above mentioned conference as ice conditions cannot be always predicted with certainty and also due to the sensitive nature of the pristine Arctic environment. In addition, there has been an exponential increase in the number of ship casualties related to machinery failure (Table 1). The number of cases (124) in the period 2015-2017 was almost equal to the number of machinery failures (125) in the period 2005-2014[5].

The Polar Code for ship safety also states that ships are required to have onboard a Polar Ship Certificate and the ship's Polar Water Operational Manual [14, IMO, p. 7]. If the ship sails in polar waters the port-state officials could make a request to the Captain to inspect the vessel's Polar Ship Certificate. Similarly, the maritime law enforcement officials could scrutinize the Polar Water Operational Manual and examine the ship and the crew's readiness to respond to an emergency event in polar waters [14, Brigham L., pp. 181-182]. A port state may detain a vessel that does not meet the relevant standard [21, Grant G.S, p. 195]. While it is understood that the NSRA does require the Polar Ship Certificate, it is not known whether the Arctic states have instituted mechanisms to examine compliance with the latter provision of the Polar Code. For instance, there are environmental standards have been laid down for the machinery compartments of the ship in regulation 6.3.1.1 to meet the functional requirements in Chapter 6.2. However, according to one viewpoint the adoption of goal based standards as in the regulation 6.3.1.1 while supposed to meet objective standards leave discretion to ship-owners and operators how to meet the requirements [21, Grant G.S, pp. 197-198]. This could also pose enforcement challenges to flag and port states that seek to act against non-compliant ships. In future, due to the warming of the Arctic ships may not make any port call and therefore it would call upon port-state procedures to be adjusted to carry out checks prior to and after an Arctic voyage. This type of operation will put more onus on Flag states and their recognized organizations to exercise effective oversight and

[5]Arctic Circle Waters-All Casualties including Total Losses 2005–2017, Allianz Global Corporate & Specialty, Safety and Shipping Review 2015–2018.

ensure strict compliance with the Polar code. Arctic states may need to consider integrating a Polar Code inspection regime into existing port-state control MOU's such as the Paris and Tokyo agreements [21, Grant G.S, p. 198].

Russia carried out an amendment to its Federal shipping code, which stated that shipping of oil, natural gas (including LNG), gas condensate and coal, which is extracted on Russian territory, including on the Russian shelf, and loaded on board vessels along the Northern Sea Route, must proceed under Russian flag. From January 2019, the Russian government also requires that all new vessels operated by Russian companies in the Russian Arctic must be constructed at Russian shipyards [5, Tianming G., Erokhin V., p. 14]. However, there is a loophole in the new law, which enables several key stakeholders to continue their already ongoing shipping operations with foreign-registered vessels[6]. The law states that the companies which before 1 February 2018 have entered into contract agreements over the use of foreign-flag vessels will be allowed to continue operations. This mainly pertains to the use by Novatek of foreign flagged carriers[7]. Currently, Yamal LNG is served by seven gas tankers, but only one of them sails under the Russian flag. The remaining six are owned by Canadian Teekay, Greek Dynagas, and Japanese Mitsui [5, Tianming G., Erokhin V., p. 14]. However, according to Western sources this measure is not meant to ensure greater regulation but to promote growth of the domestic Russian shipbuilding industry primarily in the Far East, at the Zvezda shipbuilding yard in Bolshoi Kamen[8]. Danish ship-owners expressed their regret over this protectionist step by Russia and stated that they might take this up with the EU[9]. However, there is nothing novel about the Russian initiative to protect their shipping industry. As per United States Cargo Preference laws and regulations, *"a shipper/supplier cannot ship the US flag portion of preference cargo on a foreign-flagged vessel, regardless of whether the bill of lading is issued by a foreign-flag carrier or a U.S.-flag ocean carrier. A shipper/supplier must ship the US flag portion of preference cargo via a U.S.-flag vessel and receive the U.S.-flag carrier's master ocean bill of lading"*[10]. The issue of relevance is that Flag states must be able to regulate shipping and this will only be possible if they permit only shipping of Arctic flagged states or carriers of certain other states who are willing to comply with the provisions of the Polar Code.

[6] Staalesen A. Russian Legislators Ban Foreign Shipments of Oil and Natural Gas and Coal along the NSR. 26 December 2017. URL: https://thebarentsobserver.com/en/arctic/2017/12/russian-legislators-ban-foreign-shipments-oil-natural-gas-and-coal-along-northern-sea (accessed 18.05.2018).

[7] Ibid.

[8] Staalesen A. Putin Nationalizes Arctic Petroleum Shipments. 17 November 2017. URL: https://thebarentsobserver.com/en/industry-and-energy/2017/11/putin-nationalizes-arctic-petroleum-shipments (accessed 18.05.2018).

[9] Pico S. Shipowners Prepared to Bring Russian Shipping Law Before the EU. 12 February 2018. URL: https://shippingwatch.com/carriers/article10300617.ece (accessed 18.05.2018).

[10] United States Department of Transportation. Cargo Preference FAQs. 2020. URL: https://www.maritime.dot.gov/ports/cargo-preference/frequently-asked-questions-faqs-cargo-preference (accessed 12.04.2020).

Regarding training it highlights that masters, chief mates, and officers in charge of a navigational watch must have completed appropriate basic training (for open-water operations) and advanced training for other waters, including ice[11]. Experts have also noted the limited availability of qualified polar mariners in the global maritime workforce. International cooperation may be necessary to close the wide gap in availability of crew and training facilities [14, Brigham L., p. 180]. However, while laying down more stringent norms and more extensive training it does not change the periodicity of surveys for polar ships or certification training for seafarers. The human dimension of operating in polar waters is the most critical element of the Polar Code [14, Brigham L., p. 180].

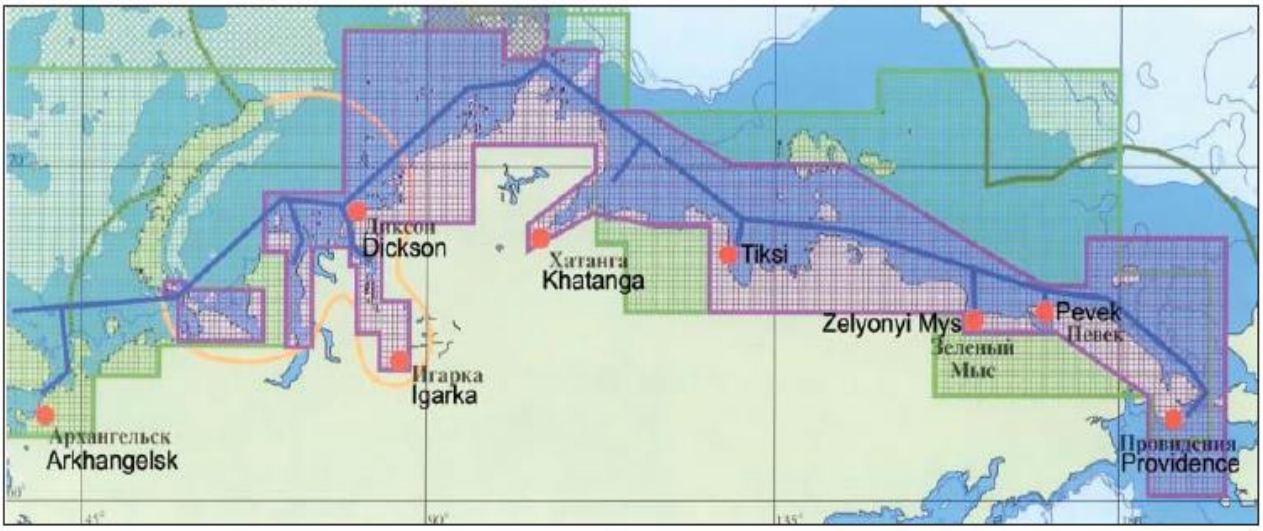

Fig.2. Coverage by electronic navigational charts [9, ABS, p. 19].

However, the IMO Polar Code, while focusing on ship safety and marine environmental protection, does not address any fundamental needs for search and rescue and emergency response. The code does specify many requirements including information pertaining to safety of navigation, ports, hydrography, aids to navigation, availability of electronic charts, communications, salvage, and shore-side pumping facilities, among other issues [14, Brigham L., p. 183]. The persistence of risk and uncertainty during sailing along the NSR includes the scarcity of port facilities and navigation aids, the inaccuracy of nautical charts, and isolation [25, Lasserre F., pp. 509-521]. While differing on the availability of charts and electronic charts which he considered adequate for transit another researcher brought out another issue of concern which is the non-availability of guide to route planning, charts and publications in the English language from the Russian authorities [26, Pastusiak T., p. 70]. See table 1 below for detailed list of coverage of charts and ENCs.

[11] Ibid.

Table 1

Availability of Charts and Electronic Charts (ENC) for the NSR [26, Pastusiak T., p. 67]

Narrow passage	The largest scale of charts of the selected producer covering the area (in parentheses the reference number of the map)			
	UKHO Paper charts	UNIO Paper charts	ICENC → PRIMAR ENC (*.000)	UNIO ENC (*.000)
Yugorskiy Shar Strait Novaya Zemlya, Barents Sea – Kara Sea	1:90,000 (2967)	1:25,000 (18316 western, narrow part), 1:50 000 (15030 eastern, larger part)	1:180,000 (RU3OPNJ9)	1:25,000 (CP5OSNT0 18316 western, narrow part), 1:200,000 (CP3OSNS0 eastern, larger part)
Kara Gates Strait Novaya Zemlya, Barents Sea – Kara Sea	1:90,000 (2967)	1:100,000 (13314 whole), 1:50,000 (15315, 15317), 1:25,000 (18314, 18315)	1:180,000 (RU3P0NJ9 whole), 1:45,000 (RU4P1NL0, RU4P1NI0 northern part)	1:90,000 (CP30SNQ0)
Matochkin Shar Strait Novaya Zemlya, Barents Sea – Kara Sea	1:350,000 (3182)	1:500,000 (11116, 11126)	1:700,000 (RU2P8MH9)	1:500,000 (CP2P5NE0, CP2P6LT8)
North of Novaya Zemlya	1:350,000 (3182)	1:100,000 (13215)	1:700,000 (RU2P8MH9)	1:90,000 (CP3PK0G0)
Vilkitski Strait Severnaya Zemlya, Kara Sea – Laptev Sea	No coverage	1:100,000 (13400, 14314, 14315, 14316)	1:180,000 (RU3PMS90, RU3PLR00)	1:90,000 (CP3PNS80 partly), 1:200,000 (CP3PMS90, CP3PLR00 other part)
Shokalski Strait Severnaya Zemlya, Kara Sea – Laptev Sea	No coverage	1:50,000 (16366, 16367, 16368, 16343), 1:100,000 (14316 eastern approach), 1:200,000 (12338 western approach)	1:180,000 (RU3PORG0)	1:45,000 (CP4PQRS0, CP$PPRP0)
North of Severnaya Zemlya	No coverage	1:200,000 (12336, 12337)	1:180,000 (RU3Q0QQ0, RU3Q0RE0)	1:200,000 (CP3Q0QQ0)
Laptev Strait New-Siberian Islands, Laptev Sea – East-Siberian Sea	No coverage	1:100,000 (13430, 13455)	1:180,000 (RU3P7VS0, RU3P6W90)	1:200,000 (CP3P7VS0)
Sannikov Strait New-Siberian Islands, Laptev Sea – East-Siberian Sea	No coverage	1:100,000 (13432, 13448)	1:180,000 (RU3PCV80, RU3PBVP0)	1:200,000 (CP3PBVP0)
North of New-Siberian Islands	No coverage	1:200,000 (12415, 12416, 12417, 13418, 12419)	1:180,000 (RU3PGV80, RU3PVG0)	1:200,000 (CP3PGVP0)
De Long Strait Wrangel Island, New-Siberian Islands – Chukchi Sea	1:5,000,000 (4521)	1:200,000 (12430, 12431)	1:180,000 (RU3OOZO0, RU3P0OT0)	1:200,000 (CP30RZ60)
North of the Wrangel Island	1:27,000,000 (4002)	1:50,000 (16475, 16476)	1:180,000 (RU3P0ZM0, RU3P0OT0)	1:200,000 (CP300CO0)
Bering Strait Chukchi Sea – Bering Sea	1:1,000,000 (4814)	1:100,000 (14435, 64251)	1:180,000 (RU3OE090)	1:25,000 (CP30E040)

A wide maritime infrastructure gap remains throughout much of the maritime Arctic. Considerable investment in navigation-related infrastructure would be required if trans-Arctic shipping were to become a reality. The development of stable and secure navigation along the NSR is also one of Russia's core interests in the Arctic [27, Zysk K., pp. 104-110]. Only through investment by the Arctic states, interested non-Arctic states such as China, Japan and South Korea, and possibly public-private partnerships may resources be available to fulfill these essential needs in response to increasing Arctic marine operations.

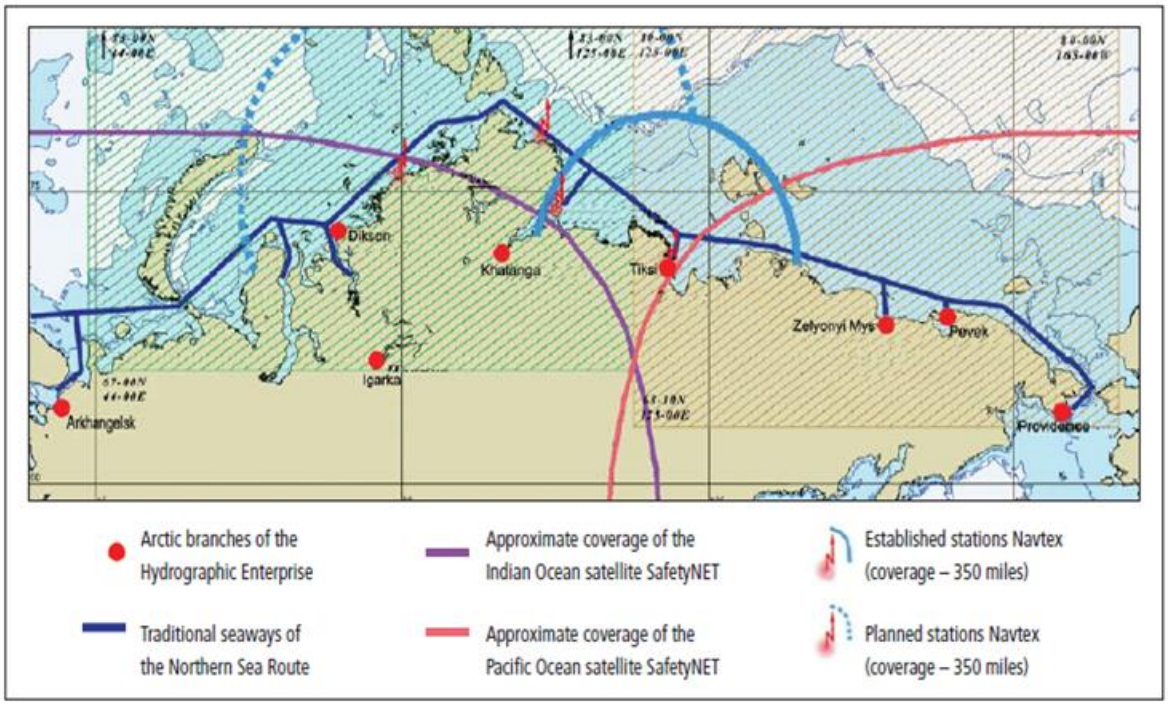

Fig.3. Zones for the reception of information on the safety of navigation in the SafetyNET and NAVTEX systems – gaps in coverage [9, ABS, p. 20].

The Polar Code for ship safety also protects the environment by addressing the unique risks present in polar waters but not covered under other legal instruments. It provides measures in addition to the MARPOL requirements and applies to both ships operating in Arctic and Antarctic waters [23, IMO, pp. 8-9]. It prohibits the discharge into the sea of oil or oily mixtures [23, IMO, pp. 38-39].Double hull and double bottoms are required for all oil tankers including those less than 5,000dwt (Category A/B ships constructed on or after 01 January 2017) [16, IMO, pp. 38]. The Arc7 tankers being used for the Arctic Gate project are equipped with a double hull and an Azipod-type electric podded azimuth of the tankers (allowing the rotation of the propeller 360 degrees relative to the hull) giving them excellent icebreaking capability. The double hull and segregated system of ballast meet all the requirements of MARPOL [24, Ogarcov S., Kozmenko S., Teslya A. pp. 6-7]. Heavy fuel oil is banned in the Antarctic (under MARPOL). Ships are encouraged not to use or carry heavy fuel oil in the Arctic[12]. Ships may also consider using non-toxic biodegradable lubricants or water-based systems in lubricated components outside the underwater hull with direct seawater interfaces[13]. The IMO continued its efforts to adopt a ban of Heavy Fuel Oil (HFO) in the Arctic in 2021 and implement it by 2023, but Russia and Canada which accounted for 56 percent and 6 percent of HFO use in the Arctic remained uncommitted in 2019[14]. Recently, Canada announced its

[12]Arctic Shipping Best Practice Information Forum Launches Public Web Portal.op.cit.
[13] Ibid.
[14] Humpert M. IMO inches forward with Ban on Heavy Fuel Oil in Arctic, 26 February 2019. URL: https://www.highnorthnews.com /en/imo-inches-forward-ban-heavy-fuel-oil-arctic (accessed 27.02.2019).

support to a phased-in approach to the ban on HFO[15]. The draft regulation adopted by the IMO in February 2020, now moves forward for consideration by the Marine Environment Protection Committee in October 2020 (MEPC 76), allows for the continued use of HFO until July 1, 2024. At that point two clauses permit the continued use of HFO for some vessels. Countries can exempt their own vessels within their domestic waters. Furthermore, all double-hulled vessels – ships that have two layers of watertight hull, mainly Russian are also exempt from the ban until the middle of 2029[16].

There are also concerns from a private civil liability perspective in terms of the sufficiency of current international rules to provide for compensation for damage from oil pollution, and in particular what are to be considered as reasonable measures to mitigate and respond to damage in remote areas [28, Chircop A., p. 49]. Regarding sewage the Polar Code states that no discharge of sewage in polar waters is allowed (except under specific conditions). Discharge is only permitted if the ship has an approved sewage treatment plant, and discharges sewage as far as practicable from the nearest land, any fast ice, or areas of specified ice concentration [29, IMO, pp. 40-41]. However, there are no polar-specific rules on the use of antifouling paints and ballast water management practices in the Arctic region, and instead, faith is implicitly placed in the application of general global rules [28, Chircop A., p. 49].

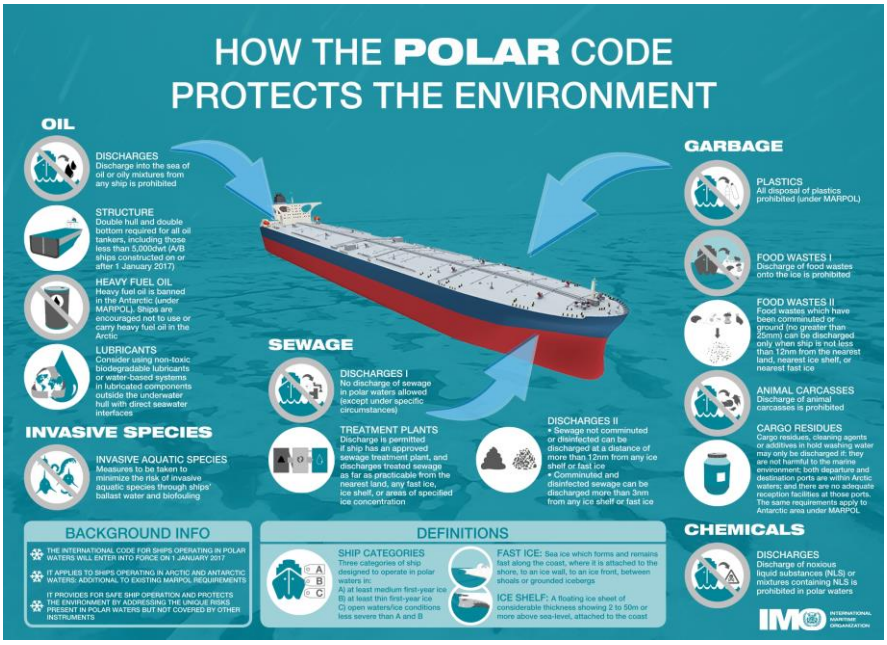

Fig. 4. How the Polar Code Protects the Environment[17]

[15] Maritime Executive, Canada Supports Ban on Heavy Fuel Oil in Arctic, 18 February 2020. URL: https://www.maritime-executive.com /article/Canada-supports-ban -heavy-fuel-oil-in-the-arctic (accessed 20.02.2019).

[16] Humpert M. IMO forward with Ban on Arctic Heavy Fuel Oil but exempts some vessels until 2029, 24 February 2019. URL: https://www.highnorthnews.com /en/imo-inches-forward-ban-heavy-fuel-oil-arctic (accessed 27.02.2019).

[17] How does the Polar Code protect the Environment, November 2014. URL:http://www.imo.org/en/MediaCentre/HotTopics/polar/Documents/How%20the%20Polar%20Code%20protects%20the%20environment%20%28English%20infographic%29.pdf (accessed: 31 March 2019).

Risks and Challenges of Operating Ships in the Arctic Environment

Table 2

Ship Casualties in Arctic Circle Waters, 2005-2017 [18] (ships of 100 gross tons or more)

Type of Casualty	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Machinery damage/ failure	2	3	5	13	14	16	12	13	20	27	46	32	46	249
Wrecked/ Stranded	1	4	10	11	14	9	9	8	10	14	6	11	9	116
Miscellaneous	0	0	5	1	4	4	2	6	5	5	6	4	6	48
Collision	0	0	0	1	4	10	4	4	2	0	5	2	4	36
Fire/explosion	0	0	3	1	2	6	6	1	4	2	4	1	3	33
Contact (e.g. harbour wall)	0	0	1	1	2	4	1	3	6	4	5	1	1	29
Hull Damage	0	1	3	1	6	2	2	1	2	1	1	2	2	24
Foundered (i.e. sunk or submerged)	0	0	1	1	2	0	**3**	1	1	2	0	1	0	12
Labor dispute	0	0	1	1	2	0	3	1	1	2	0	1	0	12
Total	3	8	28	30	47	50	39	37	50	55	71	55	71	544

The Viking Sky near miss and increasing number of ship casualties (Table 2) once again highlights the need to emphasise the key risk factors for vessel safety in the Arctic region, including collisions with ice, being stranded by ice, groundings or other mishaps, a fire on board a vessel, oil spills, collision with other vessels and icing as important risk factors. The risks vary according to the types and levels of activity in different areas of the Arctic. In addition, the operative environment varies greatly in different areas of the region due to ice and weather conditions and varying seasonal conditions. It is evident therefore that the risks are exacerbated and therefore the periodicity of surveys, with special emphasis on hull surveys of the ships for polar certificates and testing of knowledge for seafarers also needs to be more frequent. This is analogous to more periodic checks on a nuclear-powered station vis-à-vis a conventional hydroelectric power station. This is also like the checks on nuclear powered vessels and their crew by the Navies of the United States, Russia, France, United Kingdom, China, and India. In the case of Russia, nuclear and radiation safety inspection is carried out by an independent team of experts deputed by the Ministry of Defence to check the status of equipment and knowledge of crew of nuclear submarines. Thus, the regulator (Russian Ministry of Defence) is independent from the operator (Russian Navy). The Nordic countries and Russia may consider similar measures and restricting the passage of vessels with flags of convenience on the Northern Sea Route in view of their inability to ensure compliance of

[18] Arctic Circle Waters-All Casualties including Total Losses 2005-2017, Allianz Global Corporate & Specialty, Safety and Shipping Review 2015, p.28 and Allianz Global Corporate & Specialty, Safety and Shipping Review 2018, p.29. Quoted in R. Rourke. Changes in the Arctic: Background and Issues for Congress, p.50. Congressional Record Service, 30 March 2020. URL: https://fas.org/sgp/crs/misc/R41153.pdf (accessed 12.04.2020).

these vessels with the IMO's Polar Code. Marine insurers would need to calculate the proper level of risk premium for polar routes, which would require more detailed information about Arctic accidents and incidents in the pas[19].

The key challenges for Arctic search and rescue identified in a 2017 survey carried out the Finish Border Guard, amongst the Arctic Coast Guard Forum, include long distances, severe weather, ice and cold conditions, a poor communications network, lack of infrastructure, and lack of SAR assets in the North[20]. Use of unmanned aerial vehicles for various purposes, including ice monitoring, navigation, geophysical and meteorological surveys, and delivery of cargo to remote areas is still at a nascent stage in the Russian Arctic. Specifically, Russia needs heavy long-range unmanned aerial vehicles which are required for the monitoring of long-distance high-latitude routes of the NSR. In the last decades, emergency preparedness resources in the Arctic have been significantly strengthened through the addition of available vessels and helicopters. However, the response time may still be long and the capacity limited if major incidents occur [30, Marchenko et al, pp. 107-114].

The press release by the Norwegian government on March 23, 2018 admitted that, "*broadband coverage in the High North is poor and unstable*"[21]. The Minister of Trade and Industry Torbjorn Roe Isaksen added, "*Fast stable internet is important to anyone operating in the North, whether in shipping, defence, fisheries or research*"[22]. Consequently, Space Norway AS has been working on a project to have two satellites providing coverage for 24 hours a day in the areas north of 65 degrees N latitude[23]. In addition, the capacity to host patients and provide situational awareness, as well as unsuitable evacuation and survival equipment pose major challenges for SAR in the Arctic. All these observations were also made in the Arctic Council's 'Arctic Marine Shipping Assessment 2009 report referred to earlier.

Focus areas

As per the survey mentioned above, the Search and Rescue [SAR] authorities of the Arctic countries have also recognised a need to further develop advanced information sharing between respective emergency authorities, and other stakeholders involved in SAR operations. In addition, joint training and systematic sharing of lessons learnt and healthcare services also need to be improved to improve SAR capabilities in the region[24]. There is an urgent need for technological ad-

[19] Rourke R. Changes in the Arctic: Background and Issues for Congress, op.cit.
[20] Ikonen E. Improving International Cooperation in Arctic Search and Rescue, 12 December 2017. URL: https://www.thearcticinstitute.org/improving-international-cooperation-arctic-search-rescue/ (accessed 31.03.2019).
[21] Government wants Arctic internet, 23 March 2018. URL: http://armscom.net/news/government_wants_arctic_internet (accessed 31.03.2019).
[22] Quoted in Government of Norway, Government wants Arctic internet, op.cit.
[23] Henry C. Space Norway in final procurement for two highly elliptical orbit satellites, 10 April 2019.URL: https://spacenews.com/space-norway-in-final-procurement-for-two-highly-elliptical-orbit-satellites/ (accessed 15.04.2019).
[24] Ikonen E. Improving International Cooperation in Arctic Search and Rescue, op.cit.

vancements in communications networks, navigation, survival, and rescue equipment. With specific reference to communications in the Arctic, which is a major challenge, there is a need for a proper satellite broadband, satellite automatic identification system (AIS) and other communications infrastructure to support SAR operations. According to Emmi Ikonen, "*Due to the limited time that SAR personnel must travel between countries and scarce financial resources, further studies could be conducted on possibilities for e-learning. Such courses could for example focus on the roles of search and rescue mission coordinator (SMC), on-scene coordinator (OSC), and aircraft coordinator (ACO) in Arctic contexts. Arctic maritime search planning and Arctic joint operations are also relevant topics for common education work*"[25]. However, there is no substitute for realistic SAR exercises in challenging conditions and these need to be held on a more regular basis. The results of a research study conducted in 2018 also suggested that, *"the risk factors, mainly in the 'Safety' and 'Political' domains, exert a far greater negative influence on the propensity to deploy vessels on Arctic routes than the supposed positive influence of 'Economic' factors, particularly as manifest in reduced fuel use and reduced transit time. This implies a certain lack of appetite amongst shipping operators to opt for Arctic shipping as a viable alternative to conventional routes"* [31, Tseng P-H., Cullinane K. pp. 422-438]. The Russian authorities will need to examine this study carefully and factor it in their plans for development of the NSR.

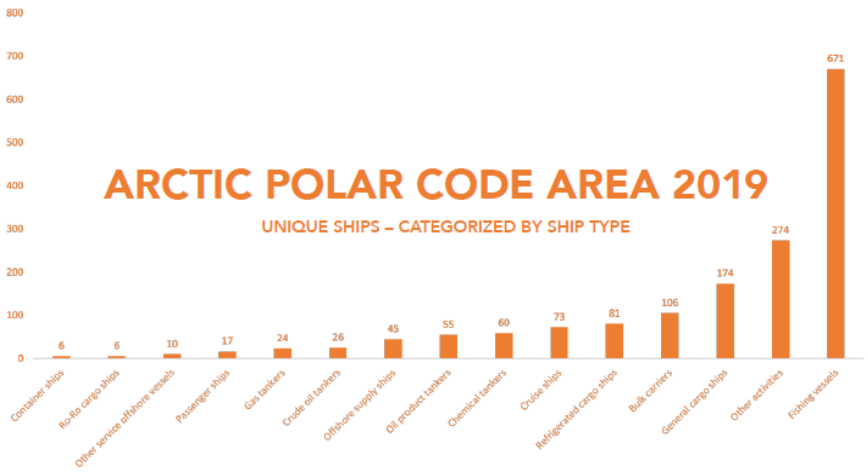

Fig. 5. Unique Ships – Categorized by type which sailed in the Arctic Polar Code Area[26].

On May 15, 2018, the Arctic Council's Arctic Shipping Best Practice Information Forum launched a web portal to assist in the implementation of the International Maritime Organisation's International Code for Ships Operating in Polar Waters (Polar Code)[27]. The purpose of the Arctic Shipping Best Practice Information Forum is to support effective implementation of the Polar Code by making publicly available on a dedicated web portal, information relevant to all those involved in safe and environmentally sound Arctic shipping, including vessels owners/operators, regulators,

[25]Ikonen E. Improving International Cooperation in Arctic Search and Rescue, op.cit.
[26]Protection of Arctic Marine Environment. Arctic Shipping Status Report 2013-2019.
[27]Arctic Shipping Best Practice Information Forum Launches Public Web Portal. 2018. URL: https://www.arctic-council.org /shipping (accessed 16.04.2020).

classification societies, marine insurers, and indigenous and local communities[28]. Regular meetings are envisaged to be held and the proceedings of the meetings conducted in 2017 and 2018 are available onlin[29]. However, the information available online is of a general nature and could be much more detailed. In another significant development, the organisation "*Protection of the Arctic Marine Environment*" (PAME) 's Arctic Ship Traffic Data (ASTD) project was launched in conjunction with the Arctic Council in February 2019 in response to a growing need to collect and distribute accurate, reliable, and up-to-date information on shipping activities in the Arctic[30]. The project seeks to further the work of the shipping database developed in 2005 for the release of the Arctic Marine Shipping Assessment Report (AMSA 2009)[31]. The first report provides information on general Arctic shipping trends between 2013 and 2019 and shows how much Arctic ship traffic has increased[32]. For example, the report shows that during this six-year period, the number of ships entering the Arctic grew by 25%, and the distance sailed by ships in the Arctic increased by 75%[33]. The distance sailed by bulk carriers (food grains, ores, coal, and cement) over the same period increased by 160%[34]. Most of these vessels, i.e. 41%, were fishing ones[35]. The next biggest category of vessels is others which includes icebreakers and research vessels[36]. All Arctic countries need to actively contribute to the Arctic shipping forum best practice and the Arctic shipping database.

Recommendations

Unpredictable ice, wave, and wind conditions, varying routes, high environmental risks, and lack of qualified and experienced staff to facilitate safe sailing in polar waters are just a few security related challenges to the intensification of commercial shipping in the NSR [32, Erokhin V., Gao T, pp. 456-474]. The safety of ships operating in the harsh, remote and vulnerable polar areas and the protection of the pristine environment around the two poles have always been a matter of concern for IMO and many relevant requirements, provisions and recommendations have evolved over the years. Trends and forecasts indicate that polar shipping will grow in volume and possibly diversify in nature over the coming years [5, Tianming G., Erokhin V., p. 2] and these challenges need to be met without compromising either safety of life at sea or the sustainability of the polar environments. Unfortunately, there has been a steady increase in the number of ship casual-

[28] Ibid.
[29] Protection of Arctic Marine Environment. 2019. URL: https://pame.is/document-library/shipping-documents/arctic-shipping-best-practice-information-documents/354-forum-2nd-meeting-summary-report/file (accessed 16.04.2020).
[30] Protection of Arctic Marine Environment. Arctic Shipping Status Report 2013-2019. op.cit.
[31] Protection of Arctic Marine Environment. Arctic Shipping Database. 2020. URL: https://pame.is/index.php/projects/arctic-marine-shipping/astd (accessed 16.04.2020)
[32] Protection of Arctic Marine Environment. Arctic Shipping Status Report 2013-2019. op.cit.
[33] Ibid.
[34] Ibid.
[35] Ibid.
[36] Ibid.

ties (Table 2)[37]. If Russia must achieve its goal of making the NSR a viable safe alternative transport corridor, then it will need to play a pivotal role sometimes sacrificing short term economic interests and its perceived reticence to share information. It will also need establish greater linkages with interested nations, especially the Nordic countries and countries of Northeast Asia in all spheres of development of the NSR. In view of the above, salient recommendations regarding future expansion of the NSR are as follows:

- The Arctic states must ensure that the safety culture which the IMO's Polar Code mandates is adopted by all shipping companies and seafarers as they are primarily responsible in terms of UNCLOS for the safety of shipping in their waters and the Arctic environment. To achieve this, the Arctic or Flag states must ensure that ship-owners and in turn seafarers hold periodic safety stand-down's which discuss case studies of incidents highlighting loss of lives or injuries. The practise of posting safety violations on the NSRA website, Norwegian maritime authority website and by related websites of other Arctic countries needs to be continued. There needs to be strict time window by which the analysis of safety infringements needs to be published. The lessons learnt from the Viking Sky and Boris Vilkistky incidents need to be made available on the respective websites.
- The introduction of the Arctic Shipping Best Practice Information Forum has been a welcome development which needs to be actively supported by all Arctic countries, especially Russia. Yearly meetings need to be conducted and detailed proceedings of the meetings need to be made available online. The website could also reflect comments from independent experts of other countries on incidents along the NSR.
- Arctic states may consider integrating a Polar Code inspection regime into existing port-state control MOU's.
- As a first step more periodic and surprise checks, in addition to those already laid down in the International Convention for the Safety of Life at Sea on the seaworthiness of all ships and knowledge of all seafarers as per Standards for Training Certification and Watchkeeping in Seafarers [STCW] convention, 1995 needs to be initiated by the respective Arctic countries. Russia needs to consider establishing a specialised group of polar mariners under the Ministry of Transport to carry out these checks independent of the operator "Rosatom", like checks which are carried out on Russian nuclear submarines.
- The Nordic countries and Russia may consider restricting the passage of vessels with flags of convenience such as Panama and Cyprus on the Northern Sea Routes. Vessels which hitherto have been given exemption under Russian federal regulations also need to be subject to an inspection regime.
- Flag states could leverage insurance companies to play a significant role in ensuring that ship-owners comply with the Polar Code provisions by establishing specific compliance policies.
- The Arctic states would need to continue to make focused efforts to improving surveillance and domain awareness in the Arctic, including the central Arctic Ocean, reporting systems, including further expansion of the Automatic Identification System (AIS) technology use.
- Russia and all other Arctic countries need to contribute actively to the Arctic Ship Traffic Data (ASTD) project.

[37]Arctic Circle Waters-All Casualties including Total Losses 2005-2017, Allianz Global Corporate & Specialty, Safety and Shipping Review 2015-2018, op.cit.

- Information on the Safety of navigation is presently not available seamlessly throughout the NSR. This is a serious lacuna, which needs to be addressed.
- There is inadequate satellite communication bandwidth available along the Arctic sea routes and in particular the Northern Sea Route. This needs to be addressed to ensure faster communication in case of any crisis.
- The ideal situation for the Arctic countries, or at least the Nordic countries and Russia would be to use a common satellite communication network to obviate time delays and ensure speedy Search and Rescue [SAR] response. This issue needs to be discussed at the Barents Council or other suitable forum.
- Arctic states need to share technology to improve meteorological observations.
- As foreseen by the Arctic Council's Search and Rescue [SAR] agreement there is no alternative to coordinated SAR and all countries need to communicate with each other by the fastest available means of any impending situation or incident.
- Realistic Search and Rescue [SAR] exercises with actual evacuation of personnel from within the Arctic Council and along the respective Arctic sea routes need to be planned by the concerned countries along with their partner countries. Case studies of accidents or incidents or near-miss accidents could be discussed in the table-top exercises. Further, the Nordic countries and Russia could agree on the modalities of having these case studies available on a common SAR website.
- Russia needs to ensure that the GLONASS satellite navigation system provided for commercial purposes meets the requirement of mariners using the Northern Sea Route. A cooperative arrangement with the EU to provide coverage of the Galileo system may also be considered.
- There are limited electronic charts available for the Northern Sea Route and there needs to be a project to prepare these charts at the earliest. Hydrographic surveys also may need to be initiated in case of outdated surveys.
- Russia will need to modernise infrastructure of the ports of the NSR in a time bound manner. This will need partnership with interested countries of the Arctic and East Asia.
- Considering the limited possibility of obtaining this niche technology from the West Russia could collaborate with China for the development of long range unmanned aerial vehicles for the Arctic.
- Russia will also need to develop an environment in which the political and safety factors are given due primacy to meet the concerns of shipping operators. Russia could also leverage the political instability in the Persian Gulf and the Middle East with the countries of Northeast Asia in the future for development of the NSR.
- Russia needs to leverage the intellectual capital available in the interested countries by scheduling periodic conferences or forums at different levels on the development of the NSR where participants from different fields such as the government, maritime authorities, business, environmental groups and academics can express their views, suggestions and concerns. This will immensely contribute to the sustainable development of the NSR.

Conclusion

This route has great potential for connectivity for Russia and North East Asia among others in Asia who would like to use the route in future. Moreover, the advantage to Russia is the development of communications, ports and townships in a neglected region with a vast potential for employment and training of technically competent manpower. The NSR has a vast potential for

the human resource development of Russia and its network of communications and connectivity. This region has considerable economic potential and with due recognition to safety and environmental considerations there are gigantic possibilities for the NSR. However, the cost effectiveness of the project is undoubtedly dependent on the progress of shipping in the NSR.

Consequently, Russia's focus areas with respect to the Arctic region is its strategic interest in promoting the Northern Sea Route as an alternative route for inter-continental shipping particularly to countries of Northeast Asia. However, Russia would need to play a pivotal role in the safety of ships operating in the unforgiving polar areas and sustainable expansion of the NSR by protection of the pristine environment around the Arctic. In this regard the safety of life at sea in the light of increasing ship casualties and the sustainability of the Arctic environment will need to be supported by the governments of Arctic states and the maintenance of a safety culture will need to be accorded a non-negotiable priority by Russia and the Nordic countries. The pace of infrastructure development particularly satellite communication, navigation systems, including electronic charts and hydrographic support and unmanned aerial vehicles to ensure safety of shipping and also, the revitalisation of ports needs to be accelerated if the NSR is to become a viable alternative. Russia will need to closely cooperate with international partners particularly the Nordic countries, China, Japan, and the Republic of Korea to make the NSR dream a reality.

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Status and Specifics of the Housing Market in the Arctic Regions of Russia*

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Abstract. This paper aims to analyze and identify the specifics of housing industry development in the regions of the Arctic zone of the Russian Federation using methods of comparative, analysis, statistical methods of grouping indicators, the method of scoring points. In the course of the work, an analysis of economic indicators of the housing market development, an assessment of the population's effective demand for housing. The main trends in the housing market development in the arctic regions were identified. The results show insufficient and uneven rates of construction of housing, a high share of emergency housing, and low investment in the housing industry in some regions. A disparity was observed between real estate prices and the population income because the population debt burden on the housing credit is quite high. According to the developed by the authors' method of assessing the housing market based on selected indicators, the main problems are characterized and the development of the housing market in the arctic regions is assessed. It was found that in some regions the level of economic indicators of housing market development and the population's solvency significantly lags the Russian trends. The results have practical significance for the federal and regional authorities in creating housing policies and the implementation programs of national projects in the sphere of housing affordability, the main directions which should be demographic to attract and increase the resident population in the Russian Arctic, as well as the regulatory functions of the housing market by reducing interest rates and stimulating the construction industry development.

Keywords: *the housing market, the Arctic regions, the solvency of population, trends of development.*

Introduction

The development of cities and regions is the most important task of modern society [1, Kirby A., pp. 3–8], dictated by the tendencies of resettlement from rural areas to urban agglomerations [2, Krzemin´ska A.E., Zareba A.D., Dzikowska A., Jarosz K.R., pp. 8362-8370; 3, Hoffmann B., pp. 425-441], in connection with which there is a need to meet the housing needs of the population, provided by the real estate market. The housing market to a large, or even a decisive extent, depends on regional conditions and has a pronounced local character [4, Łaszek J., Olszewski K., pp. 41-51]. Therefore, the specifics of the functioning of cities and regional features also determine the features of housing construction and the level of the housing market development.

Kinder's studies are devoted to modern problems and prospects for the development of the housing market abroad. The author linked housing construction with the problem of the quality of life [5, Kinder T.]. Studies by Butrin et al. reflect current trends in housing markets that affect the socio-economic development of cities [6, Butryn K., Jasin'ska E., Kovalyshyn O., Preweda E.].

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Maalsen was the first to introduce the concept of “smart housing” equipped with modern technologies to achieve environmental, economic and socio-cultural sustainability, which is a new type of housing market, formed due to the growth of “smartness” of cities [7, pp. 1-7]. Tomal's works [8, pp. 2–25] reflect modern trends in the development of the real estate market, including innovative models and types of housing construction, i.e. the concept of “smart housing” and “smart city” based on indicators such as demand, income level, unemployment, etc.

In Russia, despite the emergence of the so-called “smart houses”, where intelligent devices and technologies are used for the functioning of things inside the house, in some cities of the country, [9, Imran, Ahmad S., Kim D.; 10, Gu W., Bao P., Hao W., Kim J.], the traditional housing market still prevails. The housing market in Russia is very unstable and depends on many factors, e.g. changes in the effective demand of the population; high and volatile lending rates; insufficient and uneven volumes of housing construction, depending on regional affiliation [11, Zainakova S.R., pp. 58–62]. The management of the housing market of the Russian Federation is carried out considering the priority goals of the state, i.e., the creation of conditions for improving the living conditions of the population and the affordability of housing, which is one of the most significant indicators of the quality of life of the population in the country. In addition, the housing market is interconnected with the economic policy of the state, as it is linked with the development of transport, engineering, and social infrastructure [12, Vanina T., Obolonkova A., pp. 29-35].

The housing market is one of the indicators characterizing the development of economic and social processes not only on a national scale but also at the regional and municipal levels. The dynamic development of the housing construction sector demonstrates certain progress in the territories, the development of the construction industry, the population's ability to pay, the level of investment activity, entrepreneurship, and the social sphere. Where housing construction is actively going on, all the spheres of the industry are developing dynamically. These are mainly large cities, central regions of the country, and large resort centers, which are considered as “points of growth”. At the present time, economic growth in Russia is associated precisely with large urban centers and urban agglomerations [13, Kolomak E.A., Kukushkin R.G., pp. 55–63].

The purpose of this study is to assess the level of development and identify the specifics of the housing market in regions that are fully and partially included in the Arctic zone of the Russian Federation. The assessment of the housing market includes a number of indicators - the quality of the housing stock, the volume of housing construction and the level of investment in the housing sector, the cost of real estate, and the effective demand of the population. In accordance with the purpose of the study, the following tasks were set: to analyze the data of state and municipal statistics and official websites in the housing sector; to determine the most significant indicators for assessing the state of the regional housing market, characterizing the level of its development in this macroregion; to assess the level and identify the specifics of the development of the housing

market in the Arctic regions, depending on the degree of belonging of the constituent entity of the Russian Federation to the Arctic zone.

To achieve the goal and solve the set research tasks, the article was structured as follows: assessment and analysis of the dynamics of economic indicators of the housing market development; assessment of the solvency and demand of the population in the regional housing market; determination of the main trends in the development of the housing market in the regions of the Russian Arctic in two directions: economic development and solvency.

Within the framework of the study, the following hypothesis was put forward: the paying capacity and demand of the population are the main factors that can change the state of regional housing markets and significantly affect the dynamics of their development.

Regions and municipalities of the Arctic zone of the Russian Federation, having a certain specificity of their functioning, social and economic development [14, Emelyanova E.E., pp. 79–93], determine the peculiarities of the development of the housing market in the region. The relevance of the study is dictated by state development priorities for the long term, one of which is the development of the housing industry and the availability of housing for citizens of the country. The study area included 9 subjects of the Russian Federation, 4 of which are fully included in the Arctic zone (Murmansk Oblast, Nenets, Yamal-Nenets, and Chukotka Autonomous Okrugs), the rest of the regions are partly included in the Arctic zone of the Russian Federation. However, it should be noted that all the studied subjects of the Russian Federation, with the exception of the Krasnoyarsk Krai, represented in the Arctic zone by the only Arctic city - Norilsk, and two municipal regions - also fully belong or are equated to the regions of the Far North.

Obviously, it is not entirely correct to compare the indicators of the level of development of the housing market by regions with different belonging to the Arctic zone due to the presence of a certain specificity of their functioning. However, given the complexity of the allocation and division of state statistical information into “arctic” and “non-arctic” [15, Pilyasov A.N., pp. 35-54], and also bearing in mind that for the adoption of federal decisions by the authorities, the region is considered as a whole, and, taking into account the fact that almost all regions included in the study (with the exception of the Krasnoyarsk Krai), at the same time, completely belong to the regions of the Far North, a decision was made in favor of the analysis and assessment of all Arctic regions of the Russian Arctic, which, ultimately, made it possible to formulate a number of conclusions regarding the influence of the Arctic factor on the development of the housing market in the regions.

The time interval of the study was 18 years (2000 - 2018). The information base was theoretical and practical scientific research of foreign and domestic specialists, developed by the authors of the database [16, 17], data of state statistics and reporting.

Analysis of economic indicators of the housing market in the Arctic regions of Russia

The housing market is a kind of indicator of the social and economic situation in the city and the region, which reflects the level of attractiveness and development prospects of a particular territory. At the same time, real estate prices, formed by the general demand, reflecting the paying capacity of the population, and the supply, characterizing economic activity, are an important indicator of the income of the population and the prospects for the development of cities and regions [13, Kolomak E.A., Kukushkin R.G., pp. 55–63].

One of the most important indicators of the development of the housing market and the territory as a whole is housing construction. Based on the monitoring of the data on the commissioning of residential buildings (Fig. 1), it was established that, in general, the indicator had a positive trend until 2016, after which there is a certain decline in most regions of the Arctic, as well as in the country, which is associated with the consequences of the crisis 2014–2016. In 2018, only one Arctic region had indicators for the construction of housing stock above the national average - the Republic of Sakha (Yakutia). The worst indicators are in the Chukotka Autonomous Okrug and the Murmansk Oblast, in the territories of which, during the period under study, there is practically no housing construction. In general, in the regions of the Russian Arctic, the volume of housing construction lags behind the average Russian values by 1.5 times or more. This means that the housing stock is being renewed at a slower pace, and the real estate market is dominated by secondary housing. The main volume of commissioning of residential buildings is concentrated in the administrative centers of the constituent entities of the Russian Federation.

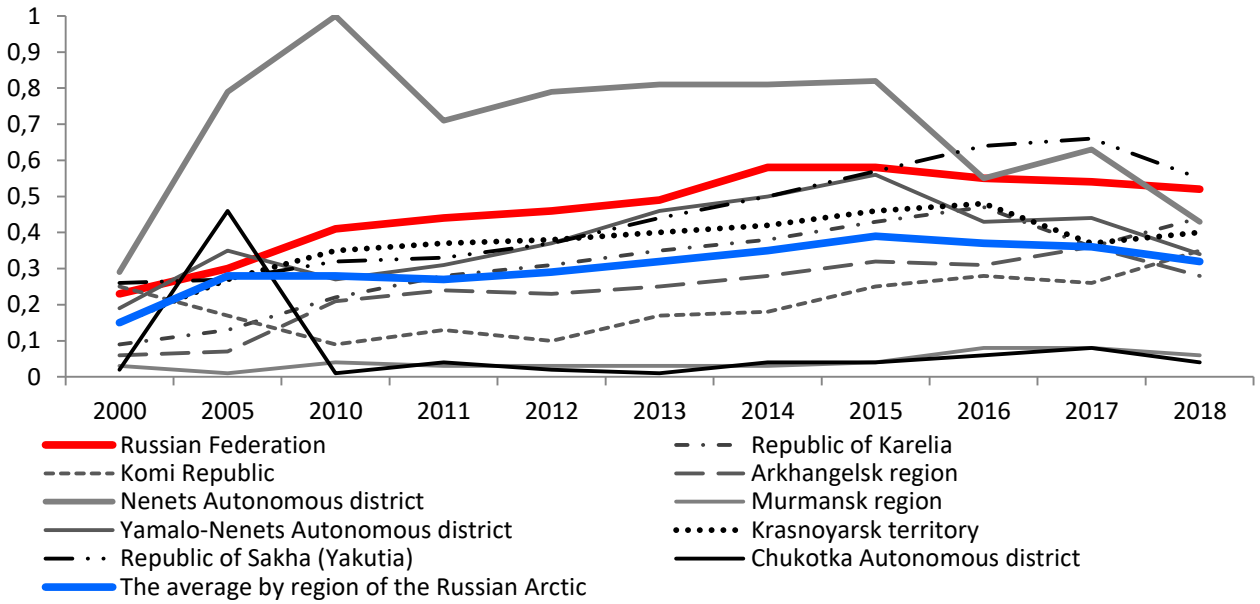

Fig. 1. Dynamics of the indicator of commissioning residential premises, sq.m/person.

The highest indicator for the commissioning of residential premises until 2016 was demonstrated by the Nenets Autonomous Okrug, on the territory of which there was a significant amount of housing to be resettled, and the program for resettlement from dilapidated and hazardous housing was actively implemented. According to official statistics, in 2005 - 2015, the share

of hazardous housing in the total area of the housing stock of the region decreased by half from 12% to 5.9%. A high share of emergency housing is also in another Arctic region - Sakha (Yakutia), where a high rate of commissioning of housing was also noted in comparison with other Arctic regions, which in 2015–2016. accounted for 16.5%. The share of emergency housing in the Yamal-Nenets Autonomous Okrug is also one of the highest (about 11% until 2016). That is why in these regions in 2005–2016 and there was a higher rate of housing construction. The rest of the regions of the Russian Arctic, although they are not characterized by such high rates of housing accidents as in the regions mentioned above, nevertheless have a much larger share than the national average, and, moreover, it tends to grow at a lower rate of housing construction (Fig. 2).

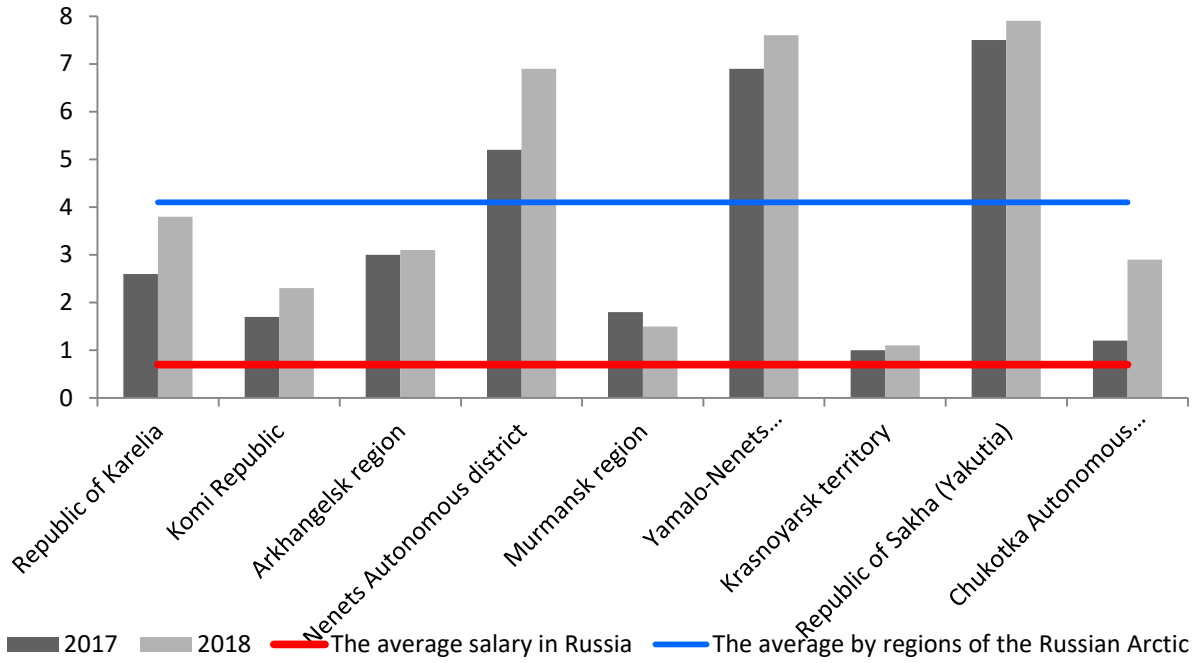

Fig. 2. The share of emergency housing in the total housing stock.

Analysis of the indicators of housing commissioning and the share of emergency housing allows us to assert that at a much higher rate of wear and tear of fixed assets, including residential buildings, during operation in unfavorable climatic conditions in the Far North, as a result of which the proportion of emergency housing is much higher than in the more “southern” regions of the country (almost 6 times) and with a lower rate of housing construction compared to the average Russian indicators (1.5-2 times), the housing stock is aging, which clearly affects the real estate market, which is mainly represented by secondary housing and does not solve the problem of improving the living conditions of the population.

An analysis of the level of investment in the housing sector in the regions of the Russian Arctic in comparison with the general Russian dynamics demonstrates significant differences depending on the time. The volume of investment per capita in the Arctic regions significantly exceeded the indicators for the country up to 2015. At the same time, since 2000, there has been a steady systematic increase in the volume of investments in fixed assets of residential buildings in

the country. The Arctic regions show a "jump" behavior of this indicator, the peak of which falls on the year 2012, and since the crisis of 2014, the volume of investments in the Arctic regions has significantly decreased and at the end of 2018 fell below the average Russian values by almost 20%

At the same time, there is a significant differentiation of this indicator among the Arctic subjects of the Russian Federation themselves (Fig. 3). The largest volume of investments in residential buildings in the Nenets Autonomous Okrug, the level of which reached 45 thousand rubles per person in 2017 and 37 thousand in 2018, which is 2.5 times higher than the national average. In two other Arctic regions - the Republic of Sakha (Yakutia) and the Krasnoyarsk Krai - the level of investment per capita in the housing sector was higher than the average Russian values in 2018. The rest of the AZRF regions are significantly below the national average. The smallest volume of investment in 2018 is in the Murmansk Oblast, Yamal-Nenets, and Chukotka Autonomous Okrug, where it is only 10% of the national average.

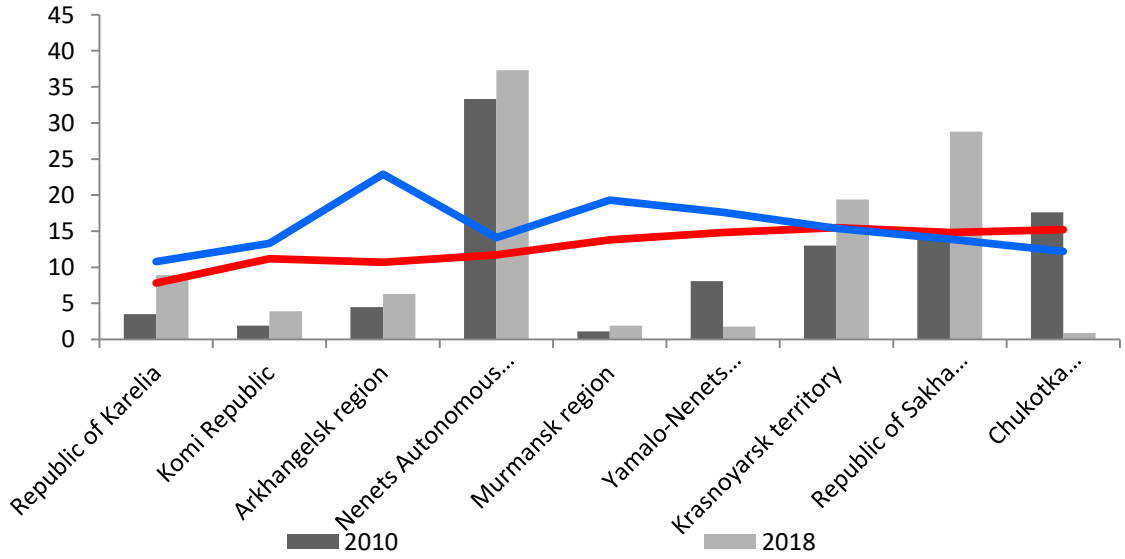

Fig. 3. Investments in fixed assets by type of fixed assets "dwelling" in the regions of the Russian Arctic in 2010-2018. (in actual prices), thousand rubles/person.

The obtained results of the analysis of the volume of investments in most cases correlate with the level of housing accidents. That is, with a large share of emergency housing in the total volume of housing stock, the level of investment in its maintenance is quite high (Nenets Autonomous Okrug, Republic of Sakha (Yakutia) and Karelia, Arkhangelsk Oblast), and, conversely, a low percentage of emergency housing is typical for low investment (the Komi Republic, Murmansk Oblast). The Yamal-Nenets Autonomous Okrug is out of the general trend, which, having one of the largest indicators of the share of emergency housing, is in the penultimate place in terms of investment in the housing industry per capita, and the Krasnoyarsk Krai, with an inverse relationship, is one of the best indicators for accidents and investments.

As for housing prices for 1 sq. m of the area in the Arctic regions, then in 2018, they varied from 47.8 thousand rubles (Republic of Karelia) up to 72.7 thousand rubles (Republic of Sakha (Ya-

kutia)) with average values for the country in the region of 58 thousand rubles. By itself, the level of housing prices does not reflect the situation in the housing market, since it is closely related to the paying capacity of the population, which will be studied in the next section. More indicative is the housing price index (tab. 1).

Table 1

Price index in the primary and secondary housing market,% of the previous year [1]

Regions of the Russian Arctic	**2000**	**2005**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Russian Federation	***114.7***	***117.8***	***101.5***	***106.3***	***111.4***	***104.2***	***105.4***	***98.3***	***98.3***	***99.7***	***105.2***
Republic of Karelia	110.1	106.9	103.1	104.5	105.4	98.0	100.9	101.2	100.2	99.8	102.6
Komi Republic	128.8	126.4	100.6	108.2	125.3	105.2	102.9	95.2	95.1	96.6	98.1
Arhangelsk Oblast	114.2	110.9	103.3	109.5	121.6	96.7	105.2	98.8	98.9	101.5	104.6
Nenets Autonomous Okrug	-	109.7	102.5	100.0	103.8	101.4	102.8	107.2	95.6	94.7	97.3
Murmansk Oblast	-	112.5	100.7	113.0	116.4	108.1	118.8	92.3	100.5	93.3	108.4
Yamalo-Nenets Autonomous Okrug	-	-	100.4	100.2	102.3	104.9	108.2	102.7	97.3	98.4	102.1
Krasnoyarsk Oblast	145.5	115.0	107.5	108.1	114.2	106.3	103.4	92.2	97.4	101.5	105.8
The Republic of Sakha (Yakutia)	142.9	124.8	102.9	103.7	112.2	108.8	109.8	101.3	97.1	95.8	105.5
Chukotka Autonomous Okrug	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

It is clear that before the crisis of 2014 in all regions of the Arctic there was a stable increase in prices, somewhere at a faster pace than in the Russian Federation (Murmansk Oblast, Komi Republic, Krasnoyarsk Krai), in other regions, mainly at the level of the national average. Starting from 2014–2015 in connection with the outbreak of the global crisis and the fall in prices on the oil market, characterized by the depreciation of the national currency and a drop in the income of the population, the real estate market suffered in the first place, where prices on the housing market in the Arctic regions "sagged" just like throughout the country. In 2017, the level of price drop by the crisis years averaged 5-9%. With the stabilization of the economy in 2018 in most regions of the Arctic, the growth in housing prices recovered, but prices for 1 sq. m did not reach the level of 2013–2014, except for the Murmansk Oblast.

For the period of 2020, another drop in oil prices, complicated by the epidemiological situation, due to the spread of coronavirus infection, and a decrease in income and the purchasing power of the population in the near future will lead to an even greater drop in prices in the housing market. However, the impact of these processes can only be assessed in 2021–2022.

The above indicators characterize rather the supply in the housing market. Further, we will consider the indicators that assess the demand for housing in the regions of the Russian Arctic.

[1] Calculated by the authors. Source: Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli [Socio-economic indicators]. 2019. Stat./Ros-stat: Moscow, 2019, 1204 p.

Assessment of effective demand for housing from the population

The effective demand is primarily determined by the level of income of the population in relation to the cost per square meter in the housing market. The largest gap in these indicators in the regions of the Russian Arctic was recorded in 2010 - 2014. [16], after which there was a tendency to decline. To determine the affordability of housing in the regions of the Arctic, we calculated an affordability index showing the ratio of the cost of 1 sq. m to the average per capita income of the population. The lower the index, the greater the purchasing power of the population to purchase housing (Table 2).

Table 2

Housing affordability index in the regions of the Russian Arctic [2, 3]

Regions of the Russian Arctic	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018
Russian Federation	***2.9***	***2.9***	***2.2***	***2.3***	***2.1***	***2.0***	***1.8***	***1.7***	***1.7***	***1.8***
Republic of Karelia	2.1	2.6	2.5	2.4	2.3	2.1	1.9	1.9	1.8	1.6
Komi Republic	1.8	1.7	1.8	1.9	2.0	1.8	1.7	1.7	1.7	1.5
Arhangelsk Oblast	2.2	1.9	2.3	2.5	2.3	2.1	1.9	1.8	1.8	1.8
Nenets Autonomous Okrug	1.1	1.2	1.1	1.0	0.9	1.1	1.2	1.1	1.0	0.8
Murmansk Oblast	1.3	0.9	1.4	1.3	1.3	1.3	1.2	1.4	1.2	1.2
Yamalo-Nenets Autonomous Okrug	н/д	1.2	1.2	1.0	0.9	1.0	0.9	0.9	0.8	0.8
Krasnoyarsk Oblast	2.6	2.2	2.2	2.2	2.1	2.1	1.7	1.7	1.7	1.7
The Republic of Sakha (Yakutia)	2.0	2.0	1.9	1.9	1.8	2.2	2.0	1.9	1.7	1.7
Chukotka Autonomous Okrug	н/д	н/д	н/д	н/д	н/д	н/д	н/д	н/д	н/д	н/д

The most affordable housing for the period 2017-2018 in terms of the ratio of income and the cost of housing on the real estate market, it was noted in the Nenets and Yamal-Nenets Autonomous Okrugs (0.8) and the Murmansk Oblast (1.2), which is 55 and 33% lower than the national values, respectively. The rest of the regions (except for the Chukotka Autonomous Okrug, where the data required for the calculation are not available) are approximately in the same accessibility category. It should be noted that, compared to 2014, the housing affordability indicator in all regions showed positive dynamics, which is associated with a drop in prices in the real estate market during the crisis. However, the higher the level of the housing affordability index, the greater the amount of borrowed funds is needed, which also depends on the income of the population and determines the level of debt burden on the payment of housing and mortgage loans.

When determining the volume of investments of the population on the purchase of the real estate, determined by the share in the structure of the population's expenses on the purchase

[2] The ratio of the cost of 1 sq. m to the average per capita income level of the population.

[3] Calculated by the authors. Source: Emelyanova E.E., Chapargina A.N. Baza dannykh «Rynok zhil'ya severnykh i arktiche-skikh regionov Rossii». Svidetel'stvo o gosudarstvennoy registratsii № 2019621181 ot 4 iyulya 2019 g. [Database "The housing market of the northern and arctic regions of Russia"]. Certificate of state registration No. 2019621181 dated July 4, 2019.

of the real estate in the total income of the population, it was established that the housing market is the most active in the Komi Republic, Yamal-Nenets Autonomous Okrug, Krasnoyarsk Krai and the Republic of Sakha (Yakutia) where the population annually spends from 140 to 205 billion rubles for the purchase of housing. And if in the Republic of Sakha (Yakutia) and Yamal-Nenets Autonomous Okrug this is partly determined by the high cost of housing, then in the Komi Republic the cost of 1 sq. m of housing is one of the lowest among the Arctic regions, which indicates the demand for housing in this region. In the Murmansk Oblast, real estate costs amount to about 95 billion rubles a year. The smallest spending on the real estate market in the Chukotka and Nenets Autonomous Okrugs is about 6-8 billion rubles a year.

At the same time, the cost of purchasing housing systematically increased until 2014, after which there was a sharp drop -1.5-2 times. In 2017-2018, this indicator exceeded the pre-crisis level in almost all regions, which indicates a more intensive development of the real estate market and an increase in public investment in real estate.

The purchase of housing is rarely done without attracting borrowed bank funds, one of the tools of which is mortgage lending, which allows the payment of the cost of housing in installments and, even taking into account the additional percentage of the premium to the cost, provides the consumer with the opportunity to purchase residential real estate [18, Kovaleva L.V., Omelyanovich A.S., pp. 23-27]. The volume of loans issued is significantly influenced by the average interest rate on housing loans, regulated by the Central Bank of Russia. This indicator varies markedly and depends on the macroeconomic indicators in the country. In 2010–2014, the rate for housing and mortgage loans was 11-14%. Currently, in the Republic of Sakha (Yakutia), within the framework of the state program for the development of the Far East, the rate for housing and mortgage loans at the beginning of this year was the lowest in the country - 5.6%. In other regions, the rate is almost the same and varies from 9.8% at the beginning of 2019 to 8.8% at the beginning of 2020. [4]

The volume of housing and mortgage loans issued to the population is increasing every year, except for the post-crisis 2015, when the volume of loans issued in the Arctic regions decreased by more than 30% by 2014. According to the Bank of Russia, the largest volume of loan funds is the purchase of housing per capita of the population in the first quarter of 2020 in the Yamal-Nenets Autonomous Okrug and the Republic of Sakha (Yakutia). And if in the Far Eastern regions, it is explained by state support for mortgage lending and the highest cost of real estate in comparison with other regions of the AZRF, then in the Yamal-Nenets Autonomous Okrug, which has the best housing affordability index among the Arctic regions, this indicates the dynamic development of the housing market and the demand for real estate. population in improving housing

[4] Pokazateli rynka zhilishchnogo (ipotechnogo zhilishchnogo) kreditovaniya [Indicators of the market for housing (housing mortgage) lending]. Bank of Russia. URL: https://cbr.ru/statistics/bank_sector/mortgage/ (accessed: 01 May 2020).

conditions. The smallest values of this indicator are in the Republic of Karelia, the Murmansk Oblast, and the Nenets Autonomous Okrug.

However, there is another dependence on the level of income of the population, the cost of sq m of housing, and issued mortgage and housing loans - this is arrears on housing loans, which is an indicator of a decrease in the paying capacity of the population. In contrast to the cost of housing and issued housing and mortgage loans, whose indicators are declining due to the unstable macroeconomic situation in the country, this indicator, on the contrary, has only increased over the entire study period and continues to grow (Fig. 4). In addition, the difficult epidemiological situation in the country, which has led to the suspension of many sectors of production and economic activity, as well as the service sector and small business, will further contribute to the formation of debt on loans among the population.

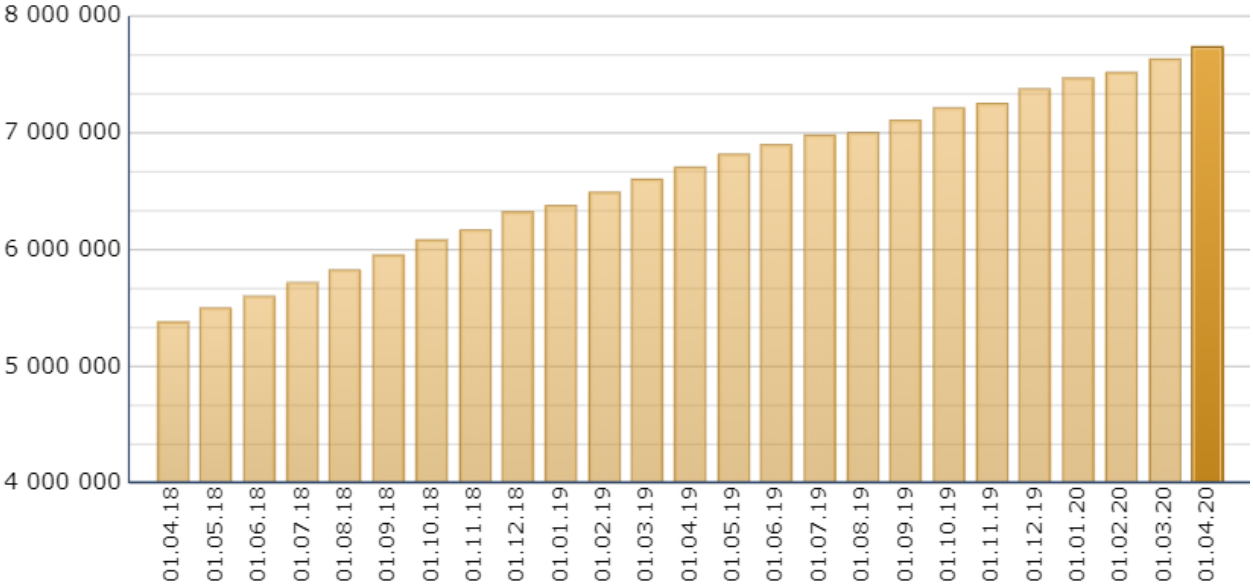

Fig. 4. Debt on mortgage and housing loans [5].

It should be noted that the growth rate of debt in the regions of the Russian Arctic in the post-crisis period, starting from 2015, has decreased and is about 11-12% compared to the previous year, while before this period the growth rate was at the level of 30% annually. Despite this, arrears on housing loans per capita in the Arctic regions are more than 2 times higher than in the country.

Nevertheless, an increase in this indicator only indirectly indicates a decrease in the solvency of the population since the volume of loans issued is increasing. It is confirmed by the fact that the largest amount of debt on mortgage and housing loans per capita is in the Yamal-Nenets Autonomous Okrug and the Republic of Saha (Yakutia) - the leading regions in the issuance of housing loans, and the smallest among the outsider regions - in the Murmansk Oblast and the Republic of Karelia. Therefore, we calculated the average annual level of the population's debt bur-

[5] Zadolzhennost' po ipotechnym i zhilishchnym kreditam [Debt on mortgage and housing loans]. Bank of Russia. URL: https://cbr.ru/statistics/pdko/Mortgage/ML/ (accessed: 02 May 2020).

den on housing and mortgage loans, calculated as the ratio of housing and mortgage loans to the average per capita income of the population (Fig. 5).

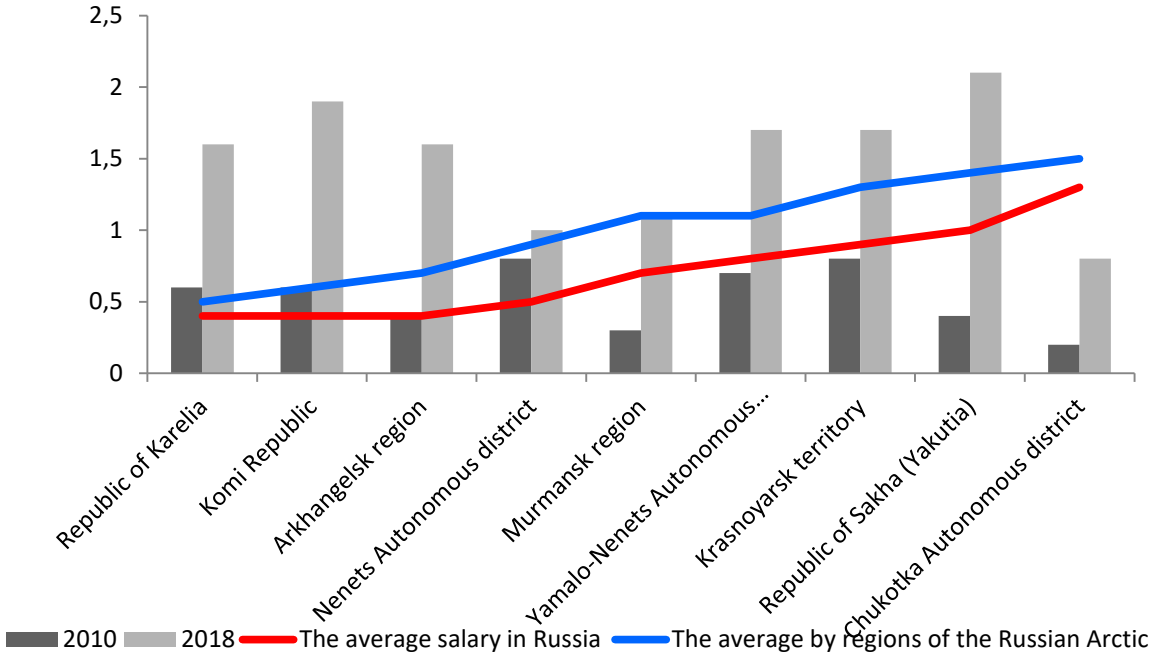

Fig. 5. Average annual level of household debt burden on housing and mortgage loans for 2010–2018.

From the presented diagram, it is obvious that the debt burden on the population to pay housing loans is growing, and at the end of 2018, the highest-burden is in the Republics of Karelia, Komi, Sakha (Yakutia), Arkhangelsk Oblast, Krasnoyarsk Krai, and Yamal-Nenets Autonomous Okrug. It may indicate an increased debt load and a discrepancy between the incomes of the population of these regions and the situation in the housing markets, i.e. the cost of housing does not correspond to and exceeds the effective demand of the population. And only the real estate market of the three regions of the Russian Arctic - the Murmansk Oblast, the Nenets Autonomous Okrug, and the Chukotka Autonomous Okrug - is more or less balanced in relation to the income of the population.

Determination of the main trends in the development of the housing market in the regions of the Russian Arctic

Based on the results of the analysis of indicators affecting the housing market in the regions of the Russian Arctic, we applied a scoring methodology based on assessing the parameters of the housing market on a scale from 0 to 1, where the maximum value is taken as 1; 0.5 - average; 0 is the minimum value. Intermediate values of 0.25 and 0.75 are also used, which makes it possible to reflect their level in more detail (Table 3). Indicators were divided into two groups: economic and indicators that depend on the income of the population and characterize its ability to pay. The comparison was carried out according to the average value of the indicator for the Russian Federation. The integral estimate was reduced by finding a simple arithmetic mean.

Table 3

Indicators and criteria for assessing the development of the housing market of the Russian Arctic

Indicators	Assessment criteria	Index
Economic: 1.Commissioning of housing, sq.m / person. 2. The share of dilapidated and dilapidated housing in the total area of the housing stock,% 3. Investments in fixed capital by type of fixed assets "home" (in actual prices), rubles/person **Solvency of the population:** 1.Housing affordability index in the regions of the Russian Arctic 2. The volume of housing and mortgage loans to individuals, rubles/person 3. Average annual level of debt burden of the population on housing and mortgage loans	Significantly above average	1
	Above average	0.75
	Average	0.5
	Below average	0.25
	Significantly below average	0

The results of the assessment carried out according to the given indicators in comparison with the average indicators for the country (marked on the graph with median lines), which characterize the level of economic development and the paying capacity of the population, are presented in Fig. 6, where a lighter blue tone marks the regions that are completely included in the Arctic zone, red is the only one of the studied regions, partially equated to the regions of the Far North.

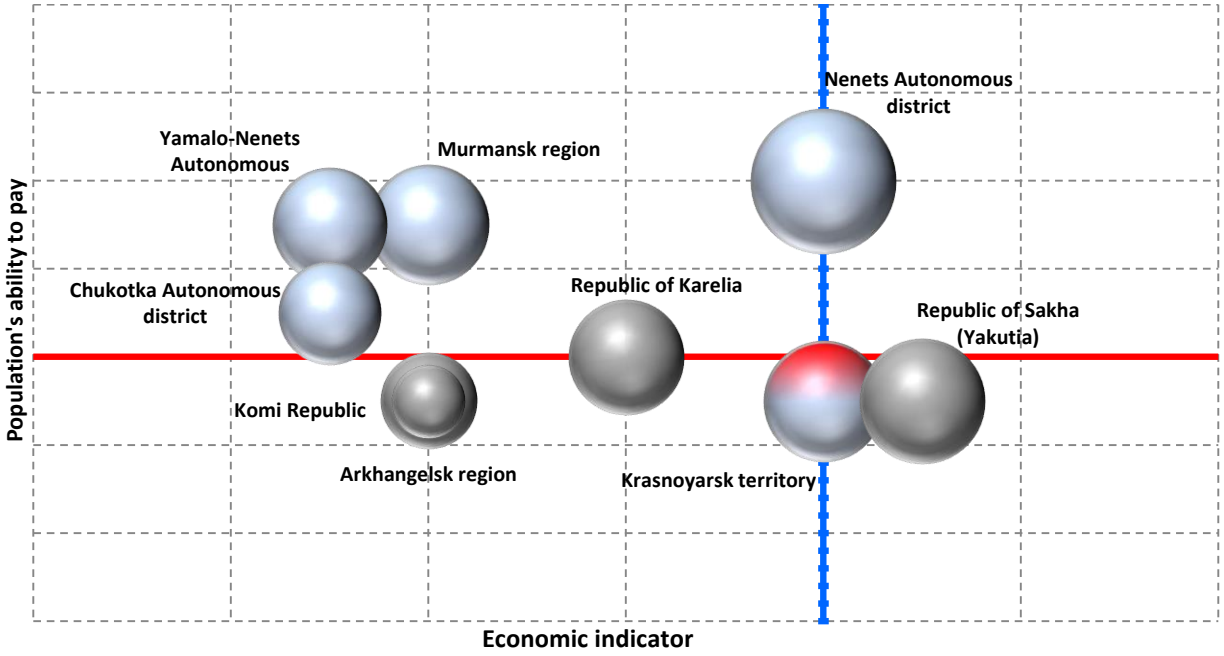

Fig. 6. Rating of the regions of the Russian Arctic for the development of the housing market for 2018.

According to the results of the assessment, it was established that the largest aggregate index of the development of the residential real estate market is in the Nenets Autonomous Okrug, which is in the lead with significant separation from other Arctic regions. In this constituent entity of the Russian Federation, for almost all indicators (except for a significant number of emergency housing), the values are higher or significantly higher than the national average. The Republic of Sakha (Yakutia) is in second place due to the high rates of housing construction, the best indicators

of investment in the housing sector, and the volume of issued housing and mortgage loans, which is explained by the action of the state program for the development of the Far East "Far Eastern Hectare" and government-subsidized interest rates on home loans. In third place in terms of the final indicator, the Murmansk Oblast (mainly due to the effective demand of the population - the index of affordability and debt burden) and the Krasnoyarsk Krai, which has fairly average ratings (not much higher or lower than the national average) for all indicators. The worst indicators of the final assessment are in the Republic of Komi and the Arkhangelsk Oblast, which in almost all parameters lag the national average.

For some regions of the Russian Arctic, for example, the Murmansk Oblast and the Chukotka Autonomous Okrug, in which there is practically no housing construction and, at the same time, a small share of emergency housing, this indicator is not critical for the development of the housing industry, since an increase in the number commissioning of housing and is not required in the context of a constant decline in the population. The same is typical for other regions of the Arctic with a low share of emergency housing and low rates of construction - the Republic of Karelia, Komi, Krasnoyarsk Krai, for which the existing rates of housing construction are capable of replacing dilapidated housing stock.

But the Nenets and Yamal-Nenets Autonomous Okrugs, the Republic of Sakha (Yakutia), which have positive dynamics in terms of population and the highest indicators of emergency housing in the structure of the housing stock, should ensure an increased rate of housing construction. When implementing national projects in the housing industry in the Arctic regions of the Russian Federation, given the large volume of the emergency fund, more than 20% of the funding is intended for the demolition of emergency housing. However, the problem of replacement and resettlement from hazardous housing is proposed to be solved not by means of new construction due to the high cost, but by relocating people to other regions of the country, which clearly will not contribute to the development of the housing market in the Arctic[6].

From the given matrix (Fig. 6), it can be seen that the most balanced housing markets in two areas of assessment are possessed by the Nenets Autonomous Okrug, the Republic of Sakha (Yakutia), and the Krasnoyarsk Krai. At the same time, all three regions have a different degree of attribution to the North Arctic territories. And if we evaluate the influence of this factor on the indicators of the development of housing markets, then it is quite obvious that the regions that are fully attributed to the AZRF have the worst indicators in terms of economic indicators of the housing market development (with the exception of the Nenets Autonomous Okrug) and at the same time, the best indicators in terms of the population's paying capacity which is due, first of all, to a fairly high level of income of the population (due to the maximum "northern" allowances and co-

[6] Spetsifika arkticheskikh regionov mozhet byt' uchtena pri rasselenii avariynogo zhil'ya [The specifics of the Arctic regions can be considered when resettling emergency housing]. Ministry of Construction of Russia. Official site. URL: https://www.minstroyrf.ru/press/spetsifika-arkticheskikh-regionov-mozhet-byt-uchtena-pri-rasselenii-avariynogo-zhilya-/ (accessed 05.09.2020).

efficients) in these regions in comparison with the average Russian values and with the regions partly referred to the Arctic zone. At the same time, the cost of housing in these regions is comparable to the cost of square meters on average in the country and in other regions, therefore, the level of debt burden in them is the lowest (with the exception of the Yamal-Nenets Autonomous Okrug). It is due to the indicators of the population's effective demand for housing that the aggregate index of housing market development in these regions is at a sufficiently high level and is able to set benchmarks and positive dynamics for the development of regional housing markets, that is, the hypothesis put forward at the beginning of the study was confirmed.

As for the Krasnoyarsk Krai - the only Arctic region that falls out in full belonging to the regions of the Far North, but represents the Arctic zone of the city of Norilsk and two municipal regions (Taimyr, Dolgan-Nenets, and Turukhansk), and at the same time has quite favorable - climatic conditions in the rest of the vast territory of the region, it is impossible to put this region on a par with the rest of the Arctic regions of the Russian Federation. Due to the complexity of the selection of the necessary statistical information, it was not possible to carry out a full-fledged reliable analysis of the level and dynamics of the development of the housing market of the separately included Arctic territories of the region and compare them with the results of other subjects of the Arctic zone.

It was possible to partially analyze some indicators of the housing market development in Norilsk, based on which certain conclusions can be drawn. In contrast to the Krasnoyarsk Krai, Norilsk is distinguished by a significant amount of emergency and dilapidated housing, increased wear and tear of fixed assets[7], at the same time, the average salary (93,129 rubles), as well as the level of investments per capita[8] significantly exceed the national and regional averages, i.e. the level and specificity of the development of the housing market in Norilsk has obvious differences from the indicators of the Krasnoyarsk Krai and it can only be assumed that the development of the housing market is largely formed by the paying capacity of the population. At the same time, it is worth making a remark about the fact that Norilsk is a large industrial center with a population of more than 180 thousand people. and cannot fully reflect the development of the Arctic territories as a whole, since another modern problem of the development of territories is the enlargement and development of cities, mainly administrative centers, with a developed material and technical base and the “depopulation” of small peripheral settlements [19, Kolodina E.A., pp. 162-170], which leads to significant gaps in indicators for the activity of housing construction.

[7] Minvostokrazvitie namereno podderzhat' programmu renovatsii zhil'ya v Noril'ske [The Ministry for the Development of the Russian Far East intends to support the housing renovation program in Norilsk]. Monitoring sotsial'no-ekonomicheskogo razvitiya Arkticheskoy zony Rossii. Informatsionnyy byulleten' Tsentra ekonomiki Severa i Arktiki [Monitoring of the socio-economic development of the Arctic zones of Russia. Information bulletin Center of Economy of Sever and the Arct]. Iss. 52 (May 1–31, 2020).

[8] Baza dannykh pokazateley munitsipal'nykh obrazovaniy [Database of indicators of municipalities]. Federal State Statistics Service. URL: https://www.gks.ru/scripts/db_inet2/passport/table.aspx?opt=47290002018 (accessed 06.09.2020).

More and more demand for housing in small towns and small settlements is falling, a significant amount of empty housing stock appears, and in the conditions of a significant number of cities with a single-industry structure of the economy and due to the increasing popularity of large city-forming enterprises and other industries in the transfer of employees to rotational work methods and the attraction of workers from neighboring countries in order to save on the wages fund, the development of the housing market in small towns in the regions of the Russian Arctic is unpromising.

In addition to the natural population decline, there has been a tendency for migration from the regions of the North to regions more favorable for life, where the level of housing prices does not differ much from the Arctic regions, and the level of income of the population is practically at the same rates as in most regions of central Russia [20, Emelyanova E.E., Chapargina A.N., pp. 80–98]. The largest outflow of the population to other regions is in the Murmansk Oblast, Yamal-Nenets, and Chukotka Autonomous Okrugs (about 65–80% of those who left). In the same Norilsk of the Krasnoyarsk Krai, when analyzing the migration indicators, its positive dynamics is noted due to international migration from the CIS and Baltic countries, and the migration of local residents to other regions of the country is increasing [9].

To change the existing situation and maintain the housing market, it is initially necessary to create favorable economic, social, and labor conditions for attracting the population to the Arctic regions, which implies a significant increase in the level of income of the population in comparison with the more southern regions of the country, as was the case in years of industrial development of the North, as well as the provision of a guarantee of full-fledged benefits and compensation to workers in the Far North, not only for workers in the public sector. Perhaps for these regions, it is necessary to use the investment schemes that Favstritskaya O. proposes to use on the territory of the Magadan region, which allows taking into account the specifics of the northern territories, overcome the depression of their development, improve the standard of living of the population and fix it on the territory [21, Favstritskaya O., Galtseva N., pp. 64–78]. These investment schemes differ in different degrees of state participation and depend on two key factors: the specifics of the distribution system and the level of income of the population. Another condition is the creation of a favorable urban environment and provision of the population with social facilities for health care and education. Only with an increase in the number of permanent residents in the Arctic regions is it possible to talk about the prospects for the development of housing and the real estate market.

Another problem of the real estate market in the regions of the Russian Arctic is the discrepancy between housing prices and the level of effective demand. According to the conducted research, the discrepancy between the incomes of the population and the level of housing prices is noted in 5 out of 9 studied regions of the Russian Arctic - the Republics of Komi, Sakha (Yakutia) and Karelia, Ar-Khangelsk Oblast, Krasnoyarsk Krai. With high real estate prices and inadequate incomes

[9] Ibid.

to meet housing needs, the population of these regions is forced to attract increased amounts of borrowed funds from banks, which also need to be provided, as a result of which these regions are leaders in the debt burden on the population in servicing housing loans. Currently, the level of debt burden for all regions will increase even more due to the suspension of the activities of many small and medium-sized enterprises and individual entrepreneurs and the release of their employees in connection with the introduced restrictions to counter the spread of the pandemic in the country. On the one hand, this should lead to a decrease in demand and a drop in property prices. In addition, an increase in unemployment, a decrease in the paying capacity of the population and the inability to fulfill their debt obligations to pay off previously taken housing and mortgage loans will lead to a likely increase in supply in the housing market due to the transfer of ownership of purchased housing by banks and individuals.

On the other hand, the influence of macroeconomic factors (falling prices on the oil market and the depreciating exchange rate of the national currency) provokes the population to invest savings in the most stable assets - real estate, which contributes to the growth of housing prices, however, rather, only in the short term perspective.

Thus, to solve the problems of the development of the housing market in the Arctic, it is necessary to develop three main directions:

- development of human resources by creating favorable economic, social, and labor factors to attract permanent residents to the Arctic regions;
- increasing the solvency and reducing the debt burden of the population by reducing interest rates on the payment of housing and mortgage loans, as well as through the implementation of special federal and regional housing programs, such as in the Far East;
- an increase in supply in the housing market, one of the ways out of which, given the low level of housing development in the regions of the Russian Arctic, maybe the transfer of housing stock from the state (municipal) to private to meet the housing needs of the population.

The solution of all three tasks is impossible without the active participation of the state, and not only as a regulator of the real estate market but also as a guarantor of increased income, benefits, and compensation to workers of the Far North and the main customer and developer of state target development programs.

Conclusion

Based on the results of a study of the housing market in the regions of the Russian Arctic, in terms of its dynamics and structure, the main indicators were identified that characterize the development of the regional housing market, including the low level and pace of housing construction in most Arctic regions with high rates of the share of emergency housing stock; highly differentiated volumes of investment in the housing sector, depending on the regional affiliation, with a pronounced downward trend in the indicator in all regions; the discrepancy between the solvency of the population in some regions of the Arctic and the level of housing prices, which entails an in-

creased volume of housing loans and an increasing debt burden on the population to ensure mortgage loans. As a result of determining the rating of the regions of the Russian Arctic with a point assessment according to the selected indicators, the main criteria for balancing the housing market in two important areas were established: the paying capacity of the population and the development of economic indicators of the real estate market, as a result of which it was determined that the leading region is the Nenets Autonomous District outsiders - the Komi Republic and the Arkhangelsk region. At the same time, three regions (Murmansk Oblast, Yamalo-Nenets Autonomous Okrug and Chukotka Autonomous Okrug), having the best indicators in terms of housing affordability and paying capacity of the population, significantly lag behind national trends in economic indicators of housing market development. Conversely, a number of regions (Krasnoyarsk Krai, the Republic of Sakha (Yakutia)), with high levels of investment in the housing sector and commissioning of housing, do not "reach" the national average in terms of the ratio of the level of income of the population to housing prices. Based on the results of the study, it is possible to formulate the main directions for the development of the housing market for the Arctic regions, depending on their location in the ranking according to the economic indicators of the development of the construction industry and the paying capacity of the population: increasing the paying capacity of the population by reducing interest rates on housing loans and implementing special credit programs in the Arctic regions, as well as a decrease in housing prices due to an increase in supply in the housing market due to the increased rates of housing commissioning and the transfer of housing stock from state (municipal) to private. In addition, at the state level, it is necessary to develop a federal program to attract the population to the regions of the Russian Arctic by creating incentives of an economic, social and labor nature, which will contribute to the development of the territories in general and the housing market in particular. Development in all areas is possible only with the active participation of federal and regional authorities.

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Threats to the Sustainable Development of the Russian Arctic: Poverty *

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Abstract. The modern paradigm of the theory and practice of social development is the concept of sustainable development, the emergence and spread of which was associated with the emphasis on environmental pollution and overpopulation of the planet against the background of limited natural resources. Today, sustainable development is defined as the result of the interaction of a man, the economic system, and nature at the global, national, regional, and local levels. It is expressed, to a certain extent, by economic, environmental, and social sustainability. Modern goals in the field of sustainable development are to promote green growth, rational environmental management, ensuring access to quality health and education services, and improving the well-being of the population. The latter implies, first, the reduction of multidimensional poverty, the numerous groups of social localization, i.e., disabled people, families with children, single-parent families, and ethnic minorities. The aim of the study is to assess the level and extent of poverty and its social localization in the framework of achieving sustainable development of the regions of the Russian Arctic. The relevance of the study is determined by the fact that the rates and proportions of sustainable development of the Russian Arctic depend on the qualitative state of human potential (carried by the population). The qualitative state of human potential depends on the level of well-being of the population, which determines the degree of satisfaction of needs for benefits and access to social services. Poverty as a socio-economic phenomenon creates threats of degradation of human potential. The research hypothesis is based on the understanding that poverty is a systemic factor that limits the possibilities of a high-quality reproduction of human potential and, accordingly, promising opportunities for achieving sustainable development in the Russian Arctic. The research methods were a statistical analysis of the socio-economic situation of families with children in the regions of the Russian Arctic, as well as an analysis of regulatory legal documents governing measures of social support for families, motherhood, paternity, and childhood. The research results are focused on their use for achieving sustainable development of the Russian Arctic.
Keywords: *poverty, unemployment, Murmansk Oblast, Nenets Autonomous Okrug, Chukotka Autonomous Okrug, Yamal-Nenets Autonomous Okrug, child poverty, social allowance*.

Introduction

At the end of the last century, the actualization of global contradictions between the increasing needs of society and the limited possibilities of the biosphere, which actually endangered further social development, led to the emergence of the concept of sustainable development [1, Shevchenko I.V., Litvinsky K.O., p. 3]. In accordance with this concept, a person, through participation in the processes that form his/her life, plays a central role in social development. It is under the influence of the qualitative characteristics of human potential as a set of physical and spiritual capabilities of a person in achieving individual and social goals [2, Mudretsov A.F., p. 99] the rates and proportions of sustainable development are formed. In turn, the condition for the development of human potential is the achieved level of well-being [3, Abdalhussain A., Santalova M.S., p. 9] – a socially acceptable level of provision of goods and services.

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As a systemic education, well-being integrates the characteristics of the level, conditions, and quality of life and, according to the UN conceptual approach to human development, is subject to measurement based on a system of relevant indicators. Thus, the standard of living is characterized by such indicators of material well-being as the level of per capita money income in comparison with the cost of a set set of necessary goods and services (in Russia - the subsistence minimum) or the level of poverty (in Russia - the share of the population with average per capita money incomes below the ranks of the living wage). Among the indicators characterizing living conditions is the level of unemployment or the provision of the population with doctors (e.g., the number of doctors per 10 thousand people). Life quality indicators include life expectancy at birth, education level, morbidity rate, etc. At the same time, the achieved level of well-being is assessed using the method of maximum-critical values, when for each indicator, based on a pragmatic approach and on the basis of special studies and expert assessments, its maximum-critical value is established [4, Glazyev S.Yu., Lokosov V.V., pp. 22-24]. If the indicator goes beyond this value, it signals the emergence of a threat to provide real opportunities for the formation of high-quality human potential.

The poverty of the population poses a serious threat to undermine the economic foundations of a high-quality reproduction of human potential. That is why the leading idea of the concept of sustainable development is the need to reorient humanity's attention to solving the problem of poverty - a global problem of social development [5, Leibin V.M., p. 212].

Analysis of scientific approaches to the study of the problem of poverty [6, Ishmuratova I.G., p. 75] shows that their evolution took place in the direction from the perception of poverty as a personal problem of a person (conceptual views of British scientists T. Malthus, D. Ricardo, S. Rowntree, etc.) to the perception of poverty as a problem of society - research of the American economist J. Stiglitz “Great division. Inequality in society, or what should the remaining 99% of the population do?” (Stiglitz J.E. “The Great Divide: Unequal Societies And What We Can Do About Them”, 2014 [7, Peach J., Warnecke T. and Watkins J., p. 370]) or the Russian economist Kapelyushnikov R.I. “Economic inequality - a universal evil?”, 2018[1]. So, in modern concepts of the quality of life [8, Fakhrutdinova E.V., Shalamova N.V., p. 150] the problem of poverty is considered in the refraction of the human dimension - the improvement of well-being through the expansion of human capabilities in self-development [9, Gubarev R.V., Dzyuba E.I., Kulikova O.M., Fayzullin F.S., pp. 69-70]. Within the concept of risk society by the German sociologist U. Beck [10, Beck U., p. 97], poverty is considered a factor limiting the possibilities of the poor in resisting social risks since poverty is a guarantee of a low level of information literacy and a lack of opportunities in access to living conditions, quality goods and services [11, Tomskikh M. S., p. 27]. The Spanish sociologist M. Castells has a similar position (“The Information Age: Economy, Society and Culture”; Castells M.

[1] Kapelyushnikov R.I., ed. Ekonomicheskoe neravenstvo — vselenskoe zlo?: preprint WP3/2019/01 [Economic inequality - a universal evil?: Preprint WP3 / 2019/01/]. (Seriya WP3 «Problemy rynka truda» [Series WP3 “Labor Market Problems”]).Moscow: Izd. dom Vysshey shkoly ekonomiki, 2019, 28p.

"The Rise of the Network Society, The Information Age: Economy, Society and Culture", 2000), according to the concept of an information society in which poverty is a factor of the digital divide as a social contradiction in access to the digital world, when the poor categories of the population do not have access to the latest knowledge and, thereby, to employment opportunities [12, Skibitsky M.M., p. 66]. The problem of the digital divide in relation to the current epidemiological situation is especially urgent, when, in the conditions of self-isolation and quarantine in the field of education, distance learning is introduced: in the Chukotka Autonomous Okrug in 2016, the share of households with access to the Internet was 36% of the total number of households, in the Nenets Autonomous Okrug – 60%, in the Murmansk Oblast – 78%, in the Yamal-Nenets Autonomous Okrug – 86%[2].

In institutionalism (e.g., studies of the economic successes and failures of states by the American economist D. Acemoğlu and the British economist J. Robinson in the book "Why some countries are rich, and others are poor. The origin of power, prosperity and poverty" (Acemoğlu D. & Robinson J.A. "Why Nations Fail: The Origins of Power, Prosperity, and Poverty", 2012) poverty is perceived because of changes in the institutional conditions for the functioning of territorial socio-economic systems [13, Korchak E.A., p. 145].

The UN approach to the study of poverty problems uses such characteristics as an acceptable standard of living, the level of satisfaction of basic needs, and the number of resources. These characteristics are determined by the specific features of the evolution of social territorial development and are determined by geographical features. Among the recent studies of poverty and human development of the United Nations, together with the Oxford University Initiative, is the Global Multidimensional Poverty Index, which allows analysis through sociological surveys (ten indicators for education, health and living standards) inequality between countries and among populations, and track changes in poverty over time [3].

To measure poverty, the "poverty line" is used, characterized by specific international and national indicators. The most widespread conceptual approach to measuring poverty is the concept of absolute poverty, according to which poverty is defined as the lack of necessary resources to meet the needs of life. In 2015, the World Bank [4] pointed the international poverty line, as an absolute global minimum (excluding access to education, health care, water, and electricity), at $1.90 per day (for countries with an average money income, this level was $3.2 per day, medium $ 5.5 per day, high – $ 21.7 per day).

[2]Abdrakhmanova G.I., Gokhberg L.M., Kevesh M.A. et al. Indikatory tsifrovoy ekonomiki: 2017: statisticheskiy sbornik [Indicators of the digital economy: 2017: statistical collection]. Moscow: NRU HSE, 2017. 320p.

[3]Bogatyy ili bednyy? Raznye izmereniya bednosti po novoy metodologii OON [Rich or Poor? Different dimensions of poverty according to the new UN methodology]. Informatsionno-analiticheskiy tsentr IATs [Information and Analytical Center of the IAC]. URL: https://ia-centr.ru/publications/bogatyy-ili-bednyy-raznye-izmereniya-bednosti-po-novoy-metodologii-oon/ (accessed 13.04.2020).

[4]Svobodnyy i besprepyatstvennyy dostup k dannym o global'nom razvitii [Free and Unimpeded Access to Global Development Data]. Vsemirnyy bank [The World Bank]. URL: https://www.vsemirnyjbank.org/ru/understanding-poverty (accessed 13.04.2020).

In the U.S.[5], the Poverty Thresholds is used as the poverty line, which is required to provide a household with food, housing, and basic necessities, and is differentiated depending on the size and age of the household. In 2019, the Federal Poverty Level (FPL) was recorded in the U.S. federal registry for the northern state of Alaska at $ 15,600 for a single-member household, $ 54,310 for an 8-member household (for comparison, the average for the US is $12,490 and $ 43,430, respectively).

In Canada[6], poverty is assessed using two methods: the "low-income cut-off" (LICO) and the "market basket measure" (MBM). In accordance with the first method, the poverty line is calculated depending on the number of household members (from 1 to 7) and separately for the type of locality (rural areas, local communities with a population of up to 30 thousand people, from 30 thousand people to 99.999 thousand people, from 100 thousand people to 499.999 thousand people, from 500 thousand people and above). So, in 2018, for a household of three members, the boundary of such income for rural areas was 21,296 Canadian dollars, for a large city (with a population of more than 500 thousand people) - 32,554 Canadian dollars. The second method sets the poverty line based on the consumer basket, the cost of which is determined for a family of two adults and two children, depending on the type of locality.

The conceptual basis for measuring poverty in Russia is the basic needs approach: here, poverty is measured by comparing average per capita money incomes with the subsistence minimum - the cost estimate of the consumer basket for the main socio-demographic groups of the population in each region. The consumer basket includes a set of food products, as well as a set of non-food goods and services determined in relation to its cost. The consumer basket is formed, inter alia, based on actual consumption volumes in low-income households and considering differences in consumption determined by natural and climatic conditions, according to which the territory of Russia is divided into 10 zones. The first and second zones include the Yamal-Nenets, Chukotka, Nenets Autonomous Okrugs, and the Murmansk Oblast - regions whose territories are fully attributed to the Russian Arctic. For the regions of the Russian Arctic, increased norms of energy value and chemical composition of a set of food products have been established. So, for the regions of the first zone, the energy value of a set of food products is 2,908 kcal, for the tenth zone - 2,525 kcal; for the working-age population of the regions of the first zone, the rate of meat consumption per year is 70.2 kg, the tenth - 58.5 kg, fruits - 65 kg and 60 kg, respectively[7]. In order to establish a percentage of the cost of a set of food products, a set of non-food products and ser-

[5] 2019 poverty guideline. Office of the assistant secretary for planning and evaluation (ASPE). URL: https://aspe.hhs.gov/2019-poverty-guidelines (accessed 13.04.2020).

[6] Statistics Canada. Table 11-10-0241-01 Low income cut-offs (LICOs) before and after tax by community size and family size, in current dollars. DOI: 10.25318/1110024101-eng.

[7] Postanovlenie Pravitel'stva RF ot 28.01.2013 g. №54 «Ob utverzhdenii metodicheskikh rekomendatsiy po opredeleniyu potrebitel'skoy korziny dlya osnovnykh sotsial'no-demograficheskikh grupp naseleniya v sub"ektakh Rossiyskoy Federatsii» [Decree of the Government of the Russian Federation of January 28, 2013 No. 54 "On the approval of guidelines for determining the consumer basket for the main socio-demographic groups of the population in the constituent entities of the Russian Federation"]. Konsul'tant Plyus. URL: http://www.consultant.ru/document/cons_doc_LAW_ 22083/ (accessed 13.04.2020).

vices, the territory of Russia is divided into 3 zones: a zone with a cold and sharply continental climate (in which this ratio is set at 50-60%), a zone with a temperate climate (45–55%) and a zone with a warm climate (40–50%). From 01.01.2020, in Russia, the subsistence minimum per capita is 11,012 rubles, for the working-age population - 11,942 rubles, for pensioners - 9,090 rubles, for children - 10,838 rubles. In the Murmansk Oblast, respectively - 16 688 rubles, 17 379 rubles, 13 869 rubles, 16 670 rubles[8].

Rosstat data analysis[9] shows that today in the regions of the Russian Arctic, poverty is relevant for more than 116 thousand people. The largest poverty is in the Murmansk Oblast, i.e. 74 thousand people live below the poverty line. The factors of poverty spreading are unemployment and low-paid employment, which produce the spread of poverty among households with children. In this regard, child poverty in the regions of the Russian Arctic is of particular relevance, the phenomenon of which is determined by the so-called “poverty trap,” when poor households reproduce poverty on an expanded scale, and children growing up in poverty, becoming adults, as a rule, wich remain poor.

Research methods

The study, the results of which are presented in this article, was carried out on the basis of an analysis of the official data of the Federal State Statistics Service (Rosstat) and its territorial bodies in the regions of the Russian Arctic. Official statistical compilations became the sources of statistical data[10]: “Socio-economic indicators of poverty”, “Income, expenditure, and consumption of households”, “Social status and standard of living of the population of Russia”, “Health care in Russia”, “Housing in Russia”. The study was conducted based on materials from the Murmansk Oblast, the Yamal-Nenets, Chukotka, and Nenets Autonomous Okrugs, the territories of which are completely attributed to the Arctic zone of Russia (hereinafter - the Arctic regions of Russia).

During the study, an analysis of the poverty of the population was carried out according to indicators officially accepted in Russian practice. Particular attention is paid to the comparison of the indicators of the standard of living with their limiting critical values (Table 1), established by the author based on the results of many years of research, taking into account expert assessments and based on research by Russian and foreign scientists [4, Glazyev S.Yu. , Lokosov V.V., pp. 22-24; 14, Korchak E.A., pp. 90–93].

[8] O prozhitochnom minimume v Murmanskoj oblasti [On the cost of living in the Murmansk Oblast]. Jelektronnyj fond pravovoj i normativno-tehnicheskoj dokumentacii [Electronic fund of legal and regulatory technical documentation]. URL: http://docs.cntd.ru/document/913508381 (accessed 13.04.2020).

[9] Regiony Rossii. Social'no-jekonomicheskie pokazateli 2019 [Regions of Russia. Socio-economic indicators 2019]. Federal'naja sluzhba gosudarstvennoj statistiki [Federal State Statistics Service]. URL: https://gks.ru/bgd/regl/b19_14p/Main.htm (accessed 13.04.2020).

[10] Federal State Statistics Service of Russia. URL: https://www.gks.ru/ (accessed 13.04.2020).

Table 1

Extremely critical values of indicators of living standards

Index	Maximum critical value of the indicator	
	Russia	Arctic
The share of the population with an average per capita money income below the regional subsistence minimum,%	7	2
Ratio of average per capita money incomes with the value of the regional subsistence minimum, times	2	5
The ratio of the average monthly nominal accrued wages to the value of the regional subsistence minimum of the able-bodied population, times	3	6

Undoubtedly, while studying the poverty of the population, it is necessary to consider not only absolute indicators of poverty (monetary criteria), but also relative and subjective estimates. Social stability in society, which is an important condition for sustainable balanced development, largely depends on the indicator of the share of the population whose living conditions are significantly worse than the norm adopted in a given society: for full participation in society, the living conditions of a particular person should not differ significantly from the standard adopted in society standard of living. Integral poverty assessment is needed [11]. An important component of which is the subjective method of measuring poverty, based, in particular, on a survey of public opinion on the level of sufficient, low, or insufficient income, on the study of people's self-identification by income level, social exclusion, etc. However, today such an assessment of poverty is difficult due to the narrowness of official statistical indicators, due to the "randomness" of the sample of such measurements (excluding the possibility of measuring poverty in small groups of the population, e.g., among the indigenous small population) and other factors. In particular, in choosing a method for analyzing child poverty, the author proceeded, first, from the fact that its quantitative assessment in monetary form is most widely used - in terms of income; secondly, for reasons of the availability of estimated indicators, which is of particular importance for conducting interregional comparisons and conducting appropriate monitoring.

Study results and discussion

Today, the main idea of mankind remains sustainable development - the process of social development, in which the transformation of economic activity is consistent with ensuring environmental safety and achieving social sustainability. The fundamental principles of such development are rational use of natural resources and ensuring socially acceptable standards of the well-being of the population.

In a recent report to the Club of Rome, the Global Sustainable Development Report 2019, it was concluded that no country at the current stage of social development has been able to achieve a balance of human well-being and a healthy environment. Research carried out by an in-

[11] Korchak E.A. *Sovershenstvovanie institutsional'nykh mekhanizmov resheniya problemy bednosti v severnom regione RF (na primere Murmanskoy oblasti)* [Improvement of institutional mechanisms for solving the problem of poverty in the northern region of the Russian Federation (on the example of the Murmansk region)]: Cand. Econ. Sci. Diss. Abs. Apatity, 2007. 22 p.

dependent group of scientists from different countries of the four-year cycle of the implementation of the Sustainable Development Goals showed that, against the background of a decrease in income poverty, multidimensional poverty remains relevant today, the social localization groups of which are women, indigenous peoples, and ethnic minorities, citizens of the - natural possibilities of health, children. According to scientists - authors of the report [12], it is the well-being of the population that determines the level of a high-quality reproduction of human potential that contributes to social, economic, and environmental transformations. At the same time, the only call to action in the field of improving the well-being of the population and, accordingly, expanding the possibilities for achieving sustainable development is the concentration of efforts of state, regional and local authorities, business, local communities in reducing inequalities of social groups at risk of poverty.

In Russia, the problem of poverty became more urgent in the 90s the last century in connection with the collapse of the USSR and the formation of market relations, which led to a drop in the standard of living of the population. In fact, poverty has emerged as a socio-economic phenomenon of the post-Soviet period of the country's development - a consequence of institutional and economic transformations in conjunction with demographic and geographic factors.

Significant at the current stage of Russia's socio-economic development is the problem of poverty of the population of the Russian Arctic, the regions of which constitute the zone of strategic interests of the country [15, Korchak E. and Serova N., p. 1736]. The regions of the Russian Arctic have formed a relatively high economic potential. So, with a population of only 0.94% of the country's population, the share of the GRP produced here in the total GRP of the country is 4.6%. The average GRP per capita in 2018 here amounted to 2 859.5 thousand rubles with an average level in Russia of 578.7 thousand rubles. The Nenets, Yamal-Nenets, and Chukotka Autonomous Okrugs are traditionally in the top three in the ranking of Russian regions in terms of per capita income (the Murmansk Oblast in 2018 ranked 13th). Despite this, 8.4% of the population of such regions today lives below the poverty line (Table 2).

Table 2

GRP per capita, average per capita cash income and the scale of poverty in the Russian Arctic regions, 2018[13]

Region	GRP per capita, thousand rubles	Average per capita cash income, rubles	Poverty rates, thousand people
Nenets Autonomous Okrug	6 950.4	78 549	4.2
Murmansk Oblast	642.7	41 564	74.0
Yamal-Nenets Autonomous Okrug	5 710.1	79 398	33.5
Chukotka Autonomous Okrug	1 578.5	78 812	4.4

[12] United Nations, 2016, Global Sustainable Development Report 2016, Department of Economic and Social Affairs, New York, July.

[13] Federal State Statistics Service of Russia. URL: https://www.gks.ru/ (accessed 13.04.2020).

Comparison of the values of living standards indicators with their extreme critical values (Table 1) is disappointing: in terms of poverty, the regions of the Russian Arctic are below the critical line (Table 3).

Table 3

Indicators of the living standard of the population of the Russian Arctic regions, 2018 [14]

Region	Poverty rate, %	Ratio of average per capita cash income to the subsistence minimum, times	The ratio of the average monthly wage to the subsistence minimum, times
Nenets Autonomous Okrug	9.7	3.86	3.93
Murmansk Oblast	9.9	2.84	4.08
Yamal-Nenets Autonomous Okrug	6.2	5.10	5.88
Chukotka Autonomous Okrug	8.8	3.65	4.68
The range of the critical value of the indicator	[2–7]	[2–5]	[3–6]

The Yamal-Nenets Autonomous Okrug is in the most “advantageous” position, where the size of monetary incomes is quite high, and the level of poverty is in the range of the critical value. In other regions, the poverty level exceeds its maximum critical value, while the ratio of cash income to the subsistence minimum does not reach the upper limit of this range - the maximum critical value for the Arctic region.

In this kind of research, it is necessary to take into account the ethnic specifics of the human potential of the regions of the Russian Arctic: about 5% of the population here is a small indigenous population (Chukchi, Sami, Nenets, Khanty, Eskimos, etc.). According to the 2010 All-Russian Census, in the Chukotka Autonomous Okrug, about 33% of the population were representatives of indigenous peoples, in the Nenets Autonomous Okrug - 19%, in the Yamal-Nenets Autonomous Okrug - more than 8%, in the Murmansk Oblast - about 0.2%[15]. The indigenous small-numbered population of the regions of the Russian Arctic live in rural areas, which, against the background of the specifics of their traditional activities, predetermines a low standard of living. In particular, the average per capita monetary income of the rural population of the Nenets Autonomous Okrug is about 60% of the urban; average per capita money income per household member in rural areas - 63%[16].

The actual standard of living of the population reflects consumer spending: the poor is a part of the population, in the structure of expenses of which food costs prevail (the law of the

[14] Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli 2019 [Regions of Russia. Socio-economic indicators 2019]. Federal'naya sluzhba gosudarstvennoy statistiki [Federal State Statistics Service]. URL: https://gks.ru/bgd/regl/b19_14p/ Main.htm (accessed 13.04.2020).

[15] VPN 2010 [All-Russia Census 2010]. URL: https://www.gks.ru/free_doc/new_site/perepis2010/croc/perepis_itogi1612.htm (accessed 13.04.2020).

[16] Federal'nye statisticheskie nablyudeniya po sotsial'no-demograficheskim problemam [Federal statistical observations on socio-demographic problems]. URL: https://arhangelskstat.gks.ru/standards_of_life (accessed 13.04.2020).

German economist E. Engel [16, Kochkin S.A., pp. 66-70]). Today, the share of spending on food in countries with a high standard of living is no more than 15% of household spending, in countries with a low standard of living - more than 50%[17]. In Russia, the share of food expenditures in the structure of household consumer spending in 2018 was 33.5%, incl. in the Murmansk Oblast – 27.8%, in the Nenets Autonomous Okrug – 33.1%, in the Yamal-Nenets Autonomous Okrug – 34.7%, in the Chukotka Autonomous Okrug - 48.2%. The largest share of such expenditures is in the first decile, the smallest – in the tenth decile group of the population (e.g., in the Murmansk Oblast, more than 37% of consumer spending in the first decile is spent on food, and in households with the largest disposable resources per capita – no more than 15%[18]). This situation testifies not only to existing differences in consumption but also to restrictions on access to development resources. Today, more than 20% of households in the regions of the Russian Arctic share more than 50% of spending on food purchases, incl. in the Chukotka Autonomous Okrug – 50.5% of households, in the Nenets Autonomous Okrug – 20.9%, in the Yamal-Nenets Autonomous Okrug – 15.1%, in the Murmansk Oblast – 8.2% of households[19]. The situation is aggravated by the "tightness" of living conditions. According to Rosstat[20], in 2018, in the Nenets Autonomous Okrug – 23.1% of families were registered as needing housing, of which 5.6% were large families; in the Yamal-Nenets Autonomous Okrug – 9.4% and 11.5%, in the Chukotka Autonomous Okrug – 6.2% and 11.3%, in the Murmansk Oblast – 3.5% and 9.3%, respectively. The provision of the population with good-quality drinking water (meeting mandatory safety requirements) in the Murmansk Oblast was 57.1%, in the Chukotka Autonomous Okrug – 49.8%, in the Yamal-Nenets Autonomous Okrug – 52.7%, in the Nenets Autonomous Okrug – 67.2 %. In general, an analysis of the distribution of households by assessing their financial situation[21] in 2018 indicates that on average in the regions of the Russian Arctic, 48% of households were included in the category of poor (Table 4); the largest rate (63.3%) –
in the Nenets Autonomous Okrug.

[17] Reyting stran Evropy po dole raskhodov semey na produkty pitaniya — 2016 [Rating of European countries by the share of family spending on food - 2016]. RIA rating. URL: https://riarating.ru/countries/20161206/630048668.html (accessed 13.04.2020).
[18] Statisticheskiy byulleten' «Dokhody, raskhody i potreblenie domashnikh khozyaystv» (po itogam obsledovaniya byudzhetov domashnikh khozyaystv) [Statistical bulletin "Income, expenditure and consumption of households" (based on a survey of household budgets)]. Federal'naya sluzhba gosudarstvennoy statistiki [Federal State Statistics Service]. URL: https://gks.ru/bgd/regl/b18_102/Main.htm (accessed 13.04.2020).
[19] Ibid.
[20] Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli 2019 [Regions of Russia. Socio-economic indicators 2019]. Federal'naya sluzhba gosudarstvennoy statistiki [Federal State Statistics Service]. URL: https://gks.ru/bgd/regl/b19_14p/Main.htm (accessed 13.04.2020).
[21] Statisticheskiy byulleten' «Dokhody, raskhody i potreblenie domashnikh khozyaystv» (po itogam obsledovaniya byudzhetov domashnikh khozyaystv) [Statistical bulletin "Income, expenditure and consumption of households" (based on a survey of household budgets)]. Federal'naya sluzhba gosudarstvennoy statistiki [Federal State Statistics Service]. URL: https://gks.ru/bgd/regl/b18_102/Main.htm (accessed 13.04.2020).

Table 4

Poor households in the Russian Arctic regions, 2018.

Region	Share of poor households, %	Share of households with children under the age of 16 in the composition of poor households, %[22]
Nenets Autonomous Okrug	63.3	85.0
Murmansk Oblast	47.1	70.6
Yamal-Nenets Autonomous Okrug	35.2	96.5
Chukotka Autonomous Okrug	45.9	87.7

Today, about 80% of low-income households in the regions of the Russian Arctic are families with children under the age of 16 (Table 4), including 96.5% in the Yamal-Nenets Autonomous Okrug, 87.7% in the Chukotka Autonomous Okrug. %, in the Nenets Autonomous Okrug – 85%, in the Murmansk Oblast – 70.6%. One of the factors of the current situation, in addition to the unfavorable demographic load (large or single-parent families), are the features of economic activity – low-paid employment and unemployment. So, according to Murmanskstat [23], in the Murmansk Oblast in 2018, 47.5 thousand employees (or 17.7% of the average number of employees) had an average monthly wage at the level of fewer than 3 times the subsistence minimum of the working-age population. The centers of low-paid employment in the region are such types of economic activities as “wholesale and retail trade; repair of motor vehicles and motorcycles” (24.3 thousand employees with an average monthly wage of 1.94 times the subsistence level of the working-age population), “activities of hotels and catering establishment” (7 thousand employees and 1.7). The lowest level of wages is in the sphere of “clothing production” (here the level of the average monthly wage is 1.27 times the subsistence minimum of the working-age population), “wood processing and production of wood and cork products” (1.20), “furniture production” (1.08). The poverty of “budgetary” categories of workers is of relevance. In particular, in the city of Kovdor the average monthly salary of the nursing (pharmaceutical) personnel of municipal organizations is 2.14 times the subsistence level of the working-age population, in Apatity – 2.16; average salary of nursing staff in years. Kirovsk and Olenegorsk – 2.23. Such figures indicate that the resources of these categories of workers do not allow for the development of the potential not only of the employee himself but also of his family members, being limited only to a set of primary needs [17, Kalashnikova O.N., Gruzdeva M.A., p. 147].

Unemployment makes a significant contribution to the poverty situation in households with children. In 2018, in the Nenets Autonomous Okrug, its level was 8.1%, while more than 40%

[22] Byulleten' «Sotsial'no-ekonomicheskie indikatory bednosti» [Bulletin “Socio-economic indicators of poverty”]. Federal'naya sluzhba gosudarstvennoy statistiki [Federal Service of State Statistics]. URL: https://gks.ru/bgd/regl/b19_110/ Main.htm (accessed 13.04.2020).

[23] Territorial'nyy organ Federal'noy sluzhby gosudarstvennoy statistiki po Murmanskoy oblasti [Territorial body of the Federal State Statistics Service for the Murmansk Oblast]. URL: https://murmanskstat.gks.ru/ (accessed 13.04.2020).

of the unemployed were citizens living in rural area[24]; by marital status, 45.6% of the unemployed are married citizens, of whom about 50% are women. In the Chukotka Autonomous Okrug[25], the unemployment rate of women aged 20–49 with one child (under the age of 18) is 1.5%, two children – 5.1%, three and more – 5%; in rural areas – 3.9%, 13.4%, and 7.6%, respectively. The indigenous small-numbered population is in the poverty zone: today the traditional use of natural resources does not bring a satisfactory level of income, while the volumes of ethno-economics are limited by the ecological capacity of the territories of such nature use, incl. in connection with the "predatory" activities of large industrial corporations[26].

Poverty as a socio-economic phenomenon has a negative impact on the prospects for sustainable development of the regions of the Russian Arctic, creating a threat of degradation of human potential since it reproduces the phenomenon of child poverty. As the number of children increases, the standard of living of families declines by 30% among complete families with two children, by 50% - among complete families with three or more children. For instance[27], in the Nenets Autonomous Okrug (data for 2016), the average money income for a family with two children is 56% of the income of a family with one child, on average for one family member - 47%; single-parent families with children - 53% of the income of a married couple with a child. In the Murmansk Oblast, the average income per member of a married couple with children under the age of 18 is 58% of that of a married couple without children; the average monetary income per member of a household consisting of one person is 30,176 rubles, for a household with one child - 24,811 rubles, two children - 19,365 rubles.

The family is a social institution [18, Kalashnikova O.N., p. 81], the main function of which is to ensure the physical and social reproduction of new generations [19, Abdullina V.S., p. 276]. Manifestations of social vulnerability of families with children are, first of all, limited opportunities to perform their functions, which negatively affect the qualitative reproduction of human potential.

Since 2007, in Russia as a tool for long-term public investment [20, Kormishkina L.A., Koroleva L.P., p. 25], maternal (family) capital was introduced into the development of human potential for families in which the second (and every subsequent child) was born or adopted. The implementation of maternity capital provides for the improvement of housing conditions, the receipt of education by the child, the formation of a funded pension for the mother of the child, as

[24] Upravlenie Federal'noy sluzhby gosudarstvennoy statistiki po Arkhangel'skoy oblasti i Nenetskomu avtonomnomu okrugu [Office of the Federal State Statistics Service for the Arkhangelsk Oblast and the Nenets Autonomous Okrug]. URL: https://arhangelskstat.gks.ru/ (accessed 13.04.2020).

[25] Upravlenie Federal'noy sluzhby gosudarstvennoy statistiki po Khabarovskomu krayu, Magadanskoy oblasti, Evreyskoy avtonomnoy oblasti i Chukotskomu avtonomnomu okrugu [Office of the Federal State Statistics Service for the Khabarovsk Krai, Magadan Oblast, the Jewish Autonomous Okrug and the Chukotka Autonomous Okrug]. URL: https://habstat.gks.ru/ (accessed 13.04.2020).

[26] Na Yamale obespokoeny bednost'yu i bezrabotitsey sredi tundrovikov [Yamal is concerned about poverty and unemployment among tundra people]. Regnum. URL: https://regnum.ru/news/economy/2531004.html (accessed 13.04.2020).

[27] Federal'nye statisticheskie nablyudeniya po sotsial'no-demograficheskim problemam [Federal statistical observations on socio-demographic problems]. URL: https://arhangelskstat.gks.ru/standards_of_life (accessed 13.04.2020).

well as the purchase of goods and services intended for the social adaptation of disabled children[28] (the size of such capital in 2018 amounted to 453 thousand rubles). In the Murmansk Oblast in 2007–2018, 42.8 thousand families used the maternity capital program[29] (less than 15% of households in the region), and the main direction of its use was the improvement of housing conditions (repayment of housing loans, participation in shared construction, purchase of housing). In the Yamal-Nenets Autonomous Okrug during this period, only 35% of the total number of maternity capital certificate holders disposed of maternity capital (the main direction of its implementation here was also the repayment of housing loans)[30]. Since 2011, regional maternity capitals have been introduced in the regions of Russia as a one-time cash payment at the birth of the second, third, and subsequent children. For example, in the Murmansk Oblast, the amount of such payment in 2018 amounted to 121.6 thousand rubles (in the region, funds from the regional maternity capital can be used, in addition to the standard areas of "federal" maternity capital, to repair housing and pay for medical services for a child), in the Chukotka Autonomous Okrug – 131.5 thousand rubles, in the Nenets Autonomous Okrug – 234.6 thousand rubles, in the Yamal-Nenets Autonomous Okrug – 334.5 thousand rubles. Most of the regional maternity capital in the Nenets Autonomous Okrug is directed to the purchase of vehicles[31]. In the Chukotka Autonomous Okrug, maternity capital is not targeted (its funds can be directed to any needs), the condition for its receipt is the receipt of federal maternity capital, while the use of capital funds is possible 2 years after the birth (adoption) of the third and subsequent children[32]. It is difficult to assess the impact of maternity capital on the welfare of families with children due to the lack of relevant statistical data; nevertheless, it should be noted that the effect of the implementation of such an instrument of long-term public investment is associated with the improvement of housing conditions.

The main burden in the implementation of measures of social support for families with children in Russia is carried out by the regions in accordance with federal and regional regulatory legal documents. Regional budgets receive funds from the federal budget in the form of subventions and subsidies for child support payments. The most important criterion in establishing social support measures is the amount of per capita money income and its ratio with the

[28] Chto nuzhno znat' o materinskom (semeynom) kapitale [What you need to know about maternal (family) capital]. Pensionnyy fond Rossiyskoy Federatsii [Pension Fund of the Russian Federation]. URL: http://www.pfrf.ru/grazdanam/family_capital/chto_nuzh_znat/ (accessed 13.04.2020).

[29] Bolee 42,8 tys. semey Murmanskoy oblasti poluchili sertifikat na materinskiy kapital [More than 42.8 thousand families of the Murmansk region received a certificate for maternity capital]. Lovozerskiy rayon. Ofitsial'nyy sayt administratsi [Lovozersky district. Official website of the administration]. URL: http://www.lovozeroadm.ru/zhizn_rayona/otdel_pensionnog/3065/ (accessed 13.04.2020).

[30] Realizatsiya federal'noy programmy materinskogo (semeynogo) kapitala v YaNAO [Implementation of the federal program of maternity (family) capital in the YNAO]. Materinskiy kapital [Maternity capital]. URL: http://materinskiy-kapital.molodaja-semja.ru/regiony/yanao/ (accessed 13.04.2020).

[31] 61 sem'ya poluchila regional'nyy materinskiy kapital za 6 mesyatsev 2018 goda [61 families received regional maternity capital in 6 months of 2018]. Administratsiya Nenetskogo avtonomnogo okruga [Administration of the Nenets Autonomous Okrug]. URL: http://adm-nao.ru/press/government/18994/ (accessed 13.04.2020).

[32] Materinskiy kapital v Chukotskom AO [Maternity capital in Chukotka Autonomous Okrug]. Materinskiy kapital [Maternity capital]. URL: http://materinskiy-kapital.molodaja-semja.ru/regiony/chukotskij-ao/ (accessed 13.04.2020).

subsistence minimum. Thus, the monthly child allowance is provided to families with an average per capita income below the subsistence level (Table 5).

Table 5

The amount of child support in the regions of the Russian Arctic, 2018, rubles per month [33]

Region	Child support		Subsistence minimum for a child, rub.
	Basic child benefit	For single mother's children	
Nenets Autonomous Okrug	556	1 112	21 688
Murmansk Oblast	364	729	15 121
Yamal-Nenets Autonomous Okrug	295–738	591–1477	15 328
Chukotka Autonomous Okrug	500	750	22 591

In the Murmansk region in 2018, the amount of the basic child allowance was 364 rubles. or 2.4% of the child's subsistence minimum. In addition to this allowance, low-income families of the region, whose average per capita income is below 1.5 times the subsistence level, are provided with a one-time allowance when a child enters the 1st grade; 2 values of the subsistence level - monthly utility payment to large families; 2.5 times the subsistence level - the right to purchase a single social ticket. In general, in the structure of monetary incomes of households in the Murmansk region, social payments amount to 8.1%, of which 41% fall on allowances and compensation payments to children[34].

In the Yamal-Nenets Autonomous Okrug, the amount of the basic child benefit is set considering the child's age (preschool or school). In addition, low-income families with children "are entitled" to the following measures: reimbursement of expenses in the amount of 100% of the cost of travel through the territory of Russia during the holidays twice a calendar year for full-time students; payment of the cost of travel through the territory of Russia for students who are organized on trips to sanatoriums or health camps; reimbursement of expenses 50% of the cost of travel through the territory of Russia by rail, and in areas without a rail link, by water, air and intercity road transport. In the Chukotka Autonomous Okrug, at the expense of the district budget, monthly and one-time payments and allowances to large families are provided for the purchase of housing (from 300 thousand rubles to 5 million rubles), for the payment of an initial payment when receiving a mortgage loan (up to 1.5 million rubles) and subsequent monthly partial reimbursement of interest on the mortgage loan (50% of the monthly payment); compensation for the cost of vouchers to country camps (up to 35 thousand rubles) and utilities (up to 50% of the total amount). Families from among the indigenous peoples of the North are also provided with annual payment (25 thousand rubles), additional support in the form of payments for the purchase of clothes and shoes, as well as other household needs.

[33] Sotsial'noe polozhenie i uroven' zhizni naseleniya Rossii 2019 g. [Social situation and standard of living of the population of Russia in 2019]. Federal'naya sluzhba gosudarstvennoy statistiki [Federal State Statistics Service]. URL: https://gks.ru/bgd/regl/b19_44/Main.htm (accessed 13.04.2020).

[34] Federal'nye statisticheskie nablyudeniya po sotsial'no-demograficheskim problemam [Federal statistical observations on socio-demographic problems]. URL: https://arhangelskstat.gks.ru/standards_of_life (accessed 13.04.2020).

In general, the analysis of the level and structure of “children's” benefits shows that in the regional aspect there is a significant level of differentiation of such benefits depending on the number of children in the household and depending on the place of residence. Thus, in the Murmansk region, in the structure of social payments to households with one child, “child's” allowances make up 74.4%, with two children – 31.2%; in the Nenets Autonomous Okrug – 57.1% and 60.4%, respectively (households with three or more children – 49.9%); in the Yamal-Nenets Autonomous Okrug - 28.8%, 41.5%, 24.2%; in the Chukotka Autonomous Okrug - 34.1%, 51.2%, and 57.9%, respectively. In the Yamal-Nenets Autonomous Okrug, the amount of “child” benefits per member of the “rural” household on average is 44% of the “urban”; in the Nenets Autonomous Okrug – 121%; in the Chukotka Autonomous Okrug - 170%.

Low-paid employment and unemployment are the main factors in the phenomenon of child poverty, while the effect of the social support system in improving the living standards of low-income families with children is limited, as evidenced by calculations of child poverty indicators (Table 6).

Table 6

Child Poverty rates in the Russian Arctic, 2018.

Region	Share of children under the age of 16 in the structure of the poor, %[35]	Child poverty rate, %
Nenets Autonomous Okrug	50,5	19,4
Murmansk Oblast	42,3	22,3
Yamal-Nenets Autonomous Okrug	52,5	12,7
Chukotka Autonomous Okrug	46,9	18,3

Today, in the regions of the Russian Arctic, there is a critical situation with the standard of living for the child population, the worst one is in the Murmansk Oblast - the region with the highest concentration of child poverty, where almost every fifth child is socially vulnerable. According to the author's calculations (based on the official data of the Federal State Statistics Service), in the Murmansk Oblast, the child poverty rate is 31.3 thousand children, in the Yamal-Nenets Autonomous Okrug - 16.5, in the Chukotka and Nenets Autonomous Districts - 2.1 thousand each.

Conclusion

Undoubtedly, the problem of poverty is relevant, since its complexity and ambiguity give rise to a lot of questions. One of them is that due to the impossibility of an adequate assessment of non-monetary aspects, poverty in this study meant, first of all, income poverty (when the average per capita money income in a household is below the subsistence level). In our opinion, it is necessary to take into account not only poverty in terms of income but also other types of non-monetary deprivation (malnutrition, inaccessibility of pre-school or school services, limited access

[35] Byulleten' «Sotsial'no-ekonomicheskie indikatory bednosti» [Bulletin “Socio-economic indicators of poverty”]. Federal'naya sluzhba gosudarstvennoy statistiki [Federal Service of State Statistics]. URL: https://gks.ru/bgd/regl/b19_110/ Main.htm (accessed 13.04.2020).

to information and communication technologies, etc.), which, unfortunately, are not always amenable to adequate assessment. Moreover, the methodology used in this study has several limitations, since the absolute poverty assessment adopted in Russia has its drawbacks, and due to the limited statistical data at the level of municipalities. In particular, the composition of the consumer basket in Russia is established on the basis of a too narrow set of positions, while the norms of consumption of certain food products by socio-demographic groups of the population do not seem to correspond to modern realities. Measuring child poverty also raises specific problems. For example, in Russian reality, the subsistence minimum is actually the border of the physiological survival of a person, while the structure of the consumer basket de facto does not take into account regional specifics in the costs of purchasing clothing, medicines, and vitamins associated with the climatic features of the Arctic regions. Child poverty is not only a phenomenon, the presence of which is shameful for society and the state. This is a systemic factor that determines the dynamics of economic and social development of the country and its regions in the strategic perspective, in the perspective of achieving sustainable development, since the phenomenon of child poverty is caused by the emergence and aggravation of long-term negative trends - an increase in the incidence rate, a decrease in the level of education, an increase in the level of unemployment and, as a consequence, an increase in crime and social tension in society, a decrease in the quality of human potential and a reduction in opportunities for achieving sustainable development of the Russian Arctic.

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The Correlation of Social Capital, Social Trust and Population' Entrepreneurial Activity in the Arctic Region (a Case Study of the Arkhangelsk Oblast) *

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Abstract. The article considers the relationship of social capital, institutional and interpersonal trust, and entrepreneurial activity on the data of the Arkhangelsk Oblast. The authors, following R. Putnam, analytically distinguish two types of social capital — bonding and bridging. The level of the former is measured by interpersonal trust indices, while the latter is measured by general and institutional trust indices. Based on the analysis of the sociological survey results, conducted by the authors of the article, it is shown that the level of bonding capital, based on trust in the nearest social environment, is quite high in the Arkhangelsk Oblast, but there is a shortage of bridging capital that based on trust in public institutions and civil solidarity. It is shown that the deficit of bridging social capital, associated with a low level of trust in institutions, increases the transaction costs of market agents like entrepreneurs, which negatively affects the implementation of the region's entrepreneurial potential. Thus, it is proved that the amount of social capital is a key non-economic factor that reduces the investment rating and entrepreneurial activity indicators in the region against the backdrop of low dynamics of gross regional product and population incomes and increasing government spending to stimulate small and medium-sized businesses.
Keywords: *social capital, institutional trust, entrepreneurial activity, investment attractiveness of the region, bonding capital, bridging capital.*

Introduction

It is difficult to imagine the comprehensive socio-economic development of the regions of the Arctic zone of the Russian Federation (hereinafter - the AZRF) without the active involvement of the population in forms of economic activity characterized by a sufficiently high level of investment risk. Such forms are remarkably diverse - from the use of numerous financial instruments available to citizens to the organization of their own business. A common feature of these forms of economic activity is the need to act in heightened uncertainty conditions. One of the factors that reduce this uncertainty is the quality (reliability and efficiency) of institutions that organize market interactions (including political and legal institutions).

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The quality of institutions is reflected in formalized expert assessments and institutional trust indices, calculated based on mass survey data. At the same time, trust in institutions, both on the part of experts and among ordinary citizens, actually serves as the foundation for the viability of these institutions, since in the conditions of a deficit of such trust, economic actors "invent" alternative institutions functioning in the zone of informal interactions. Another factor influencing uncertainty is the volume and distribution of social capital within a certain community of people. Social capital is also associated with the phenomenon of trust - in this case, trust between members of a social group or local community. The higher the level of interpersonal trust, the stronger the horizontal (weak according to M. Granovetter) communication [1, pp. 303-305]. This, in turn, acts as a condition for the multiplication of social capital [2, p. 13], the economic effect of which is expressed in the reduction of transaction costs - mutual trust between counterparties reduces uncertainty and makes it unnecessary to turn to institutions that ensure control over the actions of market participants and forcing the latter to comply with the "rules of the game" [3, p. 60; 4, p. 33].

This article is devoted to analyzing the relationship between the regional economy's main parameters and the level of accumulation of social capital in a particular Arctic region (Arkhangelsk Oblast), measured by the indices of institutional and interpersonal trust.

Methodologial grounds for the concept of social capital

One of the first to systematically develop the concept of social capital was the French sociologist P. Bourdieu. In his view, social capital is a set of real or potential resources associated with the possession of a stable network of more or less institutionalized relations of mutual acquaintance and recognition [5, pp. 248-249]. In the interpretation of P. Bourdieu, such a network of informal connections is something like a closed "club," thanks to membership in which individuals can convert their social capital into other types of capital, including economic. Support - both symbolic and material - from the network, whose members perceive themselves as a community (in other words, have a group identity), is achieved by the individual by maintaining trust in him as "his own," which is reinforced by fulfilling yourself when entering a group, obligations concerning its other members and the group as a whole [5, pp. 249-250].

The concept of social capital was developed in the works of the American researcher R. Putnam. He interprets social capital as a component of the social system, including established social networks, generally valid norms of behavior, and mutual trust between community members. At the same time, R. Putnam emphasizes that social capital is used to facilitate the coordination of collective activities for mutual benefit, including society's economic prosperity [6, pp. 66–67].

Putnam R. builds his concept based on collective action theory that common norms formed by common actions lead to cooperation. Particular attention is paid to the norm of reciprocity (mutual exchange); it emphasizes the importance of cooperation's social contexts. The norms of

generalized mutual exchange are combined with “hard commitments” and, accordingly, trust. He emphasizes that trust is generated primarily where agreements between people are woven into a solid structure of personal ties and social contacts [7, pp. 102-103]. In his discussion of mutual exchange, R. Putnam refers to intragroup affects - cooperation and trust.

In this regard, Putnam R. analytically divides social capital into “bonding social capital” and “bridging social capital” [8, p. 20].

“Bringing a group” (bonding) capital is characteristic of local contexts of collective action: for example, in a situation of combining and coordinating efforts within a local community (community) or work collectively to protect their narrow group interests. In this case, the indices of interpersonal trust can act as an empirical indicator of the value of social capital.

“Bridging” capital (bridging) capital is formed based on large-scale social networks, a large radius of trust (beyond the small group or local community), and shared norms and values in society. It contributes to creating broad public coalitions, the activities of which are impossible without relying on various public institutions - trade unions, business associations, religious associations, political parties, etc. The volume of social capital of this subspecies can be indirectly measured through the level of general trust (the tendency to trust people regardless of their belonging to an in-group) and the indices of institutional trust[1].

However, it should be noted that, even though R. Putnam's concept of social capital belongs to the mainstream of modern Western sociology, not all researchers agree with his logic of reasoning. Thus, A. Portes and E. Vikstrom presented a convincing criticism of R. Putnam's theoretical constructions, showing that social capital does not so much determine civic solidarity and cohesion of society, but rather, on the contrary, is its product, while it is a source of social consolidation, of the universal market and democratic institutions [9, Portes A., Vickstrom E., p. 476]. But this criticism does not deny the possibility of measuring social consolidation through indicators used to measure social capital. This is especially justified in conditions of unfinished transit when the market and democratic institutions do not function fully and reliably, which is exactly the case in modern Russia.

An empirical study of social capital in the Arctic territories Arkhangelsk Oblast

In the spring 2018, under the guidance of the authors of the article, a mass survey in six municipalities of the Arkhangelsk Oblast, included in the AZRF, was completed[2]. Among the meas-

[1] The participation of citizens in voluntary associations is also one of the standard indicators for assessing social capital value. This indicator is not used in our study since there are virtually no reliable statistics on public associations' membership. At the same time, according to the results of our survey, the values of the variables were obtained, reflecting the frequency of a) visiting circles (clubs) by interests (“never” – 71.9%, “occasionally” – 19%), b) visiting church (“never” – 40.6%, “rarely” – 49.6%, c) participation in social and political events (“never” – 57%, “occasionally” – 36%). Based on these data, one can assume a low level of participation in the Arkhangelsk Oblast's residents' voluntary associations. This assumption can also be supported by indices of public confidence in voluntary civic participation (parties, trade unions, and religious associations).

[2] The sample is a quota, representative of sex, age, and residence; n = 407 respondents; confidence interval ≤4.9%.

ured variables were indicators of interpersonal and institutional trust, which are important in terms of determining the total amount of social capital in the surveyed territories.

The values of the interpersonal trust indices, which we use to assess the value of bonding capital, show a tendency to a decrease in the level of trust as we move from primary small groups (relatives, friends), which are characterized by informal communication, to secondary ones, with more formalized and ritualized communications. Moreover, in the latter case, a gap in trust level is noticeable depending on the regularity of communications: the index of trust in colleagues at work is more than three times higher than the index of trust in housemates (Fig. 1). The presented data basically agree with the all-Russian indicators of the last decade [10, p. 31].

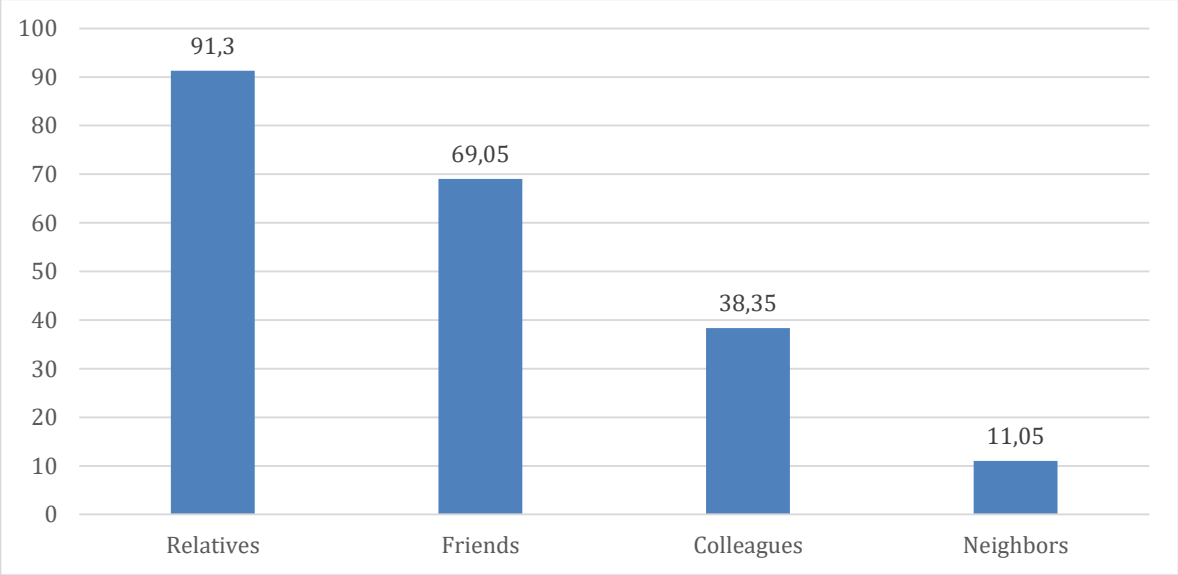

Fig. 1. Interpersonal trust level (non-dimensional values, range -100 to 100, n = 407).

When a child and a loan are considered objects of trust, opinions were somewhat divided when clarifying questions. The respondents note that they could trust the child to their friends and acquaintances (index value = 47[3]), but they are not ready to take financial risks with them (index value = -46). Thus, the respondents demonstrate trust in “friends, acquaintances” in personal relationships and distrust in financial (business) matters. This seemingly paradoxical situation can be partly explained through the data on self-assessment of the level of income, which showed that a significant part of the respondents classified themselves as people who only have enough income for food and clothing (47%). Accordingly, it can be assumed that people who are mostly occupied with the issues of survival, “making ends meet” in the modern unstable economic situation are focused primarily on how to get and keep finances, and the need to leave a child in the care of someone else, as a rule, is associated specifically with the need to go to work. Concerning the category of “relatives,” the trend is similar but less pronounced: in most cases, the child would be en-

[3] Indices are calculated according to the formula: answers (“trusted” + ½ “rather trusted”) minus (½ “rather not trusted” + “not trusted»).

trusted (index value = 92), while they are willing to take on financial obligations with less desire (index value = 38) (Fig. 2).

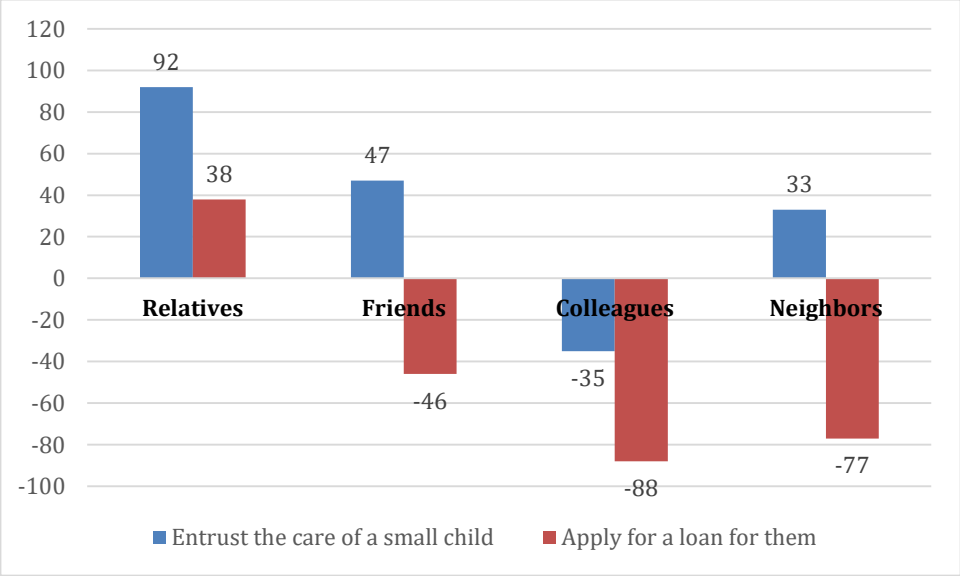

Fig. 2. The level of interpersonal trust (indices based on answers about the willingness to entrust a child and obtain a loan for another person; values without dimension, range from -100 to 100, n = 407).

In general, it can be noted that in the Arkhangelsk Oblast, social capital is reproduced mainly through the maintenance of networks of kinship and friendship, while nominal belonging to a territorial group (housemates) does not lead to the formation of a stable network of mutual support and trust, does not form a group identity and, as a consequence, group cohesion, and therefore cannot serve as a source of social capital. It can be assumed that the low level of trust in neighbors prevents the emergence of networks of social interaction at the level of larger territorial communities – settlement and urban. As a result, in the surveyed territories of the Arkhangelsk Oblast, various projects of TPSGs (for their creation from below, and not within the framework of the planned work of local administrations), public urban spaces, local business projects requiring public support (or, according to at least loyalty to them).

Let us move on to the issue of the state of bridging capital in the Arkhangelsk region. As mentioned above, its indicators can be the general level of trust in fellow citizens and trust in key political and socio-economic institutions.

As for the general level of trust in the Arkhangelsk Oblast, although it is slightly higher than the average in Russia (the share of those who agreed with the statement “Most people can be trusted” was 28.6% against the all-Russian value of 22%), nevertheless, it is rather low in comparison with countries with a developed network of voluntary civic associations and grassroots public initiatives. So, in the United States, this figure is 34.8%, in Germany - 44.6%, in Sweden - 60.1% (World Values Survey, 2010–2014)[4].

[4] Sotsiokul'turnye faktory innovatsionnogo razvitiya i uspeshnoy implementatsii reform [Socio-cultural factors of innovative development and successful implementation of reforms]. Otchet Tsentra strategicheskikh razrabotok [Report of

The values of the indices of institutional trust in the Arkhangelsk Oblast are reflected in the histogram[5] (Fig. 3).

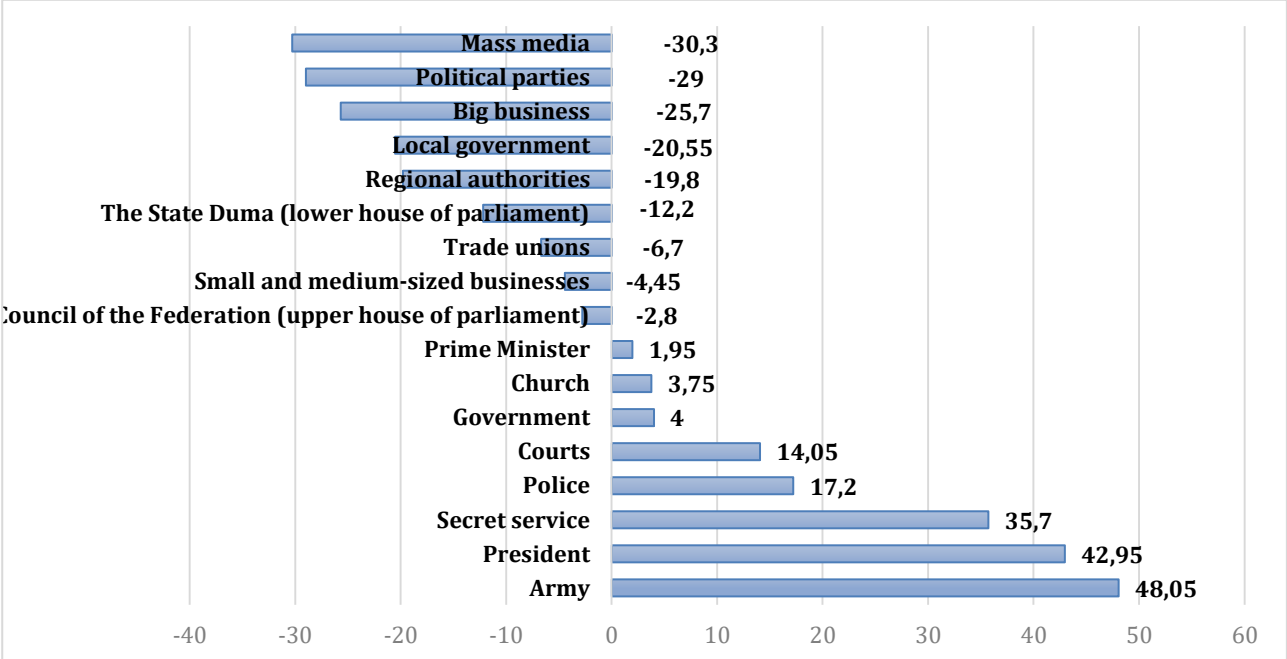

Fig. 3. Institutional confidence indices (non-dimensional values, range from -100 to 100, n = 407).

A significant part of the respondents demonstrates trust in the president (the share of answers "I trust" - 41.9% and "rather trust" - 33.1%), the army (43.6 and 29.7%, respectively), and state security agencies and special services (28.4 and 38.8%, respectively). The respondents trust the media to the least degree (the share of answers "I don't trust" - 36.7% and "I rather don't trust" - 26.9%), political parties (32.5 and 25.2%, respectively) and big business (29.8 and 24.2%, respectively). The indices of trust in the institutions that, to the greatest extent, reflect the level of accumulation of bridging social capital - small and medium-sized businesses, trade unions, religious associations - are also distinguished by shallow values.

Thus, concerning the Arkhangelsk Oblast in terms of the level of formation of social capital in the region, the same conclusions can be drawn as researchers make concerning Russia as a whole: a combination of a relatively high level of bonding social capital with a shortage of bridging social capital[6]. Eloquent evidence of this is also provided by the data we obtained on the indicator of mutual understanding, which indirectly reflects the relative strength of various group identities (Fig. 4). However, we would like to draw your attention to the fact that the qualitative interpreta-

the Center for Strategic Research]. Moscow, 2017, pp. 32. URL: https://www.csr.ru/uploads/2017/10/report-sf-2017-10-12.pdf (accessed: 21 April 2020).

[5] Confidence indices were constructed according to the formula: responses ("full trust" + ½ "incomplete trust") minus (½ "incomplete trust" + "complete distrust"). It was based on the Levada Center methodology Gudkov L. «Doverie» v Rossii: smysl, funktsii, struktura ["Trust" in Russia: meaning, functions, structure]. Vestnik obshchestvennogo mneniya [Public Opinion Bulletin], 2012, no.2, p.12.

[6] Sotsiokul'turnye faktory innovatsionnogo razvitiya i uspeshnoy implementatsii reform [Socio-cultural factors of innovative development and successful implementation of reforms]. Otchet Tsentra strategicheskikh razrabotok [Report of the Center for Strategic Research]. Moscow, 2017, pp. 30. URL: https://csr.ru/wp-content/uploads/2017/09/Report-SF.pdf (accessed: 21 April 2020).

tion proposed above, according to which the situation with social capital in the Arkhangelsk Oblast is a reflection of the all-Russian situation in miniature, does not cancel the quantitative differences of its key indicators in comparison with other regions. Moreover, the averaged all-Russian values of these indicators do not show a rather motley, differentiated picture, which opens up if you look at the situation in the regional context. So, according to data for 10 subjects of the Russian Federation (all federal districts are represented), given in a joint report of the Center for Strategic Research, the Russian School of Economics and the Institute of National Projects, the spread in the proportion of respondents agreeing with the statement that most people can be trusted[7], is in the range from 18.2% (in the Yaroslavl Oblast) to 25.4% (in Moscow) with an average value of 21.7% [8]. Obviously, even considering the sampling error, the level of bridging capital in the Arkhangelsk Oblast is slightly higher than in many other Russian region[9]. Simultaneously, it would be wrong to exaggerate the significance of these quantitative differences since the difference of several percentage points does not allow us to consider the Arkhangelsk Oblast as an atypical region, radically different from the rest of Russia in terms of trust and social capital.

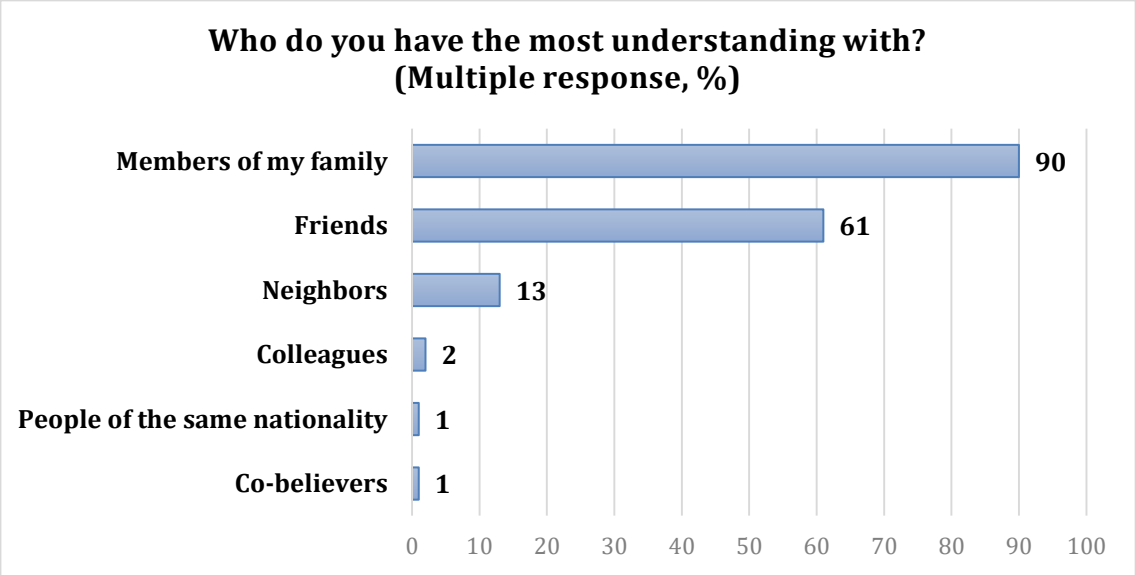

Fig. 4. Respondents' answer to the question:"Among what group of people do you meet the greatest mutual understanding?" (% of the number of respondents, n = 407).

It should be noted that the level of trust in society and the level of trust in individual public institutions are slowly changing parameter[10]. Thus, according to studies carried out by the Levada Center for over 20 years, mistrust towards fellow citizens, on average, remains quite high

[7] Recall that the general level of trust is a key indicator for determining the amount of bridging social capital.
[8] Ibid, p. 152.
[9] The reasons for interregional differences in the levels of trust and social capital is an interesting and important topic, but it goes beyond the research objectives of this article.
[10] Of course, extraordinary socio-political events can give rise to noticeable fluctuations in the values of the indices of trust in individual institutions, as was the case, for example, concerning the institutions of the federal government (especially the President) at the time of the "Crimean consensus" or after June 2018, when the government announced plans to raise the retirement age. It should be noted that our survey was conducted before the latest events related to changes in the pension legislation, and, therefore, its results do not bear the "imprint" of the reaction of public opinion to unpopular decisions of the federal authorities.

throughout the entire post-Soviet period of the country's development, as well as a high level of declared trust in three especially significant symbolic institutions remains: to the head of state, church and army [9, pp. 43-45]. As a result, we can reasonably believe that our survey results reflect the medium-term state of affairs in the field of reproduction of social capital for the surveyed territories.

Dynamics of the economic situation in the Arkhangelsk Oblast and its relationship with social capital

Let us now turn to statistical indicators reflecting both the state of the regional economy (Table 1) and the dynamics of economic activity, which we associate - all other things being equal - with social capital dynamics (Table 3). In the latter case, we are talking about the entrepreneurial activity of the population and changes in the investment climate, since for these processes, social capital is an important prerequisite.

Table1

Selected indicators of the economic development of the Arkhangelsk Oblast in 2014-2018

Index / Year	2014	2015	2016	2017	2018
Index of physical volume of GRP, % of the previous year index (in constant prices)[11]	101.1	100.1	99.2	103.8	102.9
Investments in fixed assets, % of the previous year index (in comparable prices)[12]	79.4	67.0	129.8	130.9	93.8
Real disposable cash income, % of the previous year index[13]	102.4	96.2	93.0	98.1	99.4

As you can see from the table. 1, in 2014 -2018, the relative indicators of the gross regional product and the population's monetary income did not show any significant growth - in general, a tendency towards their stabilization in the medium term can be noted. Fixed capital investments have shown unsustainable growth over a period of 5 years (clearly shown in Fig. 5). Their growth in 2015–2016 can be explained both by the general economic recovery after the recession in 2014 and by individual large investment projects implemented during this period (for example, the launch of a mining and processing plant at the V. Grib diamond deposit). Further growth of investments in the regional economy against the background of actual stagnation of production and the absence of signs of expansion of the consumer market is possible only by improving the investment climate by improving the institutional environment and infrastructure (including finan-

[11] Arkhangel'skaya oblast' bez Nenetskogo avtonomnogo okruga. Valovoy regional'nyy produkt [The Arkhangelsk Oblast except for the Nenets Autonomous Okrug. Gross regional product]. Upravlenie Federal'noy sluzhby gosudarstvennoy statistiki po Arkhangel'skoy oblasti i Nenetskomu avtonomnomu okrugu [Federal Service of State Statistics for the Arkhangelsk Oblast and the Nenets Autonomous Okrug]. URL: https://arhangelskstat.gks.ru/grp11001 (accessed 21.04.2020).

[12] Ibid.

[13] Arkhangel'skaya oblast' bez Nenetskogo avtonomnogo okruga. Uroven' zhizni [The Arkhangelsk Oblast except for the Nenets Autonomous Okrug. Standard of living]. Upravlenie Federal'noy sluzhby gosudarstvennoy statistiki po Arkhangel'skoy oblasti i Nenetskomu avtonomnomu okrugu [Federal Service of State Statistics for the Arkhangelsk Oblast and the Nenets Autonomous Okrug]. URL: https://arhangelskstat.gks.ru/standards_of_life11001 (accessed 21.04.2020).

cial). In turn, these factors of the region's investment attractiveness are the subject of the regional authorities' economic policy.

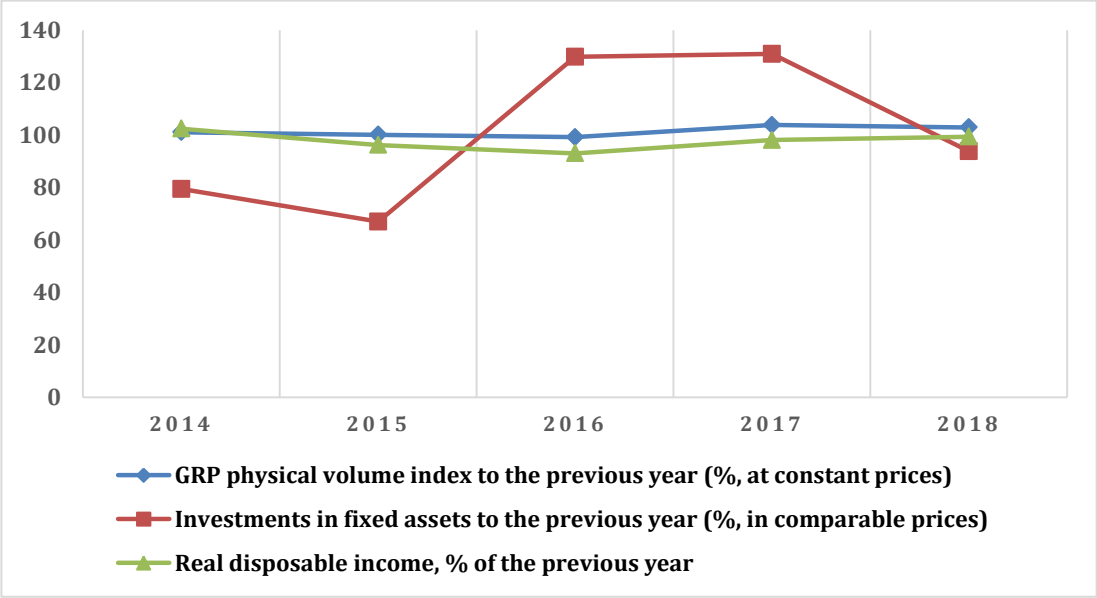

Fig. 5. Dynamics of individual indicators of economic development of the Arkhangelsk Oblast in 2014-2018.

The regional state program "Economic development and investment activities in the Arkhangelsk Oblast (2014–2024)", approved at the end of 2013,[14] assumed the allocation of a total of 439,980.7 thousand rubles for the implementation of measures to create a favorable environment for the development of investment activities (subprogram No. 1), including the creation of favorable conditions for attracting direct investment in the region's economy and the development of public-private mechanisms partnership, and 2,109,791.6 thousand rubles for the development of small and medium-sized businesses in the region (subprogram No.2). At the same time, at the end of 2019, 245,932.2 thousand rubles of targeted funds (55.9% of the budget of the subprogram) were spent under subprogram No.1, and 1,318,480.6 thousand rubles under subprogram No.2, or about 62.5% of the budget of the subprogram (see Table 2). Even though both subprograms, considering the timing and budget expenditures, were implemented a little more than half. It is too early to give a final assessment of their effectiveness. Some positive effects from their partial implementation could be expected already by the end of 2019. However, we observe a different picture (see Table 3).

Table 2

Financing of subprograms No.1 and No.2 of the regional state program "Economic development and investment activities in the Arkhangelsk Oblast (2014–2020)" (by years, thousand rubles)

Year	2014	2015	2016	2017	2018	2019

[14] Ob utverzhdenii gosudarstvennoy programmy Arkhangel'skoy oblasti «Ekonomicheskoe razvitie i investitsi-onnaya deyatel'nost' v Arkhangel'skoy oblasti (2014–2024 gg.)»: Postanovlenie Pravitel'stva Arkhangel'skoy oblasti ot 8 oktyabrya 2013 g. № 462-pp [On the approval of the state program of the Arkhangelsk Oblast "Economic development and investment activity in the Arkhangelsk Oblast (2014–2024)": Resolution of the Government of the Arkhangelsk Oblast of October 8, 2013 No. 462-pp]. URL: https://dvinaland.ru/budget/programs/12 (accessed 21.04.2020).

Subprogram number 1 "Formation of a favorable environment for the development of investment activities"	5 396	108 281.9	2 763.8	1 394.3	46 589	81 507.2
Subprogram number 2 "Development of small and medium-sized businesses in the Arkhangelsk Oblast"	229 973	192 355	120 848.1	103 717.6	116 089.8	555 533.1

So, according to the National Rating Agency, the investment attractiveness of the Arkhangelsk Region following the results of the first five years of the implementation of the regional state program not only did not increase but also decreased (an increase in the rating at the end of 2019 means only a return to the position that the region occupied at the beginning of the program).

Table 3

Indicators of investment attractiveness and dynamics of small enterprises in the Arkhangelsk Oblast

Index / Year	2014	2015	2016	2017	2018	2019
Investment attractiveness (according to the rating of the National Rating Agency)[15]	No data	IC5[16] (average investment attractiveness - second level)	IC5 (average investment attractivness - second level)	IC6 (average investment attractiveness - third level)	IC6 (average investment attractivness - third level)	IC5 (average investment attractiveness - second level) [17]
The number of small businesses per 10,000 people, units [18]	124 (144) [19]	121 (152)	126 (189)	127 (188)	122 (181)	No data

However, despite the alarming trends, it is quite possible to assume that budgetary expenditures aimed at creating conditions conducive to an increase in the region's investment attractiveness will nevertheless produce a long-term, albeit delayed, effect. At the same time, we are seeing a clear failure of the regional authorities in creating an institutional environment conducive to the inflow of investment. The low indicator of bridging social capital, which we recorded in the course of a survey of the population, reflecting, among other things, the distrust of the pop-

[15] Source: Reyting investitsionnoy privlekatel'nosti sub"ektov RF (Arkhangel'skaya oblast') [Rating of investment attractiveness of the subjects of the Russian Federation (Arkhangelsk Oblast)]. Natsional'noe reytingovoe agentstvo [National rating agency]. URL: http://www.ra-national.ru/ru/node/54724?field=field_rat_qual_invest_reg_dist (accessed 21.04.2020).

[16] The rating methodology is based on the assessment of the region according to 55 parameters, summarized in 7 factors of investment attractiveness: geographical location and natural resources, labor resources, infrastructure, domestic market, production potential, institutional environment (experts estimate the contribution of this factor at 14 % of the integral index value) and financial stability. The data sources for assessing the regions for each of the parameters are government statistics, business surveys, and expert assessments. Each region is included in one of 9 groups; inclusion of a region into a certain group is based on the cluster analysis procedure.

[17] Source: VII ezhegodnyy reyting investitsionnoy privlekatel'nosti regionov Rossii za 2019 g. [VII annual rating of investment attractiveness of Russian regions 2019]. Natsional'noe reytingovoe agentstvo [National rating agency]. URL: http://www.ra-national.ru/sites/default/files/Obzor_Rating_Investment_Regions_VII_2020.pdf (accessed 21.04.2020).

[18] Source: Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli 2019 [Regions of Russia. Socio-economic indicators 2019]. Rosstat. Moscow, 2019, pp. 634–635; Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli 2018 [Regions of Russia. Socio-economic indicators 2018]. Rosstat. Moscow, 2019, pp. 572–573; Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli 2017[Regions of Russia. Socio-economic indicators 2017]. Rosstat. Moscow, 2019, pp. 670–671; pp. 684–685; Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli 2016 [Regions of Russia. Socio-economic indicators 2019]. Rosstat. Moscow, 2016, pp. 592–597.

[19] The average Russian value is indicated in brackets.

ulation in political and law enforcement institutions (except for the President, special services, and the army), is consistent with the above thesis[20].

The low position of the Arkhangelsk Oblast in the investment rating of Russian regions is, therefore, due to both the structural features of its economy and the general state of production factors, and an insufficiently effective policy to normalize the investment climate in the region. And if the structural parameters of the regional economy are largely determined by the historically established model of the economic development of the region, which makes their optimization a prospect by no means the nearest future, then improving the quality of institutions and trust in them from market agents is a task that can be implemented in a relatively short time due to competent political decisions[21].

Following the logic that increased trust in public institutions leads to an increase in bridging social capital, which, in turn, reduces the scale of transaction costs and stimulates business activity, we can illustrate the validity of our hypothesis about the influence of the level of social capital on the implementation of entrepreneurial potential through the dynamics of the relative number of operating small enterprises. These data are especially indicative against the background of government measures to support small and medium-sized businesses, implemented by the Arkhangelsk Oblast authorities since 2014.

Small businesses were chosen as an illustration because, for their managers, transaction costs are a more significant constraint on business activity than for medium and large enterprises. According to Rosstat, in the period from 2014 to 2018. the average annual relative increase in the number of small businesses amounted to -0.36%, i.e., the dynamics for this indicator were close to zero (for the same period, the average annual all-Russian indicator was about 6.4%). Obviously,

[20] Annual reports on the state and development of the competitive environment in the markets for goods, works, and services of the Arkhangelsk Oblast (in 2015-2019) show that, among the most important barriers to the development of small and medium-sized businesses, bureaucratic regulation of doing business was noted on average (for a year) 22% of representatives of the regional business community, lack of assistance/support from the authorities - 15.5%, corruption - 6.5% (it is worth noting a positive trend towards a decrease in the assessment of the significance of this negative factor in 2016-2019). The content of the reports can be found in more detail: Rabota komissii po investitsionnoy politike i razvitiyu konkurentsii. Standart razvitiya konkurentsii. Ministerstvo ekonomicheskogo razvitiya Arkhangel'skoy oblasti [Work of the Commission for Investment Policy and Competition Development. Competition Development Standard. Ministry of Economic Development of the Arkhangelsk Oblast]. Pravitel'stvo Arkhangel'skoy oblasti [Government of the Arkhangelsk Oblast]. URL: https://dvinaland.ru/gov/iogv/minec/competition/ (accessed 21.04.2020).

It is obvious that, in aggregate, the above barriers reduce trust in state institutions on the part of the business community and, due to the communicative interconnectedness of the business environment, reduce the overall level of institutional trust in the corresponding social stratum. Proceeding from this, most entrepreneurs in the Arkhangelsk Oblast, probably (although we do not have representative data on this matter), do not differ much from the rest of the population in their assessments of the quality of the institutional environment, joining the general skepticism.

[21] According to the same reports, entrepreneurs perceive the characteristics of factors of production and infrastructure as more or less unchanged, as some constants of a regional economic system, entrepreneurs themselves adapt their business models to these conditions. Changes in institutions – “rules of the game” (legislation, regulatory procedures, taxation, etc.); on the contrary, the parameters are more flexible and introduce high uncertainty in the prospects for developing their own business, reducing the motivation to expand/diversify entrepreneurial activity, small and medium-sized businesses. Obviously, the regional economy's institutional parameters should be tuned in such a way as not only to help meet the current needs of entrepreneurs but also to create predictability of the state's economic policy, which is the cornerstone of long-term planning of business activities.

state support measures for small and medium-sized businesses that can produce a positive effect in specific cases do not change the general situation with entrepreneurial activity in the Arkhangelsk Oblast (at least in the small business segment).

Conclusion

Macroeconomic and structural parameters of the regional economy cannot become an object of regulation by regional authorities due to the latter's limited resources and the long-term nature of the processes of changing these parameters. Consequently, increasing the investment attractiveness of the Arkhangelsk Oblast and ensuring economic growth, including due to an increase in the entrepreneurial activity of the population, is possible by improving the quality of the institutional environment and creating conditions for increasing the total volume of social capital, since it can significantly reduce transaction costs and reduce the level of uncertainty and risk for market participants. Moreover, the key role in this process is played by the possession of bridging social capital (closely related to assessments of the state of key institutions), since this allows relying on a wide network of social contacts based on mutual trust outside the primary groups (family and friends) and reducing risks in relations with market counterparties and regulators.

As shown in the article, the level of bridging social capital in the Arkhangelsk Oblast, fixed by us through the indices of general and institutional trust, is rather small and approximately corresponds to the average Russian. In these conditions, government programs aimed at improving the investment climate and stimulating entrepreneurial activity are unlikely to improve this area's situation fundamentally. A prerequisite for such an improvement should be a positive change in citizens' mass perceptions about the prospects for long-term investment and doing business in the peripheral Russian regions. The latter presupposes the implementation of long-overdue institutional reforms in a specific region and at the all-Russian level.

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The Courage of Economic Decisions and Modern Development of the Russian Arctic*

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Abstract. The article analyzes the phenomenon of the courage of economic decisions in the development of the Arctic. Courage is understood as a feature of contractual behavior - the ability to radically change or propose new terms of the development contract, which leads to dramatic shifts in the territorial, technological and organizational structure of the development process. In the modern development of the Arctic, new factors are considered that affect the courage of economic decisions. First of all, these are climate changes, which are pushing back the limits for marine logistics, development and extraction of natural resources in the Arctic from offshore platforms. The paper also considers the manifestations of developmental courage as a result of "infection" of large corporations from small venture companies and as a forced result of contractual intercorporate conflict. For modern development, the important factors that determine the courage of decisions are logistics, platform technologies and the complete or partial rejection of the use of icebreakers in favor of specialized vessels of the reinforced ice class. A point assessment of the courage of economic decisions for 24 projects of modern development of Arctic resources was carried out using the U-ETO algorithm: according to 12 indicators grouped in blocks of "uniqueness", "environment", "technologies", "organization". As a result of the assessment, it was concluded that the courage of economic decisions is not directly related to the capital intensity of investment projects: relatively modest mining projects for new development can outperform ultra-capital-intensive investment projects for the development of hydrocarbons (for e.g., Bovanenkovo or Vankor) if they rely on innovative technologies, organizational structure and the marine environment for its logistics, mining and processing. A major contradiction in the modern development of the Russian Arctic is the contrast between the uniqueness of the natural assets of the field and the traditional methods of its development.

Keywords: *courage of economic decisions, marine economic activity, development of the Arctic 2.0, development projects, courage index, climate change.*

Introduction

Understanding the processes of economic change, including in the Arctic, is usually associated with economic, technological, military-political (geostrategic) factors, and in recent years — with climatic dynamics. In scientific literature, it has become customary to link the beginning of the next cycle of economic development in the Arctic with the situation in world resource markets, with the country's need for budgetary revenues from the export of natural resources or for strategic raw materials for the implementation of a defense, national economic or other major program of national importance.

Without challenging these well-known and recognized external catalysts of the Arctic development process, in this article I would like to focus on the less studied internal factors associat-

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ed with the peculiarities of human behavior, specifically, with the courage of economic decisions, which also play a huge role in the development of the Arctic. What is the phenomenon of developmental courage? What conditions and circumstances trigger it? Can we measure it?

Without pretending in this pioneering study to complete the study of this phenomenon, it will be useful to start moving in this direction. It seems that the characteristics of the development process from the standpoint of courageous economic decisions will be absolutely adequate and justified for the climatically extreme and geographically remote Arctic. Such a view promises to provide an understanding of new facets of this phenomenon.

It would be useful to mean the decisions on "involving in the national economic turnover" of new fields and regions of the Arctic by not just an objective necessity, but manifestations of the energy of will and courage, which are underestimated and ignored today — under the influence of the dominant ideas that the main problems of the development of the Arctic are solved by a simple distribution of funds. This desire determined the purpose of the article — to understand the courage of economic decisions as the most important factor in the economic development of the Arctic. The goal was revealed as a result of solving three tasks.

The first is to harmonize the study of assimilation courage with the development trends of world social science, which are characterized by close attention to the phenomenon of human behavior and its role in economic processes (for example, analysis and assessment of passionarity, creativity, tolerance, opportunism, etc. - develop in the framework of the institutional approach [1, Gumilyov L.N.; 2, North D.; 3, Florida R.; 4, Williamson O.]); methods of individual, single, local, personal scaling to mass and global scaling as a result of the effects of increasing returns [5, Krugman P.] (or passionary induction, as L.N. Gumilyov wrote [6]); efforts to quantitatively measure of purely qualitative phenomena that were previously recognized as impossible for formalized assessments [7, Sinozic T. et al.; 8, Tonkin E., Tourte G].

The second task is to study the influence of new factors, primarily climate dynamics, on the courage of modern economic decisions in the Arctic. From the fact that the climate in the Arctic is changing faster than on the rest of the planet [9, Report ...], a conclusion is not always made about the courage of economic decisions; more often they say about the growing risks for buildings, structures and infrastructure facilities already created in the Arctic over the years of economic development due to the rapid degradation of permafrost; about the risks of loss of certain types of traditional activities for indigenous peoples; about new opportunities for Arctic shipping and navigation, for the development of Arctic tourism and agriculture. But practically no one links existing and planned economic decisions with the factors of climatic dynamics: decisions on the development of new industrial regions of the Arctic are considered in isolation from climatic dynamics, with which they are indissolubly linked.

The third task is to provide the qualitative studies of the phenomenon of courage in the development of the Arctic by a quantitative dimension, albeit the most elementary, but important for comparing different periods of economic development and development projects.

The Phenomenon of Development Courage

Created by the classics of Soviet economic geography [10, Slavin S.V.; 11, Slavin S.V.; 12, Kosmachev K.P.; 13, Mosunov V.P., Nikulnikov Yu.S., Sysoev A.A.; 14, Chistobaev A.I.; 15, Agafonov N.T.; 16, Litovka O.P.], the theory of economic development focused on the territorial and temporal structure of this process, its spatial (bases, development routes) and time (cycles) configurations, issues of information knowledge. A person as a direct participant in this process turned out to be withdrawn from it, and his role was either ignored or underestimated in scientific literature (as opposed to fiction, where, on the contrary, the feat of the pioneers in the development of the Arctic and the North was praised). This approach reflected the worldview position of Soviet social science: people's behavior, their motivations, interests were subjective factors in contrast to pro-

duction relations, which were considered as a basis, as a foundation defining a "subjective" superstructure, consisting of spiritual, creative, cultural values, consciousness, etc.

As the actor approach and actor-network analysis in modern social science are approved which are aimed at atomizing the mass phenomena of social life, giving them a “capillary”, local dimension, from which like from cells collective processes and global networks are formed, the penalties of the “inhuman” approaches to the analysis of economic development became more and more obvious. Indeed, the intellectual breakthrough that occurred, for example, in regional science over the past three decades, is largely associated with the introduction of the concepts and terms of institutional theory and behavioral psychology: for example, entrepreneurship, social embeddedness, development lock-ins, path dependence, etc. [17, Handbook of Regional Science].

In order to confidently use a new concept, it is necessary to give it a detailed interpretation. What is courage in the process of economic development?

In our opinion, this concept has several facets. Courage is not just energy in the implementation of an economic plan. It is the ability to be active that disrupts the routine, often with no hope of commercial outcome. In the development of the Arctic, it often happened that courageous decisions became profitable and economically effective only in the long term, and in the short term they turned out to be losses or were considered wrong. And, as a rule, such actions, such decisions bear the traits of pioneering, uniqueness for the country or even the global Arctic.

The courage of economic decisions is not limited to technological advancement and innovation. For example, the decision of the pioneering development of the Verkhnyaya Kolyma basin in the early 1930s was certainly courage in essence, but it was based on a traditional pick and shovel, that is, it was not originally supported by technological innovations. At the same time, of course, courageous economic decisions in the development of the Arctic necessarily include, along with others, a component of technological and engineering innovation.

As a rule, such decisions cannot be satisfied with the already existing, established territorial structure of development in the form of a system of settlements-bases and an established network of land roads, sea, river and railways, but they certainly propose new configurations, imply expansion into new territories of the pioneering development. It is also true that courage development decisions, as a rule, are based on the creation of new organizational structures that have significant independence in their actions, get carte blanche from the state or a large private enterprise for exploration, prospecting and mining activity.

Of course, not every time period gives opportunities for courage manifestations in economic decisions. The main participants in the development process usually behave rationally in the sense that they prefer not to take risks. Extraordinary, force majeure circumstances should occur in order to give rise to manifestations of courage, up to desperate recklessness, in decisions on the development of various resource objects and regions of the Arctic.

Using the theory of thermodynamics [18, Prigozhin I., Stengers I.], these periods can be called bifurcational, the time of changes in the previous trajectories of the system's development, a radical change in ideas about the very process of development of the Arctic and the value of its resources. Always a favorable field for courage (they are often called "experimental") decisions is a situation of crisis, uncertainty, choice. When the development process goes like clockwork, the need for courageous decisions simply does not arise, and if they do appear, then sometimes they are simply not visible.

Thus, in order to recognize the development of an economic decision as courage, it is necessary to find in it features of uniqueness, manufacturability, it must have signs of a radical violation of the previous trajectory of the territorial, organizational arrangement of the Arctic regions.

Courage as the aspect of contractual behavior

In order to introduce the courage of economic decisions into the apparatus of the updated theory of economic development, all the necessary prerequisites have already been created. First, by the works of the Nobel Prize laureate in economics G. Simon and others [19, Simon H.A.; 20, Simon H.A.; 21, Kahneman D., Slovik P., Tversky A.; 22, Kahneman D.] the importance of the entire psychological procedure, all the prerequisites for making economic decisions is underlined.

Secondly, another Nobel Prize laureate in economics, R. Coase, formulated the task of studying the institutional structure of production [23], which has been developing in recent years in terms of leadership, opportunistic behavior, social embeddedness and others, which introduce a new "soft" institutional component in the field of analysis of material production. There is a process of this inclusion - very economical, very limited in the number of concepts (so that there is no dilution) as a trend in modern economic science, in line with the general institutionalization of the apparatus for studying production processes. Our paper with the category of courage of economic decisions in the context of the essential and conceptual renewal of the previous theory of the Arctic exploration is absolutely in line with this.

Third, the papers of modern classics of institutional economics on the theory of contracts by O. Williamson et al. [24, Williamson O.E.; 25, Izmalkov S., Sonin K.] form the prerequisites in order to understand the courage of economic decisions as a radical redefinition of the terms of the contract (both formal and unwritten), followed by and along with which there are changes in the technological, organizational, territorial structures of development or forming of absolutely new ones. The courage of economic decisions in the development process is, in terms of contract law, the ability to form a radically new, different environment and conditions for the implementation of the contract, in which the development project is carried out. For example, one can turn a contract of sale into an employment contract.

What is a development contract? The established (accepted, recognized) regulation of the behavior of the main actors in the process of economic development fixed and materialized in the territorial, organizational and technological structures of development. Courageous economic decisions are those decisions that radically affect all structures of the development process — territorial, temporary, organizational, technological: they provide fast and efficient logistics solutions through a new transport structure (bases, development routes, clusters, complexes and growth points of new development); radically accelerate the growth of knowledge and the time of passing the information (prospecting, exploration) stage; form new key actors in the development process — super organizations, resource and state development corporations; use new, for example, platform techniques and technologies designed to obtain economic effects on the extraction of natural resources in the Arctic.

Comparative assessment of the courage level in the Soviet Arctic development in 1930–1980

Let us try to apply the formulated criteria of uniqueness, transformations of territorial and organizational structures, and technological advancement to assess courage in the 60-year-long process of economic development of the Soviet Arctic in aggregate, by decades. In this case, the transformation of territorial structures will be understood as the creation of new cities; organizational structures — as the emergence of new super organizations for the development of the North and the Arctic; technological structures — as a mass application of innovations.

The active formation of new cities in the Arctic took place in the 1930s and 1960s. But similarly, in terms of the activity of creating new organizational structures for development, the periods of the 1930s and 1960s were the effective years, when new institutions, organizations, structures contributed to the formation of such a new contract, when a combined model for the development of the North was formed; and then already in 1960-ies, when the combined model was

replaced by the departmental model, oriented for the resources development of the Arctic autonomous regions — Yamalo-Nenets Autonomous Okrug and Chukotka Autonomous Okrug.

For example, the entire first period of the Northern Sea Route Authority's (NSRA) activity was a period of utmost courage in economic decisions regarding the Arctic, because the organization received unprecedented powers from the authorities and the right to extraordinary decisions. There are all the attributes / conditions for courageous economic decisions: the right of economic and political independence, the formation of new economic (super organizations) and social (cities) structures and institutions for a new large-scale task of resource development in the Arctic; penetration into a new environment — new areas of pioneering development and the environment of marine logistics; creation and use of new transport schemes and routes.

Here, there is not one, but a chain of innovative breakthroughs in "from scratch" ideology. That is why this is unconditionally the time of extremely courageous economic decisions for the Arctic. And indirect confirmation is also in the fact that the influence and utilitarian use of these decisions are planned for the long next decades.

It makes no sense to assess the manifestations of the courage of economic decisions in the Arctic in the 1940s, when defense tasks radically changed all the priorities of its economic development. It's better to revisit this problem in the 1950s.

What happens to courage during this period? It atomizes, descends to the lower, individual level of private persons, but loses its mass character, the effect of increasing returns, of infection. Why? For the successful replication of individual courage into a collective one, one needs the proximity of a living example, the stability of the organizational and political external environment: it may even be bad, but stability is necessary, otherwise no manifestation of collective courage is possible.

Large-scale manifestations of economic courage during periods of radical transformations are impossible. Therefore, in the 1950s there were examples of individual pioneering, geological and mining courage, but there were no examples of mass innovation and heroism in the economic development of the Arctic. At the same time, very serious technological successes, innovativeness were observed, but there was no courage in mass economic decisions on the new development of the Arctic.

Another wave of economic courage in the development of the Arctic came in the 1960s as a powerful innovation in the development of oil and gas in Tyumen, golden Chukotka. Here again, the combination of will, independence, new institutions, structures made it possible to move from individual manifestations of courage to the effects of increasing returns and mass innovation.

In the subsequent eras of the 1970-1980s manifestations of collective courage were declining, which was indirectly evidenced by the inability to cope with the problems of depletion of the resource base and the growing environmental costs of economic development. Any manifestation of individual courage in economic development became either an exception, without hopes of reaching the mass level, or was limited to purely technological innovations, rationalization proposals, and the purchase of imported equipment instead of their own efforts. There is a noticeable loss of energy to dare and take risks. Technological innovations, which were characteristic of this period, were an important but insufficient condition for the manifestation of developmental courage.

Now, from these general patterns for the Arctic as a whole, we will move on to the characteristics of its individual regions — the North-East of Russia (within the present-day borders of the Magadan Oblast and the Chukotka Autonomous Okrug) and the North-West (within the borders of the Murmansk Oblast). The courage of economic decisions in the development of the North-East of Russia can be assessed as success in the fight against natural and economic uncertainty. Because it was courage that was a constructive response to the conditions of this external uncertainty (that is, given from the outside by forces that were not influenced by local actors).

The first Dalstroy period of the 1930s was the time of manifestation of the ultimate courage for the entire period: economic decisions were taken from scratch, in conditions of strict time constraints; there was no accumulated experience of large-scale development of the resources of the territory by that time; mistakes were extremely frequent precisely because of the unprecedented novelty of the entire learning process. The commercial success of the new "enterprise" was initially incomprehensible even to its organizers. An indicator of the courage of economic decisions in development is the environment of colossal uncertainty and the constant challenges of alternativeness accompanying and organically inherent in this environment (the choice of the capital - Magadan or Ust-Taskan; the choice of the scheme for the delivery of goods — Arctic or Okhotsk; the choice of the main mining profile — alluvial or ore gold and etc.), which can be extinguished only by quick courageous decisions (sometimes wrong).

Courage is directly related to the level of uncertainty: there is no uncertainty — there is no need for courageous decisions, routine enough. Courage breaks Arctic uncertainty by building new institutions, territorial development structures.

Already in the 1940s the courage of decisions died out significantly, because the process of the development of the North-East began to settle down. Only in the late 1950s, with the beginning of the development of Chukotka, when a lot of pioneers — graduates of the capital's universities went — again the level of courage in economic decisions rose to a higher level, as evidenced by the novel "Territory" and its audacious characters.

The courage of economic decisions is again born from the strong constraints of depletion of the former resource base for development, time and space, and institutional constraints. Courage acts as a tense response to strong external constraints, which the act of a courage, even reckless, economic decision is designed to break.

Both "waves of courage" in economic decisions for the development of the North-East of Russia in the 1930s and 1960s were “non-economic” in the sense that the peak volumes of gold production arose after them — in 1940 and 1974, that is, in the periods of already entering routine development, without courage recklessness. And this always happens: first, courage as altruism, and then (or never after) — the harvest from this courage in the form of the best performance indicators for the entire period; these results and courage are opposite in phase or spaced by a time lag. Figuratively speaking, courage extends to the break-even point and in this sense it is altruistic: these are the stages of exploration, development, equipping and starting of production. And at the operational stage, routinization already begins, and the space for developmental courage is narrowing.

The period of 1970-1980s was already a time of dependence on the path and the associated blockages of development, growing crisis phenomena and unsolicited solutions for their resolution, which had nothing to do with courage. And it coincided with the almost complete loss of economic independence of local mining and exploration divisions in decision-making. When there is no independence, then there is no courage. It necessarily requires a certain level of political decentralization, without which courageous decisions cannot appear. The condition for courage is carte blanche, at least for a short time, without annual micromanaging in terms of planned indicators, compliance with regulations, job descriptions, etc.

And how can we assess the level of courage in the economic development of the Soviet Arctic (the European North-East) in retrospect from the 1930s to the 1980s? Development of the 1920s began with the exploration of the Khibiny subsoil through the Leningrad development base, using the Oktyabrskaya railway; we can say, according to the colonial scheme of penetration into the undeveloped territory with significant reliance on the previous developments of the tsarist time. It was an inertial adherence to the previously established trajectory associated with the development use of the railway.

And only since 1938, when Murmansk became the regional capital, and Kirovsk (Khibinogorsk) became the base of mining and industrial development, conditions have emerged for courageous economic decisions. It is always associated with the delegated / transferred powers from the metropolis (we can call this a new contract).

At the same time, in the colonial scheme of development, the manifestation of cases of individual decision courage is possible, but they never become a mass phenomenon in terms of the effect of increasing returns; for this it is necessary to transfer powers, the right to independence of decisions, the right to make mistakes. The very effect of the increasing returns of the transition from a single manifestation of courage in economic decisions to a collective phenomenon, to the replication and scaling of this process is possible only with decentralization and economic independence, up to autonomy.

Modern development of the Arctic: new factors of courageous economic decisions

The radical economic reform that began in Russia in 1992 naturally affected the process of economic development of the North and the Arctic. Instead of a centralized state approach to the development of natural resources of the North and the Arctic, there was a transition to a state-corporate model, where the main economic entity was private and state-owned companies, and the state was responsible (and not always) for infrastructure development, setting the rules of the game (tax benefits, incentives for investors, etc.) and industrial policy in the Arctic in general.

Due to the weakness of state regulation in the 1990s and 2000s, the initiative in developing economic solutions for the development passed to corporations. It was they who, in the past 25 years, determined what and in what order to develop in the Arctic. The state simply adjusted to their interests and served their desires. Sometimes it even lobbied. In these conditions, one can speak of the courage of economic decisions only by companies, because in the new conditions the state simply did not have such decisions, as well as an active industrial policy.

The main actor who generated courageous economic decisions was TNC-resource corporations. This courage of decisions had strong differences from the previous scheme of state development of the Arctic: it was marked by the rediscovery of the Arctic sea, the marine environment and new conditions of maritime logistics, which were favored by climate change conditions; experienced the influence of the original venture of small and medium-sized business structures, from which the large ones learned courageous decisions and then replicated them; sometimes it arose as a result of intercorporate contractual conflict.

Compared to the previous state-controlled development model, the courage of economic decisions was now manifested primarily at the local project level, and not at the level of regions and territories of new development and the creation of district and inter-district complexes and clusters. Of course, in the new conditions of state-corporate development, this courage was largely determined by considerations of profitability and commercial attractiveness, conditions of competition with other resource companies in the country and the world.

Let us consider the characteristics of the new factors of the courage of development decisions in more detail.

The role of climate change: from land to marine logistic schemes

The role of climate change as a catalyst for courageous economic decisions has never been the subject of research in the Soviet theory of economic development of the North. Meanwhile, undoubtedly, such a connection existed [26, Aliev R.].

Climate change has repeatedly in human history become a factor that very actively influenced the formation of new institutions [27, Gumilyov L.N.; 28, Diamond J.]. Changes in the natural environment that trigger climatic or zonal changes, have a profound impact on the institutional framework of the production system, systems for the production of material goods, organizational

shell, territorial and temporal structure. The peculiarity of the Arctic due to the fact that they occur here much faster than in the rest of the world, that here the mental, spiritual reaction to these climatic changes (primarily through new contracting, new stereotypes of economic behavior, in the courage of economic decisions) manifested itself extremely distinctly and more than anywhere else. And the Russian sector of the Arctic and the Northern Sea Route became a global champion in understanding consequences of new climatic dynamics due to the fact that in the shallow Arctic seas, the factors of ice recession and replacement of perennial with one-year ice were especially noticeable and occurred much faster than in the deeper-water Canadian Northwest Passage.

Since the 1990s the factor of climatic dynamics was clearly manifested, which was facilitated by the fact that, as often happens, climatic, institutional, organizational and technological changes took place simultaneously and reinforced each other. It was the new conditions of global warming that influenced the willingness of companies to actively work in the marine environment. Courage manifested itself in the revolutionary transition of many companies to a new development contract: the old overland logistics schemes for material and technical supply and export of finished products began to be replaced by sea ones. Of course, the new development contract also influenced changes in the territorial, technological, and temporal structure of development.

The marine environment, especially in the Arctic, always means uncertainty, risks; and in the Soviet era of all-encompassing directive planning, it was career-threatening to follow such schemes. There was a provision of a nuclear icebreaker assistance for vessels with life-support cargo along the Northern Sea Route, there was a year-round export of Norilsk concentrate in the more comfortable western sea sector of the Arctic, but a massive use of marine logistics for resource projects in the North and the Arctic and single navigation of transport vessels throughout the Arctic waters of the USSR never existed, including for defense reasons, ice and technical restrictions (unlike nuclear and diesel icebreakers, the USSR simply did not know how to build high ice class vessels). Therefore, permanent roads were built, pipelines were laid, which transported the extracted resource products to the south. The Papanin epic of the 1930s, in spite of all the heroism and success, paradoxically stopped the country's subsequent efforts in the transport development of the Arctic marine spaces: there was never any talk of the year-round use of the eastern sector and all Arctic marine spaces for navigation.

The main feature of the modern period of the implementation of Russian Arctic projects is the removal of previous prohibitions in matters of their maritime logistics. Economic decisions for the development of natural resources of the land and marine Arctic have become more courageous, technological progress has become much more active in the Russian Arctic than before.

The mitigation of the severity of climate in the Arctic and, as a result, a sharp decrease in the ice coverage of the Northern Sea Route became a powerful factor that led to the revolutionary rediscovery of the possibilities of maritime logistics in the Arctic: it became possible to think of all year round sailing in the Arctic seas, including solo sailing, without icebreaker escort. For this, high ice class vessels, the best satellite ice navigation, insurance of icebreakers in the route, competent insurance of risks, etc., are needed, but most importantly, it became possible to think about this as a reality.

The realities of the last three decades demonstrate the emergence of an absolutely new phenomenon of the maritime logistics complex of projects for the new development of the Russian Arctic. An integral part of this complex, very diversified in terms of its elements, is the shipping development centers: ports, terminals, docking hubs of various types and coastal support bases. Many of these structures are mobile (floating), which was absolutely unusual and uncharacteristic for the development bases of the Soviet land development of the resources of the North and the Arctic [29, Pilyasov A.N., Putilova E.S., p. 26].

All the developmental literature of the Soviet era analyzed the phenomenon of land non-military, outpost, local bases for the development of the North. Even the very possibility of the

emergence of main development shipping centers was not envisaged. Now, many new Arctic projects rely on offshore export and even production schemes — on gravity or stationary platforms.

The implementation of many Arctic projects, of course, creates completely new effects, which were not characteristic of the previous organizational and technological model of predominantly land development: the entire development environment becomes more probabilistic (which means that there is more space for courageous economic decisions), integration of the activities of mining resource corporations and maritime shipping companies exists; companies acquire ownership or long-term lease specialized terminals of Arctic ports; the terms of construction of new production facilities are minimized due to the use of "water", offshore schemes; schemes of floating production platforms and floating factories are being implemented; instead of icebreakers, high ice class vessels (gas carriers, tankers, dry cargo vessels) are increasingly used.

Relay of courage from small to large companies: NAO as a venture ground

The Nenets Autonomous Okrug became in the 1990s a unique platform for pioneering oil-industrial development of the territory from scratch built on completely new market principles by new non-state actors [30, Zamyatina N.Yu., Pilyasov A.N., p. 21]. Dozens of new structures of Russian and foreign subsoil use have appeared here on the well-known since Soviet times, but never developed, hydrocarbon fields (primarily oil). Being experimentalists in their entirety, they actively tested new subsoil use regimes that have become widespread in the world (first of all, the regime of production sharing agreements (PSA) and new logistic schemes for the development of hydrocarbon fields in the roadless region.

A completely new element of logistics of Arctic projects has become the numerous and technologically diverse manufacturing and transport hubs that companies have created in the Arctic to save costs and speed up the transshipment / transportation of extracted natural resources. The first such hubs appeared back in the 1990s, when the process of active experimentation of oil and gas condensate loading / unloading from the shore to a tanker in the absence of ports and terminals began, in ice conditions through temporary pipelines. At the same time, small firms worked out schemes for export oil supplies: for the first time it was a direct scheme for ice-class tankers and a feeder scheme for ice-class shuttle tankers and then line tankers with oil transshipment from the first to the second in the Kola Bay.

In the second half of the 1990s Lukoil came to the Nenets Autonomous Okrug, gradually becoming the largest actor in local subsoil use. Strengthening the influence and economic role in the subsurface management of the roadless Nenets Autonomous Okrug was possible only with the development of efficient transport routes for the export of extracted oil.

Lukoil observed a new logistics solution from small companies [30, Zamyatina N.Yu., Pilyasov A.N., p. 23], but implemented it in a more systematic and a large-scale manner. This company abandoned the traditional southern pipeline scheme for the export of produced oil and implemented the "northern route". In 2008, Lukoil established in the Pechora Sea a year-round permanent offshore ice-resistant loading terminal (FOIROT) Varandey, 20 kilometers offshore (to overcome the limitations of shallow water, which is traditional for the Russian Arctic seas), which is capable of pumping millions of tons of oil onto tankers for export.

Thus, it was Lukoil that was the first to start a completely new process of development of the NSR, associated with its use for the export of hydrocarbons by tankers, and not along the traditional “southern” pipeline route. This courageous economic decision became a true revolution, which ensured a steady increase in the share of hydrocarbons in the total cargo traffic along the Northern Sea Route.

To implement such a feeder scheme, companies usually create transshipment hubs at the place of production and at the place of reloading from the high ice class vessels to conventional ones: for example, in the Kola Bay from the high ice class shuttle tankers to the carrier tankers

that deliver oil for export. Lukoil's experience in creating a feeder logistics scheme has been taken up by other corporations.

In 2016, Gazpromneft commissioned its round-wild, offshore loading terminal, Gates of the Arctic, near Cape Kamenny for transshipment of millions of tons of oil from the Novy Port field. Shuttle tankers operate year-round voyages from the Novoportovskoye field and the Prirazlomnaya platform to the Kola Bay for transshipment via the Gazpromneft offshore terminal Umba (NORD offshore transshipment complex) for further transportation to Rotterdam[1].

NovaTEK purchases / builds at its own expense a flotilla of gas carriers, a marine shipyard for the production of floating LNG plants, its terminals and floating storage facilities in the Kola Bay of the Murmansk region, in the Bechevinskaya Bay of the Kamchatka Krai for transshipment of LNG from high ice class vessels to conventional ones with further transport to European and Asian markets[2].

Roman Trotsenko's AEON Corporation is discussing the possibility of creating a new port of Indiga in the Nenets Autonomous Okrug for transshipment of Taimyr coals from ice-class ships (previously such transshipment was carried out in Murmansk) to conventional ones for further transportation to the markets of Northern Europe[3].

This relay race of courage logistics solutions from small companies to Lukoil, and then to other resource corporations operating in the Russian Arctic, can be regarded as a kind of increasing returns “on the contrary”: in the classic increasing returns, there is infection from one pioneer facility of dozens of neighboring ones, in a state of organizational, technological, geographic proximity, which simplifies this process of "infection". And in this case, there was a process of transferring from many venture companies developments in a new for all marine logistics to one large Lukoil company, from which then these techniques and technologies were transferred on a much more powerful scale than that of small companies / were perceived[4] by other resource corporations in Russia.

Courage of economic decisions as a result of contractual conflict

An interesting example of a forcedly courageous economic decision can be seen at the JSC Acron. For a long time, it purchased apatite concentrate from the PhosAgro holding, but had disagreements on the purchase price. Due to the fact that PhosAgro is a monopoly on the Russian market for the production of these mineral fertilizers, it was able to dictate the sale price. And then, in 2005, a specially created subdivision of Akron, the North-West Phosphorus Company, began the development of a new Oleniy Ruchey apatite-nepheline ore deposit to create its own mining base.

This is an example of how courage development decisions paradoxically can be the result of negotiation disagreements between economic entities, which force one of the partners to radically break the terms of the contract and initiate its own new development project.

[1] The first batch of oil was delivered from the Arctic fields of Gazprom Neft to the storage tanker Umba, which replaced Belokamenka. URL: https://neftegaz.ru/news/transport-and-storage/223145-s-arkticheskikh-mestorozhdeniy-gazprom- nefti-na-tanker-nakopitel-umba-zamenivshiy-belokamenku-dostav (accessed 12.07.2020).

[2] Transcript of the meeting of the President of Russia with the Chairman of the Board of Novatek, Leonid Mikhelson, URL: http://www.kremlin.ru/events/president/news/59894 (accessed 12.07.2020).

[3] Roman Trotsenko began designing the port "Indiga" URL: https://www.vedomosti.ru/business/articles/2019/09/05/810514-trotsenko-indiga (accessed 12.07.2020).

[4] I am grateful to Ph.D. Zamyatina N.Yu., who drew my attention to this mechanism of innovative contamination in the schemes of new marine logistics with terminals and transshipments from small venture capital companies to Lukoil, and then to Gazpromneft and NovaTEK.

Comparative analysis of the courage of development decisions

Since the 2000s, when the launch of the development of 2.0 as a salvo deployment of several large-scale new projects at once, an alternative to the traditional, inherited from Soviet times, and the new scheme has emerged. Obviously, it is the new solutions for deployment, logistics and technologies for the implementation of mining projects that are the most daring.

Island (platform) or areal solutions?

In recent years, in the Russian Arctic, a new scheme of the spatial organization of productive forces in pioneer development projects has emerged. These are the Prirazlomnaya platform in the Nenets Autonomous Okrug, the port and liquefied natural gas plant in Sabetta in the Yamalo-Nenets Autonomous Okrug, the Varandey terminal in the Nenets Autonomous Okrug, the Kupol gold deposit in the Chukotka Autonomous Okrug, the project for the development of the Pavlovsky polymetal field and others [29, Pilyasov A.N., Putilova E.S., p. 28-29].

Dozens of scientific articles are devoted to the technical, technological, economic characteristics of these new resource objects, but no one has yet generalized the features of their new spatial organization.

The key feature and their difference from the projects of the new development of the Soviet era are platform solutions, an emphasis on maximum localization and compactness. The principle of maximum concentration and economy in the use of grate spaces is implemented in practice. Cost savings and space savings are directly linked.

And, of course, this scheme ensures that the negative environmental impact of the project is minimized: after all, the perimeter of the project seems to be outlined by a wall of alienation from the rest of the world. The development of the new Pavlovsk zinc-lead deposit on Novaya Zemlya is designed in this algorithm[5].

It is interesting that the companies are adopting the algorithms and technologies of platform solutions from each other: NovaTEK (Arctic LNG-2 and Yamal-LNG) initially acted as its legislator in the Russian Arctic, and then Rosatom picked it up acting through the First Mining Company, which will develop the Pavlovskoye field.

Simultaneously with the platform solutions, which usually rely entirely on maritime logistics, the implementation of more traditional areal development solutions continues which involve vast areas of land space and significant areas in mining and infrastructure development. New imperatives of compactness of economic development objects do not work here.

Logistic solutions: sea or land?

Influenced by the increasingly developed maritime supply and export scheme, Arctic projects can now be differentiated into those with logistics related to sea export and those focused on the traditional overland southern export of final products (NSR projects and southern projects).

The successful implementation of many Arctic projects now, more than ever before, to such an extent depends on the infrastructure of maritime logistics, including high ice class vessels, ports and port terminals for storage and transshipment, that some Russian resource corporations operating in the Arctic are implementing their own expensive programs for the construction of tankers, dry cargo ships, gas carriers in the Arctic version (and the implementation of these programs turns out to be cheaper than the daily fee for icebreaker escort services). The fate of Arctic projects now directly depends on the extent to which they are provided with ice-class vessels ca-

[5] Zhigalov V.I. Platform solutions for the integrated development of sparsely populated and hard-to-reach areas (PR KOT). Development project of the Pavlovskoe deposit. Rosatom. VNIIEF. 17-18.10.2019. URL: http://www.sozvezdye-forum.ru/assets/files/Presentation_2019/closed_session/5%20%D0%96%D0%B8%D0%B3%D0%B0%D0%BB%D0%BE%D0% B2% 20% D0% 92.% D0% 98.% 20% D0% A0% D0% A4% D0% AF% D0% A6.pdf (accessed 12.07.2020).

pable of operating at least in the western sector of the Northern Sea Route without constant icebreaker support.

The no longer forbidden maritime logistics of Arctic projects caused absolutely revolutionary changes in the development and distribution of productive forces: they got a chance to develop coastal resource projects that have been well-known for decades but postponed for decades (Mayskoye gold deposit, Tomtor rare earth deposit, Taimyr Peninsula coal deposits, etc.). On the other hand, the traditional "southern scheme" of development remains, for example, for the Bovanenkovskoye field: deliveries by rail and winter roads, and export by pipeline.

It is the new logistic schemes based on sea delivery and export that are the most daring.

Specialized high ice class vessels or traditional icebreaker assistance?

The modern Arctic projects of NovaTEK, Lukoil, Gazpromneft are practically all serviced by specialized high ice class vessels that do need the help of icebreakers. In the summer of 2018, for the first time, ice-class LNG tankers sailed from Sabetta along the eastern route to China without icebreaker escort at all.

In the modern competition between icebreakers and high ice class vessels, one can see the clash of two ideologies, two production and technological schemes of work in the Arctic. The first, traditional, icebreaking scheme is based on an icebreaker, a clear water channel and an ordinary ship that follows the icebreaker, often in a convoy of other dry cargo ships. In this case, there is no need for offshore reloading from an ice vessel to a conventional one for subsequent work in the clear water of seas and oceans.

This is a "seamless", non-modal scheme of work, which was the main one in Soviet times, when there was simply no offshore reloading from an ice-class vessel to a conventional one. Now it could be a traffic plan of two icebreakers and a conventional gas carrier: the fact is that the width of modern gas carriers exceeds the icebreaker channel and therefore two icebreakers and a wide channel are needed, which, of course, increases the cost of pilotage.

On the other hand, the modern scheme of using ice-class vessels while minimizing the attraction of icebreakers is based on offshore reloading on a conventional vessel when leaving the ice sea "area" and / or the creation of specialized terminals in Arctic ports (coal, oil, and container). This is the new infrastructure that should be created as a price for abandoning the use of icebreakers (it is clear that the high ice class vessels are more expensive than conventional ones). But this scheme is more autonomous, more flexible, maneuverable and faster in delivery (in case of uncomplicated ice conditions — discontinuous ice areas or thin one-year ice). For example, LNG high ice class tankers (Arc7) are used to transport liquefied natural gas from Sabetta.

A more courageous and more innovative solution is to switch to the use of high ice-class vessels in maritime logistics and to partially or completely abandon the use of classic, traditional icebreaker assistance for conventional transport vessels.

The score of the courage of decisions in the main projects of the Russian Arctic development

It is the investment project that is now the main unit of measurement for the new development of the Russian Arctic. In Soviet times, the economic development of the Arctic and the North was thought and planned for areas, large new territories, vast territorial production complexes, and now the key element of development 2.0 is a localized cluster — a pole for the growth of new mining activity or the restructuring of an old production facility. Therefore, it is absolutely natural to assess the courage of economic decisions of precisely these basic elements of the modern development of the Arctic.

For this purpose, 24 investment projects[6] of new development and modernization of old development were selected, both already ongoing and planned for implementation in the coming years, located in various regions of the Russian Arctic and related to the extraction of fuel, energy and mineral resources.

Our task was to construct an index of the courage of economic decisions and compare all projects for this index (estimate its value). The "assembly" of the index, which was carried out according to the "U-STO" algorithm, was based on the use of the previously described blocks "uniqueness", "environment", "technology", "organization". It was based on the working hypothesis that the courage of development decisions is a multidimensional phenomenon that cannot be reduced to any one facet, for example, technological innovation. It must necessarily include features in varying degrees of uniqueness, novelty, innovation, pilot character in spatial (territorial), technological and organizational sections.

In the "uniqueness" block, it was assessed whether a given project has features of uniqueness for the country or the world; whether this project is a pilot / flagship for the company and / or the place of its deployment, so that later it can be replicated in new areas; whether this field was discovered in the USSR or already in the new Russian time. Here and further, all evaluations were carried out in binary logic: 0 — lack of uniqueness, pilot character, discovery in Soviet times; respectively 1 — uniqueness, pilot, opening in modern Russian time (it was assumed that involvement in the use of a completely new, recently opened project is a more courageous step than relying on storage facilities and reserves from the Soviet era).

In the block “environment” it was assessed whether new large elements of the territorial structure are formed as a result of the project implementation (for example: shift, port, terminal, etc.); does the logistics, understood both as the delivery of goods for the object, and as the export of products to the consumer, have features of novelty or is it traditional (sea or land, ice-class ships or icebreakers?); whether the project enters a new business environment or remains the same (for example, from land to sea).

In the "technology" block, it was assessed whether it was about development from scratch, that is, greenfield, or about the modernization of a previously created mining facility, that is, a brownfield-type project; whether there are features of the most modern platform technologies in the project or not; whether the stage of processing is envisaged at the same time at the place of production (it was assumed that the very fact of locating a processing plant in the Arctic is courage, because the traditional scheme provided for production in the Arctic, and processing in the developed regions of the country).

In the “organization” block, it was assessed whether the project was accompanied by the creation of a new structure “for it” (it is assumed that in this case the factor of decentralization of power works, which always favors courageous economic decisions); does the project have a special legal status (for example, territory of advanced development, special economic zone, etc.); is the project accompanied by the formation of intercorporate alliances, agreements (it is assumed that the union of partners in the project who were competitors before is an act of economic courage).

As a result, the index of courage of economic decisions in a specific project is the result of evaluations in binary logic ("yes-no" — 1—0) for 12 indicators grouped in the block "uniqueness", "environment", "technology", "organization". A project that has features of uniqueness and inno-

[6] I express my gratitude to E.S. Putilova, who selected and characterized these 24 production projects in the Russian Arctic, including LNG projects: Yamal-LNG and Arctic-LNG-2; for hydrocarbon production — Prirazlomnoye, Novoportovskoye, Vankorskoye, Payyakhsky, Messoyakhsky, Yaro-Yakhinskoye, Tirekhtyakhskoye, field, Bovanenkovo, Vaneivisskoye; coal Taibass and Syradasayskoe, gold ore — Kupol, Mayskoe, Nezhdaninskoe, Kekura; non-ferrous metals — Pavlovskoe, Baimskoe; rare earth — Tomtor, nickel and copper — the southern cluster of the ultimate potential resources, the expansion of the Kola MMC; apatite mining — modernization of JSC Apatite and the merger of the mines of apatite-nepheline ores Rasvumchorr.

vation in territorial, technological and organizational dimensions (new environment, technologies, organizations) is recognized as truly courage (Table 1).

Experts may have questions about the correctness of the awarded marks. For example, why do the Arctic LNG 2 and Yamal LNG projects have “zero” in terms of inter-corporation alliances? Doesn't the implementation of these projects involve the conclusion of dozens of contracts with subcontractors, including those from large, world-class companies? But we are interested in agreements on joint development of a natural facility, when former competitors, for example, in gas production, suddenly join forces due to the unprecedented complexity of the facility and the need to “combine” competencies. This phenomenon did not appear in the designated projects. On the other hand, the project for the development of the Nezhdaninsky gold deposit, for which a joint venture between PJSC Polyus Gold and JSC Polymetal was established, refers to the case of an inter-corporate alliance.

Questions may arise as to why one coal project in Taimyr involves the creation of a new special organizational structure (Taibass), and the other does not (Syradasai project)? We took all this information from project descriptions available on the Internet. This means that in one case the alleged owner considered such an organizational action necessary, in the other not.

The question may arise why the Vankor project has “zero” according to the criterion of penetration into the new environment, and the Payakhskaya group of fields does not have? But the fact is that the development of Vankor and all of its logistics are land-based, while the development of the Payakhskaya group provides for the use of marine logistics for the development of the field. And, as has already been noted many times, the revolutionary going to sea with technologies for production, processing, and high ice class vessels is the most important factor in the courage of modern development decisions in the Russian Arctic.

It is important to note here that the simple preservation of the previous offshore schemes, for example, the export of concentrate from Chukotka in the projects of the Baimskoye field, the Kekura, Mayskoye projects is not a manifestation of courageous economic decisions. Because these schemes were known and were used back in Soviet times in the form of icebreaker escort of dry cargo ships, lighter carriers, etc. The use of new technical means, organizational schemes, elements of the territorial structure (routes and development bases) makes them revolutionary.

The “poles” of the distribution of projects according to the index of courage of economic decisions are quite clear. Naturally, NovaTEK's LNG projects are gaining the maximum score. It is also understandable why projects for the modernization of old mining facilities in the Murmansk region have a minimum score: we are talking about a relatively routine procedure for the technological modernization of old production facilities, which is usually incomparable in terms of innovation and audacity of economic decisions with pioneer projects and pioneer development.

The "middle" cases are more interesting. For example, the project for the development of the Kupol gold deposit in Chukotka has the high place. For the index of courage, the capital intensity of the project does not matter, but only the qualitative manifestations of innovation, audacity in economic decisions are very important. Therefore, despite the fact that the Kupol project is not comparable with the Vankor project, it is higher in terms of the courage index of economic decisions.

This is the significance of assessing projects by the index of courage: it does not duplicate those already known to us, but offers new forms of distribution, in which the growth poles, modest in investment costs can outstrip significantly more capital-intensive projects, but very traditional in terms of forms of implementation.

The relatively modest place of the Tomtor project may surprise you. However, despite its obvious uniqueness, there are not so many truly courageous and innovative solutions in its development. Therefore, it is inferior to other, more obviously pioneer and flagship projects.

The large, world-class Bovanenkovo gas field scores only “three” on the Courage Index. Why? As experts admit, the scheme for the development of this field seems to be borrowed from the 1970s, with the introduction of minimal changes to it. Therefore, it is not surprising that the project has such low scores on the index of courage: it is absolutely routine, with the obvious uniqueness of the field's reserves. This is the manifestation of the problems of modern development 2.0 of the Russian Arctic: unique, world-class, natural objects are often "taken" by very traditional, even archaic for our time technologies and organizational schemes. And the index of courage just denotes this contradiction.

Table 1

Assessment of the level of courage in the implementation of development projects for the Arctic resources

	UNIQUE			ENVIRONMENT			TECHNOLOGY			ORGANIZATION			
Project (field)	Uniqueness in the world, country	Pilot flagship	Opened in Russia or USSR	New territorial structure	New logistics	New environment	Greenfield / brownfield	Platform technologies	Recycling at the production site	New organizational structure	Special legal status	Inter-corporate alliances	Total score
Arctic LNG-2	1	1	0	1	1	1	1	1	1	1	1	0	10
Yamal LNG	1	1	0	1	1	1	1	1	1	1	1	0	10
Prirazlomnoye	1	1	0	1	1	1	1	1	0	1	1	0	9
Kupol	1	1	1	1	1	0	1	1	1	1	0	0	9
Pavlovskoe	1	0	1	0	1	1	1	1	1	1	0	0	8
Novoportovskoe	1	1	0	1	1	1	1	1	0	0	0	0	7
Vankorskoe	1	1	0	1	1	0	1	0	0	1	0	1	7
Baimskoe	1	0	0	1	0	1	1	0	1	1	0	0	6
Taibass	0	0	0	1	1	1	1	0	0	1	0	1	6
Payakhskie	0	1	0	1	1	1	1	0	0	0	0	1	6
Maiskoe	1	0	0	1	0	1	1	0	0	1	0	0	5
Tomtor	1	0	0	0	1	1	1	0	0	1	0	0	5
Yaro-Yakhinskoe	0	1	0	0	1	0	1	0	0	1	0	1	5
Syradasayskoe	0	0	0	1	1	1	1	0	0	0	0	0	4
Tirekhtyakh	0	0	0	0	1	1	1	0	0	0	0	1	4
Nezhdaninskoe	0	0	0	1	0	0	1	0	0	1	0	1	4
Kekura	0	1	0	1	0	1	1	0	0	0	0	0	4
Messoyakhskie	0	0	0	1	0	0	1	0	0	1	0	1	4
Bovanenkovo	0	1	0	1	0	0	1	0	0	0	0	0	3
Vaneivisskoe	0	0	0	0	1	0	1	0	0	0	0	1	3
Southern cluster of the Norilsk Development District	0	0	0	0	1	0	0	0	1	0	0	0	2
Modernization of OJSC Apatit	0	0	0	0	0	0	0	0	1	0	0	0	1
Expansion of the Kola MMC	0	0	0	0	0	0	0	0	1	0	0	0	1
Merger of Rasvumchorr mines	0	0	0	0	0	0	0	0	0	0	0	0	0

Conclusion

As the distribution of new projects in the Russian Arctic according to our proposed index of courage shows, the reliance on marine logistics and related marine technologies for production, processing and transportation is of unprecedented importance for gaining a high status in this rating (for example, a feeder logistics scheme, platform distribution service, etc.). A quarter of all projects ranked first in the courage rating rely on maritime logistics. The main factor that predetermined the courage transition to maritime logistics and the development of new Arctic projects was the very rapid climate change and ice retreat in the shallow Russian Arctic seas.

Climate change triggers a cascade of positive effects for Arctic projects: there is the courage, even the audacity to work in a previously forbidden marine environment, not only in the field of marine logistics, but also in the creation of offshore production and processing gravity platforms. For example, NovaTEK is locating a plant of plants in Belokamenka that produces concrete platforms — modules for liquefied natural gas plants, which are then transported by barges to specific resource fields in Yamal. And, apparently, in most cases they will be located offshore, on platforms, near resource deposits.

In this scheme, the concept of offshore takes on a completely new meaning: it is on water that the natural gas produced on land is processed (liquefied). And this is a completely new ideology of the project and a new scheme of spatial organization, possible thanks to new modular technologies for the construction of industrial facilities in the Arctic.

Participation in discussions on the issues of Arctic navigation, the use of the Northern Sea Route at international and Russian forums convinces us that an absolutely new reality is emerging here: new technical possibilities in the design features of ships and navigation services; absolutely new for the Arctic requirements of commercial speed (before, happiness was the very fact of safe navigation in ice); the regularity of the movement of vessels along the route; accuracy of cargo delivery. Traditional ideas about how the Arctic and the Northern Sea Route can be used are changing rapidly.

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Attracting Human Resources to Arctic Enterprises Using Marketing Tools*

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Abstract. In connection with the movement of various types of production in the Arctic region, it becomes necessary to attract human resources to new enterprises. In the article, we analyze the branding system in companies operating in the Arctic region, as one of the most effective areas in marketing activities in the labor market. The study aims at investigating marketing tools that can eliminate the lack of qualified personnel in well-known companies, e.g., Rosatom, Rosneft, PhosAgro, Eurochem, Novatek, Lukoil, Severstal, Gazprom Neft, and Norilsk Nickel. Particular attention is paid to analyzing the branding of organizations, i.e., the main tool for attracting human capital to enterprises. The components of branding are considered, i.e., the brand itself, mission, purpose, and image. A table was compiled illustrating the listed elements for each company. It takes a detailed look at which companies should try to change branding elements to attract more attention from job seekers. The study of the key concepts of branding helped to draw appropriate conclusions about the need to reform marketing tools, which are not developed to one degree or another in the investigated companies.
Keywords: *Arctic, human resources, marketing tools, goal, mission, brand*.

Introduction

A key factor in the success of any company is competent, qualified personnel. According to article 37 of the Constitution of the Russian Federation, a person has all the necessary rights to dispose of his ability to work freely; therefore, the owners of the labor force have the right to choose when moving from the sphere of circulation to the sphere of production, which directly affects the selectivity of people when making decisions regarding places of work and conditions in which they have to work. People's demands can vary significantly, so there is a need to research the attractiveness of various offers on the labor market and their conditions. Today, an important problem is the excessive concentration of competent human resources in Russia's central part and their lack in remote regions, where enterprises of the mineral resource complex are located, where these human resources are most in demand. This problem is most acute in the Arctic region, which should be given special attention in this work. This problem is largely due to the lack of awareness of job seekers about the conditions of work and the opportunities that companies can offer, especially if the employee will work in the northern regions. Companies operating in the Arctic should use as many tools as possible to attract a competent candidate for the position. Such tools can be marketing tools that are successfully used abroad and can be used when attracting human resources to the Arctic.

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Research methods

The development of a market economy has contributed to modern procedures for establishing labor relations between an employee and an employer. Often, enterprises are forced to search for personnel independently, without state support, which significantly affects their interest in the development of relevant programs to attract human resources.

The possibility of the labor movement, freedom of choice in making hiring decisions, motivation in long-term employment relationships, competition between employers and employees, and the formation of a market for buyers of labor services dictate the need for companies to address marketing activities in the labor market.

At the same time, marketing activities in this area will contribute to the competent distribution of information flows, due to which employees and employers will receive the necessary information about each other, which can help in studying the situation in the labor market. Also, the use of marketing tools will increase the level of awareness of labor personnel about organizations' opportunities when hiring and will create the preconditions for improving the quality of life of the applicant and the employer [1, Sharok V., pp. 1776-1786].

Marketing in the labor market is a system of activities that allows regulating the state of the market; it influences the drawing up of an action plan in the field of employment, solves the tasks of increasing the efficiency of the use of labor and their coordination, and promotes the employment of the population. Separately, it is worth highlighting such a direction as HR marketing, which deals with the company's image in the labor market. Its main goal is to create an attractive reputation for potential workers and maintain favorable conditions for the work of persons currently in the organization [2, Andreychenko N. V., pp. 75–76].In this paper, it was decided to analyze the branding system in companies operating in the Arctic region as one of the most effective areas in the labor market to determine how effectively companies use marketing tools to attract qualified personnel to hard-to-reach northern regions.

The marketing analysis structure is the study of various marketing components of the company, which help attract applicants. The stages of analysis are presented in the following diagram.

Any company is interested in implementing attractive image resorts to branding. This marketing tool helps increase the flow of human capital by increasing its awareness and improving its image. At the same time, branding helps improve two main elements of the employer's brand: the organizational platform and the preferences for the employee of the organization—[3, Makovich G.V., pp. 139-142]. At the same time, changing the first element implies improving the organization's qualities, such as its strengths and weaknesses, prospects, stability in the labor market, corporate values, influence, etc. But the impact on the second element implies improving corporate and social programs operating in the company [4, Kruk M.N., pp. 3-6]. The key branding concepts that directly influence the applicant's perception of the organization are: the brand itself, mission, purpose and image.In accordance with [5, Starov S.A., p. 4.], a brand is a trademark by which a certain company can be identified. It is thanks to him that the organization provides itself with recognition. Simultaneously, the original graphics, images, and colors used in the logo can affect a person at a subconscious level and create a favorable impression, provided that these elements are used correctly [6, Sysoeva S.V., pp. 147-149]. Shades of red create a burst of energy, but this color is also associated with anger and danger. Shades of blue, light blue, biruby evoke feelings of calmness and harmony. Green creates a sense of security but can evoke associations of envy and guilt. Yellow color, on the one hand, raises the mood, awakens interest in the subject, but, on the other hand, speaks of unreliability, irresponsibility. White is interpreted in some sources as a color that creates a feeling of freedom and spaciousness, while in others it is interpreted as a color that creates a feeling of emptiness and isolation. Black is usually used to convey a brand's seriousness, but it can also be associated with death and evil. Using certain color symbols, you can achieve significant results in forming a positive image of the company in the applicant's eyes.

One of the most effective tools for the formation of the company's image is the mission, so in [7, Pugina L.I., Rodionova E.V., p. 18], the mission is interpreted as the meaning of the organization's existence. This tool helps to assess the scale of the company's thoughts, the course of its development. It depends on how clearly the company's mission is formulated whether this tool can transform the minds of the company's employees and consumers and those who are just going to get a job or search for it. During the development of the mission, one should be guided by the fact that the mission should contain the main guiding idea of creating an organization, disclose the main idea of creating a company, determine the further construction of the goals and objectives of the organization and should not change significantly over time, unlike the company's strategy.

One of the signs of a successful company is a well-defined goal as the expected result of the organization's achievements. For setting all types of goals, they usually resort to the abbreviation SMART, which formulates the main criteria that should be used when formulating: specific (specificity), measurable (measurable), attainable (attainable), relevant (relevance), time-bound (limitation on time) [8, Akbarova S.A., pp. 6-8].

For the new generation of specialists, an important factor when choosing a job is also the company's image, which embodies its image. It can be compiled by looking at various organiza-

tional indicators: economic success, popularity, prospects, influence, etc. [9, Lebedeva K. V., pp. 15-16].

As part of the study, an information map was compiled, which summarizes the above indicators of branding of organizations implementing projects in the Arctic region and need of qualified personnel, into one table.

Table 1

Branding indicators for organizations operating in the Arctic region

Company	Brand	Mission	Goals	Image
1. Rosatom	Foundation dateDecember 1, 2007 State Atomic Energy Corporation “Rosatom” (full name - State Atomic Energy Corporation “Rosatom”) is one of the global technological leaders, a multidisciplinary holding that unites assets in the energy sector, mechanical engineering, construction. ROSATOM	“Provide the world with clean, safe, affordable energy and innovations based on nuclear technology”.	Increasing the share in international markets; reducing the cost of production and the timing of the course of processes; new products for Russian and international markets.	One of the ten largest companies in Russia. Possessing competencies in all links of the nuclear fuel cycle, the State Corporation ranks first in the world in terms of the size of its portfolio of foreign projects; 36 power units in 12 countries are at different stages of implementation. Rosatom is the largest producer of electricity in Russia, providing over 19% of the country's energy needs.
2. Rosneft	Founded in 1993 in Moscow. PJSC NK Rosneft is a Russian oil and gas company, a controlling stake in which belongs to the state-owned JSC Rosneftegaz. ROSNEFT	Rosneft's mission is the efficient implementation of the energy potential of Russia.	Replenishment of reserves at a level of at least 100%, efficient production at mature fields and its growth due to the implementation of new projects, the creation of new production clusters on the shelf, the development of technologies, and the implementation of world-class project management practices, coins naturalization of gas reserves and competitive growth of production, the optimal configuration of refineries and the most profitable sales of the.	Rosneft is the leader of the Russian oil industry and the largest public oil and gas corporation in the world. The company is included in the list of strategic enterprises in Russia.

3. EuroChem	Foundation date1983 EuroChem is an offshore Swiss chemical company, the main production assets of which are located in Russia, Belgium, and Lithuania. EUROCHEM	To be a leading European manufacture and agrochemical products and services of a wide range and guaranteed quality, continuously improving technology and improving the living environment.	Maintain/increase the cost advantage through vertical integration and investment in increasing production efficiency.	One of the world's leading manufacturers of mineral fertilizers. In just 10 years, the company has built a management vertical and an integrated system with world-class management.
4. Fosagro	The company was founded in 2001. Fòsagro is a Russian chemical holding. Full name - FosAgro Public Joint Stock Company. PHOSAGRO	"We care about the fertility of the Earth for the prosperity of life".	Providing Russian agricultural producers with high-quality and environmentally friendly fertilizers, promoting the product line in premium markets abroad, further increasing self-sufficiency in key mineral resources, and expanding production capacities.	FosAgro is one of the world's leading companies responsible for food security at the global level. FosAgro's highly efficient and environmentally friendly products are in demand on all continents.
5. Novatek	Foundation date - August 1994. Novatek is a Russian gas company. NOVATEK NOVATEK	To be an efficient, socially oriented, vertically integrated gas company, based on the principles of sustainable use of the environment, knowledge, ability, and enthusiasm of its employees.	Increased resource base and efficient inventory management.	Novatek is the largest independent natural gas producer in Russia. The company is engaged in the exploration, production, processing, and sale of natural gas and liquid hydrocarbons and has more than twenty years of experience in the Russian oil and gas industry.
6. Lukoil	Foundation date - November 25, 1991 PJSC Lukoil is a Russian oil company. LUKOIL	"We were created to turn the energy of natural resources for the benefit of man, to efficiently and responsibly develop the unique hydrocarbon fields entrusted to us, ensuring the growth of the Company, the well-being of its employees and society as a whole."	The company wants: - to become the leader of the oil and gas world; - to become a global energy company; - become the best social partner; - meet the highest requirements in labor, health and environment protection; - to be a company where employees are one family.	Lukoil is one of the largest publicly integrated oil and gas companies globally, accounting for more than 2% of world oil production and about 1% of proven hydrocarbon reserves.

7. Severstal	Foundation date 1955, Cherepovets. PJSC Severstal is a Russian vertically integrated steel and mining company. 	Our mission is to be leaders in creation.	Increase EBITDA by 10-15% annually over the next five years (excluding price/macro factors).	Severstal remains the global leader in efficiency in the industry, delivering the world's highest EBITDA margin among steel companies, generating positive free cash flow throughout the cycle, and meeting announced targets.
8. Gazprom Neft	Foundation date1995, Gazprom Neft is a Russian vertically integrated oil company. 	"To develop the world. Create to be proud of what you have created. We create resources for the future, enriching the world with energy, knowledge, and technology to confidently move towards better".	Becoming one of the best industrial companies in the world, defining the progressive transformation of the industry, making the impossible real, and inspiring their followers in Russia and beyond.	В структуру «Газпром нефти» входят более 70 нефтедобывающих, нефтеперерабатывающих и сбытовых предприятий в России, странах ближнего и дальнего зарубежья. В 2018 году «Газпром нефть» достигла рекордных финансовых результатов, получив самую высокую прибыль в своей истории.
9. Nornikel	Foundation date - June 30, 1993. The image of Norilsk Nickel is an expressed quintessence of ideas and meanings related to the company's activities. 	By effectively using natural resources and equity capital, we provide humanity with non-ferrous metals that make the world more reliable and help to fulfill people's hopes for development and technological progress.	Unlocking the potential of premium assets; Modernization of production cost reduction and increase in the extraction of metals simultaneously with the improvement of environmental performance; Sustainable development of the territories of the company's presence, reduction of emissions of harmful substances, comprehensive improvement of the living and working conditions of the company's employees; Increase shareholder value and strengthen industry leadership in return on investment.	Nornikel is the leader of the mining and metallurgical industry in Russia, the world's largest producer of high-grade nickel and palladium.

Since the brand of industrial companies works to attract customers and qualified personnel and form public opinion, it seemed most interesting to analyze the data obtained for the effective application of existing methods of influencing the audience to attract human resources to the Arctic region. By techniques, we mean the use of psychographics focused on potential workers, gaining the applicant's confidence in the quality of the brand by using special slogans and logo colors, promoting correct social values, competently shaping a solid image, and sometimes even populism.

1. Rosatom[1]

The very name “Rosatom” defines the affiliation of the enterprise to state-owned companies, which emphasizes the reliability and stability of the organization, and today these factors are extremely important when choosing a job. The combined trademark is formed by the Möbius strip and the type block (the inscription in the Russian logo is ROSATOM, in the English logo - ROSATOM). The tape, the outer side of which is a circle, is divided into three sectors - three thin white lines serve as separators, cutting the tape across. There is a small ball in the center of the white space inside the ribbon. Confident and massive typography conveys the necessary meanings of the scale and globality of the very industry of the company – nuclear energy. A well-designed trademark also speaks of the solidity of the organization, its original approach to design. The color scheme in blue and blue gives the impression of influence, calmness, and trust. However, this gamut is typical for many “northern” mining companies since blue and blue are often identified with snow and natural gas, so the trademark itself does not distinguish it from others.

The mission is expressed very briefly, clearly, and sublimely; the seeker easily perceives it; nevertheless, the deep meaning contained in it corresponds to the image that the company creates.

For its own purposes, Rosatom rather specifically expresses the idea of increasing production indicators and creating innovations. The intentions of the organization seem quite achievable. However, the company does not specify information about new products and does not indicate requirements for achieving these goals.

ROSATOM instills confidence with its established reputation. The title of the largest company provides the organization with interest from potential workers who see the prospects for the development of Rosatom on the world stage, and, as a consequence, the possibility of a quick rise in the career ladder.

2. Rosneft [2]

The company's speaking name can easily attract the interest of personnel working in the fuel and energy industry. The logo (three yellow rectangles at the bottom and 7 at the top, resembling a torch with a black fire in general view) is executed in the Europe Bold font's capital letters. The trademark is notable for being quite simple, but the contrast of bright yellow and black colors can interest applicants with its brightness. Still, yellow is not the best marketing solution for the company because associations with him do not correspond to the mission and goals of Ros-Neft. It looks too frivolous for such a serious organization. “Effectively realizing Russia's energy potential” is a mission that looks too ambitious within the framework of one company but sounds pretty solid.

1 Rosatom webpage. URL: https://www.rosatom.ru (accessed 19.03.2020).
2 Rosneft webpage. URL: https://www.rosneft.ru (accessed 19.03.2020).

Within the SMART criteria, Rosneft's goals look excellent: there is specificity, measurability, attainability, realism, and only time constraints are lacking.

Getting to the leader of the Russian oil industry is a great opportunity for any employee. Rosneft's attractiveness is ensured not only by the company's established reputation but also by constant support from the state. Rosneft instills trust and promises stability for workers.

3. FosAgro[3]

The Russian chemical holding does not have a particular brand attractiveness. The company logo shows two green petals below, located symmetrically to each other, and 7 small blue circles combined into one larger circle. The whole picture resembles a flower. The green and blue colors of the trademark inspire calmness. They are directly associated with nature and the harmony of man and the environment.

The company's mission is perfectly aligned with green “green” color and goals - with the calmness of blue. "Caring for the fertility of the land" - sounds especially important in the face of modern problems with environmental protection. For those interested in the state of the planet, such an approach to activity may seem quite correct and good; however, to an ordinary applicant, the company sign will not seem particularly noticeable.

The company outlined what it wants to achieve but did not explain how the tasks are planned to be completed. It is unclear how the increase in self-sufficiency in key mineral resources, and the expansion of production capacities will be achieved.PhosAgro is a well-known Russian company with a significant influence on the global market. Leads sales in more than 100 countries in Europe, Asia, Africa, North and South America. Cooperation with such an organization promises human resources a stable income and career prospects.

4. Novatek [4]

The name of the company does not convey the essence of its production and the marking. The logo is made in the form of a triangle in three colors. The blue symbolizes the conditions of the North in which the company operates. The color blue represents natural gas. The red border is the sunrise. The brand's colors (blue and red) attract attention well with their contrast. There is practically no red in the picture, so the logo does not look too provocative and evokes, mostly trusting emotions.

The mission is expressed rather cumbersome; however, the stated thoughts about the value of employees should positively affect the impression of applicants.

For its own purposes, the company listed the improvement of many types of activities. Still, it did not begin to tell how necessary to achieve, for example, an increase in the resource base and effective management of reserves. Also, Novatek emphasized the tasks of preserving the way of

[3] FosAgro webpage. URL: https://phosagro.ru (accessed 19.03.2020).
[4] Novatek webpage. http://www.novatek.ru (accessed 19.03.2020).

life of the North's indigenous peoples and caring for the younger generation, the relevance of which is highly questionable within the framework of the organization's work.

Novatek is the largest gas producer in Russia. The company is dynamically developing and remains attractive for highly qualified personnel.

5. Lukoil[5]

The Lukoil brand is executed in the best design solutions. The company adopted the following colors as corporate colors: white, black, red. When writing the logo, the font “futures” is used, which is accepted as the organization's corporate font. A stylized logo was also developed with a drop instead of the letter “O”. White letters on a red background and their famous brand name are eye-catching. It is difficult to compare the company's logo with the organization's goals and mission because he is not at all associated with them because red colors are usually used only to arouse interest.

The mission is well defined and well founded. The company strives to improve the quality of life in society, which is respected by any person.

Lukoil strives with all its might for all possible leading positions but does not provide a plan to achieve its goals, the company does not use the SMART criteria at all.

Lukoil is one of the largest publicly traded oil and gas companies in the world. Every day, Lukoil's products, energy, and heat, are bought by millions of people in more than 100 countries around the world, improving the quality of their lives. More than 100 thousand people combine their efforts and talents to ensure the company's effective development and its leading position in the market. In Russia, it is known not only for its global influence but also for its ubiquitous refueling activity, which makes the brand recognizable even in the most remote corners of Russia. The work in the company seems to be quite promising and profitable. Lukoil has secured a recognizable brand and a good reputation in the labor market.

6. Severstal[6]

The mining company brand has a good descriptive name, which is depicted in blue on the label. The logo is a blue-red-gray triangle with rounded corners. The colors of the logo are quite remarkable due to their contrast. With the help of design solutions, the organization tries to maintain harmony between interest, trust, and freedom in the applicant. The emotions evoked correlate well with the perception of the organization's goals.

The mission is not clearly presented. The word “creation” itself is rather vague within the mission, so the applicant may get the impression that “Severstal” prefers to operate with complex expressions rather than use specifics.

When setting goals, the company well justifies cause-and-effect relationships, thanks to which we can conclude that Severstal has a well-developed action plan. The organization also lists

[5] Lukoil webpage. https://lukoil.ru (accessed 19.03.2020).
[6] Severstal webpage. https://www.severstal.com (accessed 19.03.2020).

the priorities that it relies on solving problems: “excellent customer experience”, “cost leadership”, “new opportunities”, etc. A competent approach to strategic decisions has a positive effect on the impression of the company.

PJSC Severstal continues to develop every year. The highest profitability indicator mainly evidences this. The company is the second-largest steel mill in Russia, the productivity of which is kept at the highest level. Severstal is notable for its reliability; it promises stability to its employees.

7. Gazprom Neft[7]

The oil company has an original logo that enjoys particular popularity and is one of Russia's most recognizable. The name is clear with the industry with which the company works; it is easy for applicants to navigate. The marking sign is a G-shaped lighter with a sparkle, next to it there is an inscription: at the top – “Gazprom”, at the bottom - bolder – “oil”. Associations of trust and calmness, caused by the blue color of the logo, also help perceive the organization's goals.

The mission of Gazprom Neft is clearly expressed: self-improvement is the main reason for the company's existence.

The company's goals sound quite promising, but there is no specificity in many aspirations. The task of Gazprom Neft to make the “impossible real” is expressed rather vaguely. In general, the organization relies on technological development.

Gazprom Neft is a well-known company in all regions of the country. The state's importance determines its importance within the Russian Federation and abroad, as well as the prospects for cooperation of human resources with it. Gazprom Neft has an excellent reputation and a remarkable brand. The highest profit margins of the company are actively amenable to publicity, so the staff in advance imagine serious financial prospects when meeting the organization's announcement.

8. EuroChem[8]

The Swiss chemical company uses a logo with gray and blue colors to inspire confidence and peace of mind. The brand's name shows its focus on the European market, which directly speaks of the scale of the company, its orientation. The color scheme is well associated with EuroChem's confidence and influence in achieving its goals.

The company considers self-improvement to be its mission and main goal; therefore, all EuroChem's tasks stand around this perspective.

The organization is known worldwide as one of the world's leading producers of mineral fertilizers. A high level of transparency in financial statements can win the trust of any applicant. The company has already achieved considerable heights; it showed itself in 2019 when it turned

[7] Gasprom Neft webpage. https://www.gazprom-neft.ru (accessed 19.03.2020).
[8] EuroChem webpage. URL: https://www.eurochemgroup.com/ru/ (accessed 19.03.2020).

out to be one of only three companies globally with the capacity to produce all three essential plant nutrients.

9. Nornikel[9]

The industrial company “Nornikel” has a rather informative name. Uses an unusual figure as a logo - halves of a circle, between which there is a parallelogram, the set of figures resembles the letter “N”, it is made in blue. The mark's meaning determines the main qualities that are especially valuable for the company - Reliability and Hope. The color scheme evokes associations with reliability and tranquility, which mainly has a positive effect on the perception of Nornikel by the applicant.

The company's mission is clear; Nornikel expresses it in a rather lofty manner. Good intentions unleash the full potential of a company.

The goals of the organization are well defined and long-term. All of them are quite appropriate and promising. The company shows its commitment to the development of all branches of the production sector. Also, it expresses interest in improving the environmental aspects of the enterprise and the safety of employees.

Nornikel is a leader in producing many minerals and ranks first in the production of palladium and nickel. It has significant advantages in the labor market due to its reputation in Russia and abroad. It is worth mentioning that Nornickel cooperates with international non-governmental organizations to exchange experience so that trends within the company always keep pace with the times. The organization looks solid and promising for the typical job seeker.

Conclusion

The performed analysis of the companies' marketing tools allows us to conclude:

- improving the position of the company in the labor market can be carried out by improving branding, the goals of which are: increasing the recognition of the organization among all others; strengthening the brand identity; creation of favorable associative images and emotions, comparable to the company; strengthening the positive image of the organization, gaining trust.
- to attract human resources to the Arctic, it is necessary to competently use marketing elements such as brand, mission, goals, and image, which are the main components of branding. For example, when creating a brand, one should focus on the largest oil and gas companies, such as Sinopec, Royal Dutch Shell, ExxonMobil, PetroChina, which have brilliantly presented logos, they are made using the most vivid colors that personally cope with the attraction attention. It is also necessary to show your individuality when drawing up the company's mission so that it can be remembered by the applicant, it is clear to formulate “messages” to a group of stakeholders, not to use repulsive phrases that can confuse customers or neglect their trust (common words that can characterize any activity and in any area, impersonal formulations). The mission of URAL can serve as a good example: “Satisfying the society's need for vehicles with a total weight of 12 to 44 tons and creating conditions for

[9] Nornikel webpage. URL: https://www.nornickel.ru (accessed: 19 March 2020).

maintaining the performance of vehicles during operation". Ideally, goals should be presented using SMART criteria, which form concreteness, measurability, attainability, importance, and certainty in terms of any task. The last element, the image, is the result of the company's fruitful activity, its "promotion", scale. This is the image that personifies the company to society. It is well developed by such proven companies as Gazprom, Rosneft and Lukoil, their achievements are constantly being heard.

- optimal attractiveness of the company is achieved with the simultaneous development of all marketing elements;
- it was considered in detail which companies should make efforts to change branding elements for the better in order to attract more attention from applicants: Rosatom lacks specificity in drawing up the planned goals, as well as Novatek, which has no clear path to achieving -increase in the resource base and effective management of reserves, Severstal and Rosneft were asked to reform their missions, add specifics in words about the meaning of the organization's existence, and Lukoil - to revise its goals, which could could be expressed more precisely using SMART criteria.

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Foreign Trade Experiments in the Arkhangelsk Province (1916–1921): Historical Experience of Survival under Sanctions*

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Abstract. Based on historical material, the article presents the regional experience of searching for a model of economic development on the example of the Arkhangelsk Province's desire to get rid of the image of a “resource province” in the context of the growing importance of this region for the state. The article considers the period of the military-revolutionary era and the early NEP, which is short by historical standards, when, in the conditions of the inaction of other Russian ports, foreign policy sanctions, and a “trade blockade”, the economically active community of Arkhangelsk sought to diversify the economic life of the region as much as possible, choosing a different vector of further development. The author noted the forms of responding to the challenges of the era that forced look for new ways of solving problems. There is a desire to find its way for the Arkhangelsk Province within the framework of a single state, and the unification of the European, Ural, and Siberian territories gravitating towards the White Seaports. These issues should be considered in terms of only economic interregional cooperation.
Among the variety of development projects, the foreign trade aspect was selected for consideration. During the study, the general motivation for planning foreign trade activities through Arkhangelsk changed. In the conditions of post-revolutionary devastation, the main motivator is the food supply of the population, which could return the value of raw materials to the region, while making it more dependent on external partners. In these circumstances, the local commercial and industrial community was ready to give up part of their rights in favor of the state foreign trade monopoly. On the other hand, the state was ready to transfer part of its powers so that local authorities interested in obtaining food and other items of life support ensure the formation of the necessary “export fund”. Thus, projects to diversify the regional economy were thwarted; in the 1920s the province retained the significance of the “all-Russia sawmill”; during the period of industrialization, industrial development was also associated mainly with the forest industry, and this one-sided development subsequently led to a severe structural crisis.
Keywords: *European North of Russia, World War I, Revolution of 1917, Civil War, new economic policy, economic and political sanctions, trade blockade, economic prospects, foreign economic activity, Northern Regional Directorate of Foreign Trade.*

Introduction and relevance

Economists note “the necessity and usefulness of knowledge of traditions, similar trends and accumulated practice in economic history” [1, Pakhomov A.A., p. 90] . Among the top issues with historical roots is the imbalance between exports and imports in Russian foreign trade relations [2, Moreeva S.N., p. 21], which is the result not only of economic backwardness, but also of political problems.

The appeal to the regional experience in overcoming difficulties arising under the influence of various foreign policy and economic sanctions, blockades and restrictions aggravated by the

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conditions of the “time of troubles” (weakening of the state apparatus, demoralization of the former elites and the inexperience of new ones) has not only scientific but also practical relevance. In this regard, it is interesting to study the activities of the authorities of the Arkhangelsk province (which, due to natural and climatic circumstances, needed both export and import) under the conditions of a state monopoly on foreign trade and an economic blockade by traditional trading partners. This refers to the last stage of the Civil War (1920) and the beginning of a new economic policy (1921-1924).

The European North of Russia, like a significant part of the non-industrial regions of the country, before the revolution was heavily dependent on the foreign market, supplying it with raw materials of various types. White Sea ports at the beginning of the 20th century were mainly used for the export of northern (timber, flax, resin) and Siberian (wheat) goods. Such a turnover provided a small population in general with work, imported food and some goods necessary for the life support of the region (the most important of which was coal). The First World War significantly diversified the region's economy. Due to military circumstances, the northern ports began to play an important role primarily for the delivery and re-shipment of imported cargo of military and defense-industrial importance. Export operations in the initial period of the war were practically stopped, and then they were allowed only for the export of state goods that served as payment for military supplies.

Throughout the war, and especially during the Revolution and the Civil War, local entrepreneurs were in a state of turbulence. Many traditional economic activities were at risk. Sawmilling was severely damaged; the first effect was the “moratorium on foreign trade” introduced in 1914, as well as the mobilization of a significant part of the workers. The “boom” of defense-related work, which required the attraction of labor resources on a permanent basis and at incomparably higher wages, led to an outflow of workers from seasonal activities (which included logging and rafting, working at sawmills and the stock exchange). As a result, Russia's competitors began to seize the sphere of timber exports: Sweden, which did not participate in the war, and then Finland, which gained independence.

During the Revolution, additional threats were added to the loss of competitiveness of local production due to the growth in the cost of northern timber. Under the influence of a number of reasons, including “the fall in labor productivity caused by high wages, on the one hand, and social slogans of different shades, on the other” [3, Danishevsky I.I., pp. 5, 6] , the cost of forest products increased in 1917 in comparison with the pre-war 15 times; to this should be added the increase in the cost of freight in the context of the refusal of western insurance companies to take responsibility for the risks of northern navigation in wartime.

The generally short period of the Revolution and the Civil War (1917–1920) showed that in conditions of weakening domestic ties, the entire system of not only domestic but also foreign trade collapses. Sawmills, aimed at export, were located in Arkhangelsk, where it was possible to deliver timber by rafting, and after processing, immediately load it onto sea transports. A signifi-

cant part of the forest was harvested in the Vologda province. Having received broad rights of self-government, the volost authorities began to prohibit the Arkhangelsk industrialists from harvesting in their territories, demanding the payment of high duties and the involvement of only the local population in work. When, in connection with the "cash crisis" in the Arkhangelsk province, the issuance of their own money (checks of the local branch of the State Bank - the so-called "walruses"), which were circulating only on the territory of the province, began to be issued, an insoluble problem arose of payments for the harvested forest with the Vologda peasants[1] [for details see: 4, Troshina T.I.]. In 1918, it was stated that "the desire of some large timber merchants to liquidate their business in the North and the difficulty of finding buyers for timber materials who would agree to pay [them] the cost at current rates plus a small percentage of earnings" [3, Danishevsky I.I., p. 8]. The transfer of power in the province to the Provisional Administration of the Northern Region in August 1918 did not change the situation since the new government had to continue its policy of "flirting" with the workers.

During the war, its own fishing industry practically ceased, and under the circumstances there was no incentive for its development. "Foreign currency and transport have become much more expensive, but we still continue to buy fish from our neighbors abroad" [3, Danishevsky I.I., p. 6] – at the beginning of 1918, it was spoken out by I.I. Danishevsky, a co-owner of the White Sea-Baltic and Severo-Oceanic Steamship Companies.

The search for economic prospects in the postwar period

At the same time, the active economic community of the Arkhangelsk province saw the nearest prospects for the region: it was assumed that after the war Russian timber would be required (the increase in export demand was estimated 2.5 times, that is, up to 20-21 million logs per year [5 , Gaevsky P., p . 9]), while the Baltic Sea will not become fully navigable for a long time due to the active hostilities taking place there. It was expected that in connection with the post-war devastation, Russia could be among the importers of food, including fish and even bread. But even in the event of a shortage for its own population, one could expect the continuation of the export of wheat, since the export fund of the Urals and Western Siberia, which would need foreign exchange for the purchase of machines and machine tools to restore the industry, mainly consisted of grain products. Finally, the need to pay the debts accumulated during the war will force the state to increase imports of raw materials, and primarily through the northern ports, since "89% of forests fall on the eight provinces of the North-East of European Russia ..., [there are] mineral resources ... if there are surpluses bread ... then surpluses can only be in Siberia, which also gravitates to the northern ports [6, Danishevsky II, p . 16, 19].

At the same time, the local community, taught by bitter historical experience showing that after the end of a dangerous period for the country, the state could forget about the northern ports, and Russia would again return to the exploitation of its Black Sea and Baltic harbors, had well-

[1] Central State Archives of St. Petersburg (TsGA SPb). F. 1578. Op. 2.D. 34.L. 2 ob.

founded fears of post-war stagnation. Therefore, possible alternative options for economic and, above all, foreign trade prospects were actively discussed.

There were good reasons for optimism. In 1914-1916. Projects were implemented that patriots of the Northern Territory had been petitioning for many years: the Arkhangelsk port was expanded, which now had not only export, but also import orientation, and thanks to the icebreaker fleet and the winter outport (Murmansk was perceived as such), year-round navigation was carried out. The transport infrastructure was significantly improved: after dredging and lighting the fairway, the Northern Dvina became navigable, an impressive river fleet appeared here (in 1917 it consisted of 394 tugboats and 1,058 barges with a total carrying capacity of 440 thousand tons); the Murmansk railway was built and the Arkhangelsk railway was converted to a wide gauge. It was assumed that after the end of the war, the icebreaker and trawl fleet purchased to serve military needs would be leased or owned by entrepreneurs and labor artels, which would allow moving to a new level of sea fishing and animal trade.

The next task was to create our own ocean shipping company so as not to pay high freight rates to foreign carriers, as well as to organize an insurance company that would take on the risks of sailing in the northern seas. A plan to levy a ruble levy on each standard of exported timber in order to raise funds for the creation of its own merchant fleet was discussed in Arkhangelsk since 1916.The first step in this direction was taken in 1917: the largest local entrepreneurs I. and P. Danishevsky, J. Belyaevsky, D. Valnev and others organized the Severo-Ocean shipping company and established the Russian North joint-stock company to exploit the natural resources of the region[2]. The plans to move the enterprises evacuated from the front zone of the western provinces to Arkhangelsk were supported in every possible way. Already scheduled delivery in Arkhangelsk Revel shipyard "Becker and C^{o}" did not take place in connection with the October events in Petrograd[3], and the public in Arkhangelsk demanded that the local authorities urgently take some measures, "since after the war, trade relations with abroad will expand, and we will need our own fleet" [7, Danishevsky I.I.] (plant was taken to Novorossiysk and operated there under the names "Sudostal", "Red Engine", etc.)

During the war of 1914-1918 trade relations with new partners expanded new types of export and import appeared. In August 1917, the Northern Department of the Russian-American Committee for Assisting the Economic Rapprochement of Russia and the United States (RussAmCo) was opened in Arkhangelsk; its chairman was I.I. Danishevsky, who had business connections in America [8, Rogachev I.V., Silin A.V., p. 52]. Direct steamship flights between New York and Arkhangelsk, which began to be practiced since the beginning of the war, in connection with the closure of the Baltic and Black Sea ports, gave hope for the acquisition of oceanic and intercontinental importance by the northern ports.

[2] Arkhangelsk: daily newspaper. 1916.27 Feb .; 1917.29 Jan., 31 Jan.
[3] News of the Arkhangelsk Society for the Study of the Russian North. 1917, no, 11–12, p. 449.

At the state level, they also thought about post-war reconstruction, but they proposed projects that were unpopular among the patriotic public in general to allot large forest areas for foreign concessions. The patriots of the Northern Territory feared that the transfer of forests on a concession to foreigners could lead to an increase in the economic dependence of the province on external capital (from which they managed to get rid of to a certain extent during the First World War, as part of the "fight against German dominance").

The degree of study of the problem

Turning to the previous and modern historiography, it should be noted that the entire range of questions posed to one degree or another was at the center of the research interest of historians studying the restoration period, which began in 1918 and, interrupted by the Civil War, resumed in the 1920s. ... With regard to attracting foreign investment, the questions of concessions in the initial period of NEP were studied in more detail; including the northern ones [9, Kiselev A.A.; 10, Sannikov L.I.]

The experience of local foreign trade bodies operating under the control of the People's Commissariat for Foreign Trade (NKVT) is reflected in the works of the employees themselves [11, Krasin L.B.; 12, Krasin L.B.]. Researchers in this aspect draw attention to the predatory interests of potential economic partners of Soviet Russia, who planned to solve their post-war difficulties at its expense [13, Katasonov V.Yu., pp. 178 - 207; 14, Troshina T.I.]. The issue of restoring trade relations in these circumstances had to be resolved in non-standard ways. In the post-revolutionary period, Soviet Russia was under Western sanctions, which were expressed in various forms. State foreign trade relations to a greater extent developed with eastern and southern neighbors [15, Borisova I.D.; 16, Goreshin S.G.; 17, Dyachenko N.V.].

In the West, the issues of restoring foreign trade with Russia depended on the development of events on the fronts of the Civil War. Since the "breakthrough" of the trade blockade announced at the end of 1919 was initially associated with the admission of only cooperative organizations to the European market, the problem of foreign trade relations during the war communism and early NEP period is most often considered in this vein [18, Kabalkin Yu.M.; 19, Schwittau G.G.; 20, Borodina E.V.].

Traditionally raw materials and export-oriented regions had their own experience [21, Valitov A.A., Dmitrishchak T.M.; 22, Komarov S.Yu.; 23, Timoshenko V.P.], which relied on the fact that in the pre-revolutionary period there was a strong influence of foreign investments and established economic ties, and their restoration became the task of local bodies of the NKVT, to a certain extent, bypassing the state-declared monopoly on foreign trade and foreign economic activity.

Foreign researchers focus on the food problem that has arisen in Russia under the influence of the war, under pressure and where political decisions are taken [24, Lih L.T.]. Canadian historian R.B. Day analyzes the discussions in the Soviet government regarding the main directions of relations with Western states [25, Day R.B.]. As for foreign economic relations, here the attention of foreign

researchers is mostly attracted by the issues of foreign concessions. Studied, in particular, technologies for sharing expertise raw material [26, Sutton A .C.] And the role of foreign aid in raising the economies of Russia and the USSR [27, Heywood A.]

The issues of export trade through Arkhangelsk in the revolutionary and first post-revolutionary period are often considered in the aspect of restoring traditional trade relations with Norway [28, Historical ties ...; 29, Karelin V.A., Repnevsky A.V.; 30, International Relations ...; 31, Porcel A.K.]. Certain aspects of the activities of the North-White Sea administration of the NKVT (then transformed into a regional department) are disclosed in his article by V.N. Bulatov [32, Bulatov V.N., pp. 124-126].

At the same time, sources that more holistically reflect the regional experience of economic "survival" in extremely unfavorable external and internal political conditions have not been fully introduced into the scientific circulation. This is the current documentation of various state and regional authorities and institutions; journalism; the chronicle of events reflected in the mass media; as well as more subjective sources (personal documents).

Difficulties of the war and post-war period and plans to overcome them

The desire to use the revolutionary transformation of all aspects of life and get rid of foreign economic dependence brought entrepreneurs and the central government closer (which changed three times in 1916-1918). If the commercial and industrial class saw prospects for its development in the national orientation, then the government understood the relationship between economic and political dependence (Russia's entry into the First World War, which ended tragically for it, was largely due to the financial obligations of the state to its allies in the Entente). The solution to this problem was also seen in different ways. State authorities, including "quasi-states" on the territory of Russia during the Civil War, sought to introduce a foreign trade monopoly, which involved the participation of private entrepreneurs under strict control and with the obligatory delivery of all foreign exchange earnings to the treasury (in fact, this was a generally accepted practice of all states that left economic consequences of the First World War). Private capital wanted, of course, complete freedom. And in the conditions of the weakening of the authorities at all levels, entrepreneurs received this freedom; however, they failed to take advantage of it [33, Troshina T.I.] As for the Soviet state, it found itself in especially difficult conditions; to the problems common to all the warring countries , an economic blockade was added, the ever-expanding devastation of transport and industry, and as a result - the rupture of trade ties between town and country.

Without dwelling on the well-known forms of state survival in these circumstances, let us turn to the issue of the flexibility of the policy of Soviet Russia, when, even in the conditions of the intervention and the Civil War, negotiations were held on economic cooperation on terms that were certainly beneficial to the West. Such a policy was not abandoned, despite the fact that such "flexibility" outraged the public and increased the influx of Russian patriots into the ranks of the white army. Even the peasants reacted sharply to what was happening: "The communists ... fought for

three years, but they defeated everything, but robbed. And now we are again at the same time with them - we invite them to build factories and factories with us, but they said that we would destroy everything old and create something new, good, and bright. And without the capitalists they could not do anything ..."- this is how the delegate of the county peasant congress introduced the new economic policy[4].

At the same time, the admitted concessions, indeed, made it possible to resolve many issues of the moment; not only to create an "export fund" at the expense of foreign capital, but to ensure the restoration of the former trade ties, which were difficult for state bodies to do, because after the anarchy, requisitions and violence, foreign partners did not trust them.

As for the organization of foreign trade operations, in the conditions of the weakening of the state (in 1917-1920), work was going on for regional unification on the basis of common interests and similar opportunities. In European Russia, Arkhangelsk became the "pioneer" in this respect. Local entrepreneurs expressed an idea (which was probably present before, but which became especially relevant in connection with the war and the Revolution) about the unification of the provinces gravitating to the White Sea ports, which have large reserves of timber: Arkhangelsk, Vologda, Vyatka, Olonets, Perm, Yenisei, Irkutsk, Tobolsk , Tomskoy [34, Danishevsky I.I.] When food became the most important problem in 1917, at the initiative of the Arkhangelsk community, a congress of representatives of the Arkhangelsk, Olonets, Vologda, Vyatka, Novgorod, Yaroslavl, Kostroma, Perm provinces was held, at which the question of creation of the North-East region. It was supposed to combine efforts through joint export-import operations to solve the food problem and create a regional economic union for the future.

When discussing the issue of the political organizations of the northern provinces (the Union of Communes of the Northern Region, which eventually included the Petrograd, Pskov, Arkhangelsk, Vologda, Olonets and newly formed Severo-Dvinsk and Cherepovets provinces), in Arkhangelsk, based on their interests and understanding, believed that one should also unite with Vyatka and Perm, "which are associated with [them] and the way of life of the people. In case of non-alignment of the Vyatka and Perm provinces to the Northern Region, due to the inextricable connection of the five northern provinces, try to immediately organize a "union" at least from Vyatka, Perm, Vologda, Olonets and Arkhangelsk. These provinces could provide the Oblast with part of the grain and products of the factory industry that it needs; they would link the Oblast to Siberia as a major supplier of food products. ... It is especially important to include the Vyatka and Perm provinces, since relations [of Arkhangelsk] with them can be maintained by water transport - both cheaper and less frustrated than the railroad". At the same time, it was especially emphasized that "the Northern region should be separated only in economic terms into a separate unit, being in the closest relationship with the rest of Great Russia"[5].

[4] Archive of the FSB Directorate for the Arkhangelsk Region. D. P-21274. T. 7.L. 67-68.
[5] State Archives of the Arkhangelsk Region (Hereinafter - GAAO) F. 352. Op. 1.D. 15.L. 50-51.

The intervention and the Civil War thwarted these plans; Subsequently, the unification of several northern provinces could not take place due to the increased centralization of power, and the Arkhangelsk province, finding itself isolated from Soviet Russia, carried out its own foreign economic activities under the control of representatives of the British authorities[6].

After the end of the intervention and the end of the Civil War, the Arkhangelsk businessmen hoped that they would be able to work in peace, including restoring traditional trade relations with Norway, from where, immediately after the arrival of the Red troops in Arkhangelsk in February 1920, a telegram came to the name of the new administration with a proposal to "tie relationship". In this regard, the Arkhangelsk Provincial Executive Committee organized a foreign trade department and created an "economic commission" for "relations with foreign states", which included an extraordinary representative of the Defense Council for the supply of the Northern Front, a provincial food commissioner, a representative of local cooperatives and the chairman of the provincial Council of National Economy[7]. In Murmansk, which formally still continued to be part of the Arkhangelsk province, its own "committee" was created to establish foreign trade relations[8]. In an effort to restore the economic life of the region, he immediately began exchange operations with Northern Norway [32, Bulatov VN, p . 125].

Until a state body was created that was in charge of the declared monopoly of foreign trade (NKVT), all "trade transactions with abroad" were carried out through the People's Commissariat of Foreign Affairs (NKID). Immediately after the restoration of Soviet power in Arkhangelsk, the People's Commissariat for Foreign Affairs, taking into account the "extreme importance of the Northern Region for Soviet Russia and the need to clarify the possibilities of commodity exchange", sent its authorized representative, G. Shklovsky, whose task was to develop a plan for foreign trade through Arkhangelsk and Murmansk. Given the difficult food situation in the province, they promised to pay special attention to the restoration of the Pomor (exchange) trade with Northern Norway. For example, the peasants of the northern volosts of the Mezen district, who especially suffered from lack of food, were allowed "at their own risk and risk to send a sailboat with a forest to Norway and buy fish there, which they did"[9].

Shklovsky made sure that there is a sufficient amount of export raw materials (timber and forest products) in Arkhangelsk, for which many buyers have appeared. The catch was the payment; from the side of potential buyers there were only "vague promises", and the country and the region needed imported goods, primarily coal, for which, according to Shklovsky, "it is necessary to maintain those trade relations that existed in the North before the restoration of Soviet power"[10].

[6] State Archives of the Russian Federation (hereinafter - GARF). F. 17. Op. 1. D.11. L. 5-7, 48ob.
[7] GAAO. F. 352. Op. 1.D. 4.L. 12.
[8] GAAO. F. 352. Op. 1 D. 215. L. 1-4.
[9] Mezentsy trade. Northern poor: organ of the Arkhangelsk Provincial Committee of the RCP. 1921.3 oct.
[10] Our Foreign Trade Policy. Conversation with the Secretary of the Ombudsman of the Narokminotdel in the North of the RSFSR comrade G.A. Zalkind. News of the Arkhangelsk Revolutionary Committee and the Gubkoma of the CPSU. 1920. 20 Apr.

In the summer of 1920, the People's Commissariat for Foreign Trade (NKVT) was created, which was given the exclusive right to manage “all foreign trade relations of institutions and individuals” [35, Decree ...]. This was preceded by a trade blockade declared by the Western countries of Soviet Russia, which in early 1920 was somewhat weakened by the permission of trade with cooperative associations. NKVT tried to establish work in these difficult political conditions; trying to direct the trade exchange in the direction necessary for the state, he began to control the formation of the export fund and give permission for the purchase of goods. It was necessary to break the centralization of foreign trade by creating local organizations. In the opinion of the head of the foreign trade activity of Soviet Russia L.B. Krasin, the “general export-import plan” had to be combined “with the needs of the outskirts and with local economic needs” [12, Krasin L.B.]. According to the decisions of the Council of People's Commissars and the All-Russian Central Executive Committee, the local bodies of the NKVT were granted “the right of initiative and independence in meeting local needs without contacting the center”. Thus, for operational work, first of all, on the formation of local “export fund”, the NKVT formed 12 “local bodies” [36, Kaufman M.Ya.], including Arkhangelsk, Ural, Siberian. By the way, unlike the concession policy of the Soviet state discussed since 1918, L.B. Krasin was a supporter of ensuring import operations “relying solely on internal forces”; in particular, the delivery of Siberian goods to the consumer was to be carried out exclusively through Arkhangelsk and at the same time on their own sea transport [11, Krasin LB, pp. 19–20].

The Arkhangelsk provincial “department of foreign trade” was reassigned and transformed into a local branch of the NKVT, which was called “Severnoye Belomorskoe” and extended “its activities to the Arkhangelsk, Severo-Dvinskaya, Vologda, Vyatka, Murmansk, Perm, Yekaterinburg, Tyumen provinces” (like this and was conceived once by local enthusiasts). As the work on the creation of the export fund expanded, "subsidiary" organizations were created, which were subordinate to the local departments of the NKVT, or directly to the center. By November 1, 1921, there were 15 regional directorates with 42 branches, 14 offices and 22 agencies; the export-import office of the NKVT of the Autonomous Region of Komi was spun off from the Arkhangelsk branch; the North-Dvinskoe branch with the center in Veliky Ustyug arose Sibvneshtorg, located in Omsk, had an Irkutsk branch and an “agent” in Biysk. As a result, by 1922 the territory served by the Northern White Sea administration narrowed to the former Arkhangelsk and Vologda provinces (taking into account the North Dvina province and the Autonomous Komi region separated from them; Murmansk was no longer included here) [37, Report ..., p. 86]

It was not immediately possible to restore the former economic ties, although Norway, for example, interested in selling the products of its fisheries, actively sought to restore the traditional trade turnover (this issue was put before its government by the Norwegian parliament; the Union of Fishermen of Northern Norway directly addressed its proposals to the head of the trade delegation to L.B. Krasin). The obstacles were created by the lack of political and economic relations between states. The representative of the People's Commissariat for Foreign Affairs in Arkhangelsk, answering the question: “will there be a trade with Norway?”, Noted that while “the government is silent”,

transactions are taking place on a private initiative in the form of smuggling trade of "individual foreign industrialists with the population of Pechenga, Vayda-Guba and other camps of the Coast". Taking advantage of the lack of protection of internal Russian waters, "Norwegian merchants can buy valuable products of the trade for a trifle"; in particular, the Murmansk Council began, on its own initiative, trade with Norway, as a result "our valuable goods were traded almost for pipe tobacco and ladies' galoshes".[11]

The executive committee, according to its chairman S.K. Popova, met "the task of preparing for the restoration of trade relations with abroad" that was "from the moment of the occupation of Arkhangelsk"[12]. For the population of the northern province, the beginning of foreign trade meant getting work and food. With bated breath, the locals waited for any news of the conclusion of at least some kind of trade relations with abroad. Already in the fall of 1920, the timber mills had accumulated a decent amount of export timber; hoped, if permission was obtained, to start navigation using icebreakers even in winter[13]. The Norwegians were also on standby. So, in September 1920, the Norwegian government allowed the authorized representative of the Central Committee of the RCP for gold and foreign exchange operations abroad M.M. Litvinov entering the country to resolve the issue of bilateral trade[14].

Use of previous experience in organizing foreign trade operations by the Soviet government

One of the principles of the NKVT's activity was "to combine the old with the new, the communist with the capitalist"[15]. In particular, in the conditions of the destruction of the former system of foreign agents and the rupture of foreign trade relations at all levels, specialists from the "former" - representatives of the commercial and industrial class were involved.

Back in 1918, the Arkhangelsk Provincial Executive Committee attracted local entrepreneurs to work on foreign trade operations. Thus, a large Murmansk industrialist E.V. Mogytchy one was "sent by the Arkhangelsk authorities to buy fish". He recalled his trip to Norway: in order not to become a victim of lynching then flourishing on the roads, not relying only on a certificate from the Soviets, "dressed in all the worst". According to E.V. Mighty, "until mid-March [1918] the Bolshevik government did not use violence. [Chairman of the Food Committee] Panilov ordered all the purchased fish to be handed over to the Arkhangelsk Food Committee at a fixed price, and the exchange rate for the purchase of fish in Norway was set. With such a formulation of the case, [it was] possible to work ... "[16]. However, supporters of "free trade" – initiative entrepreneurs had a hard time not only "under the Bolshevik regime", but also under the "white" Provisional Govern-

[11] Sachs G. Will there be a trade with Norway? News of the Arkhangelsk Revolutionary Committee and the Gubkoma of the CPSU. 1920.15 apr.
[12] News of the Arkhangelsk Revolutionary Committee and Gubkoma of the CPSU. 1920.30 June.
[13] To the beginning of timber export through Arkhangelsk. News of the Arkhangelsk Revolutionary Committee and the Gubkoma of the All-Union Communist Party. 1920.23 Sept.
[14] News of the Arkhangelsk Revolutionary Committee and the Gubkom of the CPSU. 1920. 12 Sept.
[15] Foreign trade of Soviet Russia. News of the Arkhangelsk Revolutionary Committee and Gubkoma of the All-Union Communist Party. 1920. 4 Sept.
[16] GARF. F. p-5867. Op. 1 D. 3. L. 16-17.

ment of the Northern Region, when foreign trade was actually carried out under the control of the allies (interventionists), and after their departure, a compulsory a tough exchange rate that exporters had to surrender in exchange for rapidly depreciating local money ("chaikovki")[17].

Over the course of two years, provincial affairs, including those related to foreign trade, passed from hand to hand several times, resulting in many misunderstandings. In connection with the nationalizations of 1918, there were almost no agents of private entrepreneurs abroad; in the "white" Northern Region, the Provincial Union of Cooperatives dealt with export and import issues. In February 1920, Soviet power was restored in Arkhangelsk; returned from evacuation, the Executive Committee of the Executive Committee and began to create a new control system. "Coups" took place at all levels; the leadership of the Gubsoyuz also changed. The newly appointed commissioner from cooperatives, Pyatigorsky, arrived in Varda, demanded from the board member G.G. Martynov to hand over the cases and return to Arkhangelsk (under the guarantee of personal safety). He refused to return to Arkhangelsk and did not transfer cases, arguing that they were in London. "The negotiations went on for three days, and to no avail". Pyatigorsky did not arrest him, "so as not to create an unpleasant impression in Norway"[18].

In the early period of the NEP, while the state was engaged in solving global problems, not only small traders and entrepreneurs received relative economic freedom, but also departments - central and regional, which, in addition to the "super task" (creating an export fund for future industrialization), were primarily concerned with solving pressing issues, which included providing the population with food, the most necessary tools and other essential goods. On the part of the people's commissariats, wishes were expressed to abolish the foreign trade monopoly, which was argued by lower administrative costs and the presence of "private traders" of closer contacts with foreign clientele and personal connections [38, J. Heusler, pp. 477, 478]. The monopoly was not abolished, but the local branches of Vneshtorg were charged with the responsibility to "make purchases and sales of goods to meet local needs" [39, Foreign Trade ...]. In February 1921, all the legal successors of pre-revolutionary organizations were instructed to "compile lists of orders and contracts placed abroad from 1914 to the date of nationalization, for which execution had not yet followed, indicating the terms of transactions, entitlements and other funds to be returned in case of default ... "[19].

It was not without bureaucratic delays: since September 1921, at the local department of the NKVT, there was a rather cumbersome commission for developing an "import plan" and considering applications from local institutions for receiving goods abroad, consisting of representatives of provincial organizations: Vneshtorg, Trade Council, Economic Council, Prodkom and "Oblast- Riba" [20].

[17] GARF. F. 5237 Op. 1 D. 122. L. 12.
[18] GAAO. F. 352. Op. 1.D. 129. L. 320.
[19] GAAO. F. 352. Op. 1.D. 186.L. 84ob.
[20] GAAO. F. 352. Op. 1.D. 186.L.L. 249-256, 257.

In 1921, the North White Sea Administration organized the export of goods from Arkhangelsk (mainly wood, as well as processed products - resin, turpentine, pitch) and their sale, mainly in England, for 5.76 million gold rub. Of this money, 1.8 million gold rub. Food and other goods were purchased to meet the needs of exporting enterprises. For example, the union of tar-making artels, in exchange for their products, received from the Belomorsk branch of the NKVT "for the needs of the tar-making industry"[21] food, manufactory, tools of labor, including the simplest ones - scythes, shovels, axes, as well as barrels [39, Foreign trade ..., p. 56].

The local initiative in Arkhangelsk resulted in the organization of its own "expedition" in the spring of 1921 to Norway in order to mend lost ties. According to the memoirs of G.Ya. Gurovich, head of the financial department of the Gubispolkom, they decided to "sell the forest (left over from the former owners in considerable quantities) and buy fish". The delegation consisted of three people - Gurovich himself, the chairman of the Vneshtorg department A. Popov and the former Arkhangelsk merchant M. Ulsen. "There was no visa or a suitable vessel. There was a boat for catching smugglers, but no one dared to go on it as a captain. The navigator agreed to take us to Vardo. But, as it turned out, he did not know the road and was poorly guided at sea. Ulsen himself brought us. <…> In Varda, fishermen surrounded us and the exchange of goods began - for a log of cod. Then the local administration removed them". After negotiations, the members of the delegation were given permission to go ashore and begin negotiations with local merchants. The situation was mutually beneficial, and the residents of Arkhangelsk "bought fish at a low price". (However, for such an economic initiative, the chairman of the executive committee was put on trial[22]). By the way, the Arkhangelsk delegation was not the only one in Northern Norway: there were also representatives from Murmansk "to buy bots and fishing equipment, they allegedly received a loan of 3 million rubles"[23].

In the same summer, having organized the detention of several Norwegian hunting vessels engaged in poaching in Russian territorial waters, the Arkhangelsk Provincial Executive Committee decided to take over the implementation of the local "surplus of animal hunting" in Norway, sending Chairman N.Ya. Kulakov[24].

All these experiments have convinced that it is impossible to complete the assigned tasks without experienced specialists. To work in the Northern White Sea Directorate of Vneshtorg, well-known entrepreneurs in Arkhangelsk were attracted, who for some reason did not leave Russia and remained in the Russian North. From the biographies of local representatives of the commercial and industrial class, given in the book of the Arkhangelsk ethnographer E.I. Ovsyankin, we learn that Vneshtorg employees were M.A. Ulsen, Ya.A. Belyaevsky (sent by the representative of the Vneshtorg department to England), R.A. Pec, H.N. Manakov. They were attracted primarily to

[21] Northern tar-smoking. Northern economy, 1923, no. 1, p. 56–58.
[22] State Archives of the Arkhangelsk Region. Department documents social and political history (Next - GAAO ODSPI.) F.1. Op 1.D. 299.L. 30.
[23] GAAO. F. 352.D. 215. L. 1-4; GAAO. ODSPI. F. 8660. Op. 3.D. 121.
[24] GAAO. F. 252.D. 186. L.L. 256.

restore their own contacts with foreign trade partners and organize export trade. Even when Ya.A. Belyaevsky and M. Ulsen were arrested by the Cheka, because the coal delivery from England, organized by them in 1920 on behalf of the Gubispolkom, failed (the ship was detained in Norway for alleged debts; the investigator believed that the entrepreneurs informed interested parties about the cargo going to Arkhangelsk[25]), "the leaders of Vneshtorg regularly went to see Belyaevsky for consultations on the problems of preparing products for export" [40, Ovsyankin E.I., pp. 345–353].

Instead of a conclusion. Collapse of hopes for innovative development

It would seem that in the initial period of the NEP conditions were created for the implementation of plans for the post-war innovative development of the region, which were nurtured by the active community of the Arkhangelsk province during the First World War. Of course, the Revolution made not very encouraging adjustments, but nevertheless, after the destruction of the Empire, which resulted in the loss of many Baltic and Black Sea ports, Arkhangelsk remained in the area of the government's closest attention. The monopoly on foreign trade, as well as foreign economic and political sanctions, gave hope for the development of new types of industry using local raw materials, for the creation of its own merchant fleet.

The experience and knowledge of the "commercial and industrial estate" was involved; it became clear that without them it was impossible to restore the "old world" and not build a "new" one (of course, their ranks thinned; for example, the Danishevskys emigrated from the country back in 1919).

However, national needs made it necessary to focus exclusively on traditional types of economic activity, and above all on the timber industry, since it was timber products that were demanded on the international market to such an extent that Western trade partners were ready to "close their eyes" to the political circumstances of the sanctions announced by Soviet Russia ...

V.I. Lenin attached special importance to the first contracts for the supply of timber to England, demanding that all measures be taken so that timber harvesting would not be disrupted, and organizing strict control "over institutions in charge of harvesting export raw materials" [41, Lenin V.I., pp. 278–279]. In these circumstances, the inhabitants of the province were called upon to start forming an export fund, in exchange for which it would be possible to purchase goods so necessary for the restoration of the national economy: "the northerners should focus on [this], and not on the development of other types of industry"[26]; "… every worker, every peasant must understand with complete clarity that every unit of forest exported abroad is nothing more than an extra agricultural tool, an extra factory machine, an extra machine"[27] .

[25] GAAO. F. p-353 O. 1.D. 35.L. 17; GARF. F. 1005. Op. 1-a. D. 381.L. 16.
[26] Arkhangelsk province and external trade. News of the Arkhangelsk Revolutionary Committee and the Gubkoma of the All-Union Communist Party. 1920.12 Aug.
[27] The beginning of foreign trade. News of the Arkhangelsk Revolutionary Committee and the Gubkom V.K.P. 1920. 30 Sept.

The Arkhangelsk province (since 1937 - the region) for many decades was forced to maintain its significance as an “all-Union sawmill”. The era of industrialization led to the construction of large industrial enterprises (“giants of the five-year plans”) here, but the next complex (economic and political) crisis showed the non-competitiveness of the northern industry, which is quite an important subject for discussion.

The historical experience of finding a way out of the “resource dependence” of the Northern region of European Russia can serve as additional material for such a discussion.

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The Northern Sea Route: Problems of National Status Legitimization under International Law. Part I*

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Abstract. The Northern Sea Route (NSR) for the Russian Federation is a strategically important maritime communication with the status of a historically established national transport artery. Despite its applicability to the Arctic, and therefore to the waters of the NSR, the norms and provisions of the modern international maritime law, and, first of all, the 1982 UN Convention on the Law of the Sea (UNCLOS), Russia declares the important role of the national legislation on the regulation of navigation on the NSR. Such a situation is conditioned by the existing historical practice, the tacit agreement of most states, as well as the special environmental vulnerability of the Arctic region and the desire to prevent the marine environment pollution due to the navigation. Among the main opponents of this approach is the USA, which traditionally disputes the unified permitting regime for navigation along the NSR as an example of Russia's extremely broad interpretation of the norms and provisions of UNCLOS. The first part of the paper will show how those legal approaches used by Russia to introduce the national level of the NSR regulation, i.e., the concept of internal historical waters and the method of straight baselines, do not contradict UNCLOS, as they go beyond its limits and are based mostly on customary norms of international law (the so-called international custom) rather than treaties. The U.S. disagreement with such an assertion is discredited by the fact that Washington is not a full party to UNCLOS, and thus cannot fully enjoy all the prerogatives it has introduced.

Keywords: *Northern Sea Route, Arctic, USA, UN Convention on the Law of the Sea 1982, international straits, right of transit passage, internal waters, historical legal grounds, freedom of navigation, national legislation.*

Common characteristics

Of course, the length of the NSR is its main competitive advantage. However, it must be understood that the NSR route does not have a single fixed route: depending on weather and ice conditions, it can run both north of the Novaya and Severnaya Zemlya archipelagoes; pass through the waters located between the Russian Arctic islands and the main coast, and in the immediate vicinity of the coastline in the event of particularly severe ice conditions. Accordingly, depending on ice conditions and the chosen route, the length of the route can vary from 2.2 to 3 thousand nautical miles.

The NSR route runs through water areas with completely different legal status. Art. 5.1 of the Merchant Shipping Code states: “The water area of the Northern Sea Route is understood as the water area adjacent to the northern coast of the Russian Federation, covering the internal sea waters, the territorial sea, the contiguous zone and the exclusive economic zone of the Russian

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Federation and bounded from the east by the line of demarcation of sea spaces with the United States of America and the parallel of Cape Dezhnev in Bering Strait, from the west by the meridian of Cape Zhelaniya to the Novaya Zemlya archipelago, the eastern coastline of the Novaya Zemlya archipelago and the western borders of the Matochkin Shar, Kara Vorota, Yugorsky Shar straits"[1].

Despite the fact that within the framework of the 1982 UN Convention on the Law of the Sea (hereinafter – the 1982 Convention), the right of innocent passage should operate within the territorial sea, and within the EEZ - 3 of the 6 freedoms of the high seas (navigation, flights, laying cables and pipelines), the NSR is considered by Russia as a single (highlighted by me - G.P.) transport route. Regardless of the water areas under the sovereignty or jurisdiction of the Russian Federation, it passes, the legal regime of passage through it remains the same [1, Gavrilov V., pp. 256-263]. This is largely due to two historical and practical circumstances:

- The NSR route has not been used for international shipping for many decades, and its development, including infrastructure development, was carried out by the efforts of one state - the Soviet Union, and then the Russian Federation, therefore, our country has all the powers to exercise control over navigation;
- Passage along the NSR route in any case involves the intersection of water areas under full state sovereignty, in particular inland waters, including a number of Arctic straits (more on this later), which means that the most rigid regime of entry/intersection of all sea spaces can operate here, and precisely - permissive! At the same time, even the hypothetical possibility of a part of the NSR route outside the zones of sovereignty and jurisdiction of the Russian Federation due to favorable ice conditions, that is, through areas of the open sea, does not exclude the need for further crossing of the internal waters of the Russian Federation.

In this regard, the Rules for Navigation in the NSR indicates that "in the water area of the Northern Sea Route, there is a permitting procedure for navigation of ships (emphasized by me - G.P."[2].

It is also important for us that neither the Barents Sea nor the Bering Sea is included in the NSR[3]. This "curtailed" understanding of the NSR, without including the entire water area of the

[1] Code of Merchant Shipping (CMS) of the Russian Federation. URL: http://ktmrf.ru/glava-1/st-5-1-ktm-rf (accessed 15.05.2020).

[2] Order of the Ministry of Transport of the Russian Federation of January 17, 2013 N 7, Moscow "On approval of the Navigation rules in the water area of the Northern Sea Route". URL: https://rg.ru/2013/04/19/pravila-dok.html (accessed 15.05.2020).

[3] Nevertheless, the NSR is an integral part of the Northern Maritime Transport Corridor (NMTC), the routes of which, in addition to the water area of the Northern Sea Route, cross the waters of the Barents, White and Pechora Seas in the west and the Bering, Japanese and Okhotsk Seas in the east. See: M.N. Grigoryev Forecast of the development of shipping in the water area of the Northern Sea Route for the period up to 2030. Brief Policy. URL: https://wwf.ru/upload/iblock/1ab/prognoz-razvitiya-sudokhodstva-v-akvatorii-smp-na-period-do-2030-goda_kratkaya-an-zapiska.pdf (accessed 16.04.2020).

Barents Sea, is largely due to the norms and provisions of the 1982 UN Convention on the Law of the Sea, in particular Art. 234 Ice-Covered Areas. It states that:

"Coastal States have the right to adopt and enforce non-discriminatory laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the exclusive economic zone, where particularly severe climatic conditions and the presence of ice covering such areas for most of the year create obstructions or exceptional hazards to navigation, and pollution of the marine environment could cause major harm to or irreversible disturbance of the ecological balance. Such laws and regulations shall have due regard to navigation and the protection and preservation of the marine environment based on the best available scientific evidence".

It is no coincidence that the Soviet rules for sailing along the NSR in 1990. attention was focused on the fact that:

"The rules on a non-discriminatory basis for ships of all states regulate navigation along the Northern Sea Route in order to ensure the safety of navigation, prevent, reduce and keep under control pollution of the marine environment from ships, since the existing in the Arctic are particularly severe climatic conditions and the presence of ice for most of the year create obstacles or an increased danger to navigation, and pollution of the sea or the northern coast of the USSR can seriously harm the ecological balance or irreversibly disrupt it, as well as damage the interests and well-being of the peoples of the Far North"[4].

Article 234 is rightfully called the "Arctic exception", as it speaks of considering the special environmental interests of the Arctic states in the field of shipping regulation. In fact, coastal states are empowered to impose national pollution control regulations that may be stricter than relevant international standards. Such powers go far beyond the normal competence of the coastal state in the EEZ. The coastal state has the right to regulate the design, construction, manning and equipment of ships, which it cannot do under normal conditions even in the territorial sea[5].

However, the provisions of this article only apply to areas covered with ice for most of the year (i.e. more than 6 months)! The Barents Sea, although it is one of the ice seas, nevertheless, is never completely covered with ice, there is mainly ice not perennial, but of local origin[6]. It is for these reasons that, when developing the 2012 Law on the Northern Sea Route, it was decided not to extend the national rules for the regulation of shipping with an appeal to Art. 234 of the 1982 Convention for the entire Barents Sea.

[4] Rules of navigation on the routes of the Northern Sea Route. Approved by the USSR Ministry of the Sea Fleet on September 14, 1990. URL: https://pandia.ru/text/80/156/32367.php (accessed 16.04.2020).
[5] Mikhina I. UN Convention on the Law of the Sea and the Development of the Northern Sea Route. Opportunities and Threats for Russia. URL: http://russiancouncil.ru/sevmorput#mikhina (accessed 16.04.2020).
[6] Electronic reference manual for the oceanographic characteristics of the Barents Sea. AARI, 2005. URL: http://www.aari.ru/resources/a0013_17/barents/atlas_barents_sea/_Atlas_Barenc_Sea_seasons/text/Barenc.htm#2p6.7 (accessed 16.04.2020).

In this case, undoubtedly, a departure from the previous approach was allowed, when first, within the framework of the Decree of the Council of People's Commissars of the USSR of December 17, 1932, "On the organization of the Main Directorate of the Northern Sea Route under the Council of People's Commissars of the USSR", its route was defined as "from The White Sea to the Bering Strai"[7]. And then, in 1936, this wording was corrected to "from the Barents Sea to the Bering Strait"[8].

The removal of the entire Barents Sea from the Russian national laws and navigation rules on the NSR is undoubtedly greatly beneficial to some oil and gas and shipping companies. However, in the case of the development of cargo transportation along the NSR not only in the east, but also in the west (to the countries of Western Europe), this situation significantly limits the possibilities of the Russian Federation in the field of preventing pollution of the marine environment and ensuring the safety of navigation. Moreover, scientific evidence suggests that the 2012 decision was reinsurance, and the southeastern part of the Barents Sea is still covered with ice for most of the year, which blocks the passages to the straits of Novaya Zemlya[9]. Accordingly, an updated border of the NSR water area can be established here. It is the inclusion of the Barents Sea (including the Pechora Sea) that can, in turn, significantly increase the volume of traffic along the NSR in order to achieve the planned indicators by 2024[10].

At the same time, the proposal of the Ministry for the Development of the Russian Far East to expand the borders of the NSR by including in its composition the internal sea waters, the territorial sea and the exclusive economic zone of Russia not only in the Barents, but also in the White, Pechora, Bering and Okhotsk seas[11], still looks extremely contradictory. On the one hand, such a solution is capable not only of reaching 80 million tons of cargo turnover by 2024, but also significantly exceeding the required figure. On the other hand, the provisions of Art. 234 can no longer be applicable to new sea areas, which means that the navigation regime on the NSR can no longer be uniform. It will be multi-component and based on the norms of national legislation within the old borders of the NSR; and in relation to a part of water areas - on the requirements of the Polar Code, which assumes less stringent regulation. At the same time, the Polar Code also has its own geographical boundaries (for example, it applies only to the northern part of the Bering and the

[7] SNK Order of 17.12.1932 No. 1873 "On the organization of the Council of People's Commissars of the Union of Soviet Socialist Republic of the Main Directorate of the Northern Sea Route". URL: http://www.consultant.ru/cons/cgi/online.cgi?req=doc&base=ESU&n=24839#08025104220609278 (accessed 16.04.2020).

[8] Resolution of the Council of People's Commissars of the USSR of 06/22/1936 N 1100 "On approval of the Regulations on the Main Directorate of the Northern Sea Route under the Council of People's Commissars of the USSR". URL: http://www.consultant.ru/cons/cgi/online.cgi?req=doc&base=ESU&n=31589#09530234917777554 (accessed 16.04.2020).

[9] Peresypkin V. Development of the Northern Sea Route. URL: http://www.morvesti.ru/tems/detail.php?ID=28072 (accessed 17.04.2020).

[10] The May decree got stuck in the ice: how to find 80 million tons of cargo for the Northern Sea Route. URL: https://www.rbc.ru/business/16/01/2019/5c3dde2f9a79471715920f53 (accessed 17.04.2020).

[11] Northern Sea Route. The government is thinking of extending the route to Sakhalin. URL: https://www.kommersant.ru/doc/4349939 (accessed 21.05.2020).

eastern part of the Barents Seas), which means that a fairly large part of the new water areas of the NSR will be outside its scope. Obviously, these maritime areas (for example, the Sea of Okhotsk) will not be able to extend the same model of control over shipping as is currently applied to the NSR, since this would be a direct violation of the norms and provisions of international maritime law. Accordingly, the question arises: will such a division lead to erosion of the current legal status of the Northern Sea Route?

Russian-American contradictions

Despite the fact that the United States generally recognizes the fact that the opening of the Arctic region to international shipping requires special efforts on the part of Russia to ensure the safety of navigation and the protection of the marine environment, nevertheless, it does not share Russia's position on the legal regulation of along the NSR at several points[12].

First, the United States continues to dispute the position according to which part of the Russian Arctic straits (in particular, the Vilkitsky, Shokalsky, Sannikov and Laptev straits) are blocked by straight baselines and the waters within them are considered by the Russian side as internal waters. The USA also believes that the characterization of the NSR as a historically formed national transport artery of the Russian Federation is based on the use of terms that are extra-legal in nature.

Second, the United States does not agree that foreign ships can enter the NSR, which passes through the EEZ and the territorial sea of Russia, only following an official request and obtaining an official permission from the Russian side. Such restrictions, from their point of view, are a violation of both freedom of navigation within the EEZ, the right of innocent passage through a 12-mile territorial sea, and the right of transit passage through the straits used for international shipping.

Thirdly, the United States recognizes that a stricter level of regulation of navigation along the NSR is based on an appeal to the provisions of Art. 234 of the 1982 Convention However, they emphasize that this article, although it allows the adoption of certain laws in ice-covered areas within the EEZ, these measures should be aimed solely at combating the prevention, reduction and control of marine pollution from ships, should be non-discriminatory in essence and relate exclusively to shipping issues. Accordingly, Art. 234 does not provide a legal basis for the introduction of a notification or permission procedure for passage.

The United States believes that the provisions of Russian legislation on the need to use icebreaker and pilotage, if they are mandatory for everyone, then this, from their point of view, also leads to a broad interpretation of Art. 234 of the 1982 Convention. They insist that the ban on the use of foreign icebreakers on the route of the Russian NSR also goes beyond the competence prescribed in Art. 234. The United States believes that these measures, introduced by the Northern Sea Route Administration, must be approved by the International Maritime Organization (IMO).

[12] Digest of United States Practice in International Law 2015. Carrie Lyn D. Guymon (Editor). Office of the Legal Adviser. United States Department of State. pp. 526–527. URL: https://2009-2017.state.gov/documents/organization/258206.pdf (accessed 14.04.2020).

In addition, the wording of the article regarding "areas covered with ice for most of the year" raises the question of its applicability to the NSR in the event that climate change in the Arctic leads to a significant reduction in ice cover, especially in the western part of the NSR.

Fourthly, the United States insists that the regime of navigation along the NSR, introduced by Russia, cannot be applied to government non-commercial service. This is due to the fact that Art. 236 of the 1982 Convention:

"The provisions of this Convention regarding the protection and preservation of the marine environment do not apply to any warship, naval auxiliary, other vessels or aircraft owned or operated by a State and used, for the time being, only on government non-commercial service".

Soviet legal practice

The United States acted as an indirect catalyst for the policy of tightening the shipping regime in the Arctic waters of the Soviet Union during the Cold War. So, during 1963-1964 the United States carried out oceanographic research in the waters of the Soviet Arctic, between the Barents and Chukchi seas.

This led to the fact that the USSR Ministry of Foreign Affairs turned to the US Embassy in Moscow with a memorandum, which indicated that the NSR route is located far from any international shipping routes and was traditionally used only by ships flying the USSR flag, moreover, its arrangement and the development of its infrastructure required the attraction of large financial resources from the USSR. It was also noted that the straits of the Kara Sea (Shokalsky and Vilkitsky), as well as Dmitry Laptev and Sannikov, historically (emphasized by me - G.P.) belong to the Soviet Union and have never been used for international shipping. All the norms of Soviet legislation concerning the protection of the state border are applicable to these straits, according to which the entry of foreign warships into the internal waters or the territorial sea of the USSR requires prior permission from the USSR Government through an official request to the USSR Ministry of Foreign Affairs (emphasis mine - G.P.) no later than 30 days before the intended call [2, Roach J., pp. 312-313]. On April 27, 1965, these straits were declared historically (highlighted by me - G.P.) as belonging to the USSR[13], and then compulsory icebreaker and pilotage was introduced for all ships[14].

In a reply from the United States on July 22, 1965, it was indicated that, while recognizing the contribution of the USSR to the development of the NSR and the importance of this route for the protection of Soviet interests, the United States cannot agree that these circumstances create any legal basis for changing the status of water areas to the route of the NSR. From their point of view, despite the fact that the Soviet Arctic straits, primarily the Kara Sea, are blocked by the territorial waters of the USSR, they, nevertheless, should be subject to the right of innocent passage for all ships, as to the straits used for international shipping and connecting one part of the High Sea with another part of the High Sea [2, Roach J., pp. 312-313].

[13] Resolution of the Council of Ministers of the USSR No. 331-112 of April 27, 1965 "On the order of navigation of ships in the straits of Vilkitsky, Shokalsky, Dmitry Laptev and Sannikov".
[14] Notices to Mariners, ed. GUNiO MO USSR, January 1, 1973, vol. 1, no. 20.

In 1967, the United States planned to challenge the aforementioned claims of Moscow to control Arctic shipping by moving two US BO icebreakers from the southern coast of Greenland through the Laptev and East Siberian Seas and further to the Canadian Arctic archipelago.

In a response sent to the State Department on August 25, 1967, it was once again indicated that the Vilkitsky Strait was blocked by the territorial sea of the USSR, and the regime of passage through the Dmitry Laptev and Sannikov straits was also regulated by Soviet legislation in the field of state border protection, within which such the passage requires a special permit obtained in advance [2, Roach J., pp. 316-317].

However, these plans were not destined to come true. American icebreakers were blocked in the ice north of the Severnaya Zemlya archipelago, and the planned cruise, involving a passage through the Vilkitsky Bay, was canceled. However, since then, these incidents of the 1960s are considered by the American leadership as facts of non-recognition by the United States of restrictions on the right of innocent / transit passage through international straits connecting one part of the high seas with another part of it.

After these incidents, but already at a new stage of the Cold War, when the American administration was headed by President R. Reagan, in the USSR in 1984 and 1985 two Resolutions of the Council of Ministers were adopted[15], in which a list of geographical coordinates of points was approved, which determined the position of baselines for measuring the width of the territorial sea, economic zone and continental shelf[16]. The straightening of the initial lines from the mainland around Novaya Zemlya, Severnaya Zemlya and the Novosibirsk Islands and again to the mainland, fixed by the above resolutions, made it possible to declare the straits of Vilkitsky and Shokalsky, Dmitry Laptev and Sannikov, as well as the Kara Gate as internal historical waters of the USSR, thereby determining the permissive procedure foreign ships / ships through these straits [3, Gudev P.A.].

[15] Decree of the Council of Ministers of the USSR of February 7, 1984 and January 15, 1985 on the coordinates of the baselines for counting the territorial waters in some parts of the NSR.

[16] The list of geographic coordinates of points defining the position of baselines for calculating the width of the territorial sea, economic zone and continental shelf of the USSR in the Arctic Ocean. URL: http://www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/RUS_1985_Declaration.pdf (accessed 16.04.2020).

Fig. 1. Straight baselines of the Russian Federation [17].

Incidentally, the government of Canada followed the same path, establishing in 1985 a solid baseline for counting territorial waters around the entire Canadian Arctic archipelago. As a result, the entrance and exit of the Northwest Passage (NWP) were blocked, and its route ran through the Canadian internal historical waters under the full sovereignty of Canada [3, Gudev P.A.].

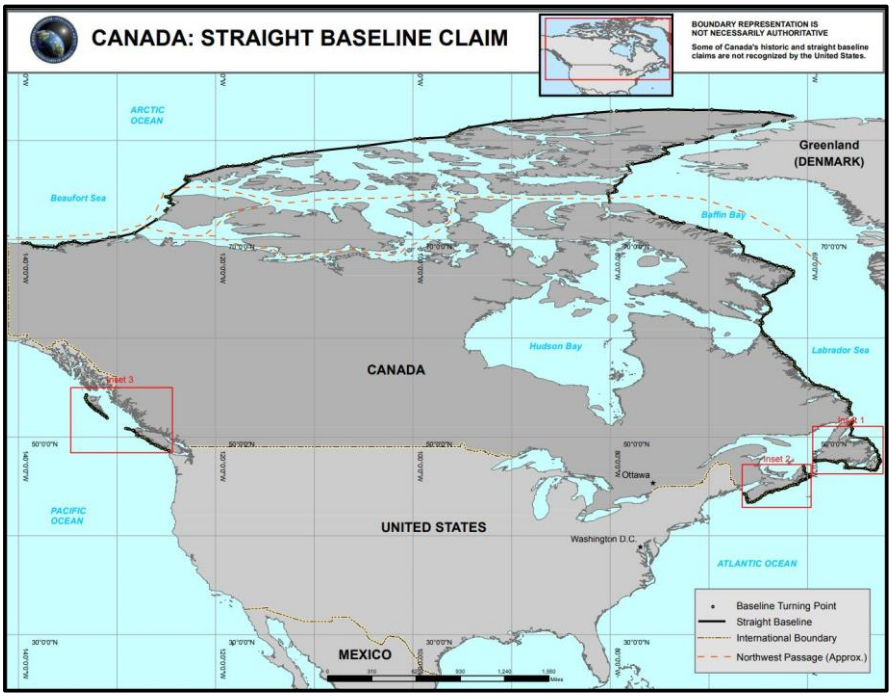

Fig. 2. Direct baselines of Canada in the Arctic [18].

[17] Russia: Straight Baseline Claim. URL: http://www.jag.navy.mil/organization/documents/mcrm/RussiaChart.pdf (accessed 12.04.2020).
[18] Canada: Straight Baselines Claim. URL: http://www.jag.navy.mil/organization/documents/mcrm/CanadaChart.pdf (accessed 16.04.2020).

The practice of Moscow and Ottawa was naturally contested by the United States. The latter pointed to two fundamental points:

- firstly, the drawing of straight baselines of the USSR and Canada was carried out in violation of the provisions of the 1982 Convention, in particular with noticeable deviations from the general direction of the coast (Art. 7 (3)) and exceeding the maximum limit of 24 nautical miles [2, Roach J. , P. 64];
- secondly, the norms and provisions of both the 1958 Convention on the Territorial Sea and Contiguous Zone (Article 5 (2)) and the 1982 Convention (Article 8 (2)) establish that "when the establishment of a straight baseline ... leads to the inclusion in internal waters of areas that were not previously considered as such, in such waters the right of innocent passage applies ... ".

Historic waters concept

Indeed, the adoption of resolutions 1984 and 1985. led to the fact that in a number of cases, due to the establishment of excessively long lines (up to 90 miles), a significant number of bays and gulfs fell into the internal waters of the USSR, which, when drawing straight baselines in strict accordance with the 1982 Convention, should not have been considered as such.

Thus, the established straight baselines cut off the Czech Bay (43 nautical miles) and the Baidaratskaya Bay (31 nautical miles), the entrance to the Ob Bay (more than 50 miles); Motovsky and Kola bays (entrance width about 40 miles), Moller Bay (entrance width about 50 miles). Moreover, in some cases, straight baselines overlap straits, the width of the entrance to which exceeds twice the width of the territorial sea (the Karskiye Vorota - the width of the entrance is about 40 miles, the Vilkitsky Strait - the width of the entrance is about 90 miles, the Shokalsky Strait - the width of the entrance is about 50 miles) [3, Gudev P.A.].

In international practice, the waters of bays, gulfs and inlets belonged to the internal waters of the state on a general basis only if the width of their entrance was less than double the width of the territorial sea - that is, 24 nautical miles[19].

However, in paragraph 6 of Art. 10 of the 1982 Convention, it is stated that "the above provisions do not apply to the so-called 'historical bays' (highlighted by me - G.P.), that is, it is allowed that such bays can be part of internal waters, even if their closing line goes beyond limits of the 24 mile limit.

The problem was only that the existence of the institution of historical waters, confirmed in the 1982 Convention, was not supplemented by the content within its framework of any developed legal norms regarding the criteria and other requisites of historical waters. It did not indicate what factors create historical legal grounds and on the basis of what criteria bays more than 24 miles wide can be classified as historical [3, Gudev P.A.].

[19] Recall that the 12-mile limit of the territorial sea was fixed only within the framework of the 1982 UN Convention on the Law of the Sea (UNCLOS). However, an attempt to introduce this spatial criterion was discussed, albeit unsuccessfully, back in 1958 during the Geneva Conventions on the Law of the Sea.

Nevertheless, the practice of states followed the path of expanding the circle of exceptions for classifying bays as historical waters [4, Gudev P.A., p. 20]. If initially bays were attributed to the historical ones, the width of the entrance to which did not exceed 24 miles, then almost all claims became associated with bays with an entrance width, often very significantly exceeding 24 miles. In addition, historical rights began to be put forward not only in relation to bays, gulfs, but also gulf (bays) type seas. This expansion of the object of historical law was due to the fact that some of the flooded seas are smaller than a number of bays declared historical[20].

As a result, back in 1962, it was concluded that the concept of historical waters began to deviate more and more from the basic concept of historical bays and, although historical bays are historical waters, the concept of "historical waters" turned out to be much broader than the concept of “historical bays”. This statement is fully confirmed in the study prepared by the UN Secretariat “Legal regime of historic waters, including historic bays”. In it, in particular, it is noted: “If the term “historical bays” was used more often than historical waters, it was mainly due to the fact that claims on a historical basis were made more often in relation to spaces that were called or considered as bays. Basically, the theory of historic bays in its basic form is applicable to other maritime spaces besides bays”[21].

Thus, the American point of view that the width of straight baselines should not exceed the double limit of the territorial sea, that is, 24 nautical miles, is nothing more than the position of the American expert community. At the same time, the dispute is incorrect, from the point of view of the United States, the established baselines are practically a tradition for Washington. In any case, under the Freedom of Navigation program, even key American allies - Japan, Taiwan, South Korea - are under pressure every year for doing so[22].

However, international law does not and does not contain any rigid restrictions on the establishment of the maximum width of straight baselines, including those exceeding the limit of 24 nautical miles, and their establishment in general by a number of states was based to a greater extent not on treaty, but on customary law norms of international maritime law [5, Pharand D., p. 28].

As for the American objections to the need to apply the right of innocent passage to waters that were included in the composition of internal waters by establishing a straight baseline, but were not considered as such before, the situation here is somewhat different.

So, despite the fact that the official statement on the application of the status of historical waters was made only in relation to the White Sea, the Czech Bay, Baidaratskaya Bay and a num-

[20] For example, the area of Hudson Bay, declared the historic Gulf of Canada, is 580,000 km^2, while the area of the White Sea, which makes up the historical waters of the USSR, is only 36,000 km^2.

[21] Yearbook of the International Law Commission. 1962. Vol. II. UN, New-York, 1964. P. 6, §34. URL: http://legal.un.org/docs/?path=../ilc/publications/yearbooks/english/ilc_1962_v2.pdf&lang=EFS (accessed 22.02.2020).

[22] Bateman S. State Practice Regarding Straight Baselines in East Asia — Legal, Technical and Political Issues in a Changing Environment. URL: https://www.iho.int/mtg_docs/com_wg/ABLOS/ABLOS_Conf5/Papers/Session7-Paper1-Bateman.pdf (accessed 12.03.2020).

ber of other water areas outside the Arctic, at the level of the Soviet legal doctrine, all the Arctic seas were traditionally referred to as the historical seas of the USSR, with the exception of Barents, - East Siberian, Kara, Laptev, Chukotka, as well as key Arctic straits [6, Vylegzhanin A.N. et al., pp. 55-57].

Accordingly, the decisions of 1984-1985 only legalized this legal status in relation to a number of water areas, and in a much smaller volume than was accepted at the level of the Soviet legal doctrine. Therefore, the wording of Art. 8 (2) of the 1982 Convention, namely "which were not previously considered as such", can only be provisionally applicable to the above-mentioned waters. Their status of historical waters was in fact equated with the legal status of internal waters under the full sovereignty of the coastal state.

The possibility of applying the status of internal waters to historical seas and gulfs was confirmed back in 1962 by the UN International Law Commission in the course of researching the issue of classifying historical bays as historical internal waters or bays with the status of a territorial sea:

"The question of whether the waters of the gulf are internal waters, or a territorial sea is decided on the basis of the type of sovereignty exercised by the coastal state during the formation of the historical title of this gulf. The exercised sovereignty can be the same as over internal waters or over the territorial sea. In principle, the content of a historical title arising from the continued exercise of sovereignty should not be broader than the content of actually exercised sovereignty. If the corresponding state really exercised sovereignty, as in internal waters, then the declared area would be internal waters, and if in reality, as in the territorial sea, then the status of this area of waters would be the same. For example, if the state claiming the historical title of the waters allowed innocent passage through them, then they can only have the status of a territorial sea"[23].

Common criterion [24] application of the status of historical waters to gulf (bays) type seas and bays surrounded by the shores of one state, which, despite the fact that they connect with the ocean and the width of the entrance to them exceeds 24 nautical miles, may be the internal sea waters of the state, as follows:

- the coastal state exercised sovereignty over these waters for a long time;
- these waters are of important and special economic, defense and strategic importance for a given country;
- there is a tacit recognition of most states [7, Kolodkin A.L. et al., pp. 30–31; 6, Vylegzhanin A.N. et al., pp. 24-25; 5, Pharand D., pp. 6-7].

[23] Yearbook of the International Law Commission. 1962. Vol. II. UN, New-York, 1964. P. 23 §164-166 (A/CN.4/SER.A/1962/Add.l). URL: http://legal.un.org/docs/?path=../ilc/publications/yearbooks/english/ilc_1962_v2.pdf&lang=EFS (accessed: 16 February 2020).

[24] It is important to note that the formation of the norms of international maritime law relating to historical waters proceeded mainly along the path of the development of customary rather than treaty law norms, to a greater extent based on the provisions of the legal doctrine and decisions of international courts.

The first two points can hardly be disputed in relation to the Soviet / Russian Arctic waters, including a number of straits, but the last position is already to a much lesser extent. Despite the virtual absence of objections from other states, the repeated passes of US Coast Guard icebreakers in the 1960s, as well as notes of diplomatic protest from the US Department of State, can only conditionally be considered "tacit agreement". On the other hand, the absence of attempts to pass and protests in the future, especially in the 1980s, raises the question of the weight of these actions on the part of the United States to challenge Moscow's legal claims.

At the same time, it is quite possible to assume that American, and, incidentally, French or British submarines regularly sailed through the waters that the USSR in previous years, and the Russian Federation, up to the present time, is considered as internal historical waters under full state sovereignty. However, as these passages are not public, the information about them remains secret, the question of whether this practice is regarded as an official protest against the Canadian and Russian claims in the Arctic - an extremely controversial [8, Brubaker D., pp. 277]. From our point of view - definitely not!

The main problem is rather that the position of the Soviet leadership throughout the 1960s, as shown above, suffered from a certain contradiction: the waters of the Soviet Arctic straits were first declared internal in the notes of the Soviet Foreign Ministry, and then their legal status was changed to waters of the territorial sea. That is why many foreign jurists [9, Franckx E., pp. 270-271] insist that the overlap of the Arctic straits by a system of straight baselines in 1984-1985 although it may be generally recognized as legitimate, this does not negate the fact that the right of innocent passage should be applied to these internal waters.

Innocent and transit passages: customary or contract law?

The United States, as you know, insists that the right of innocent passage should be applied to the waters of the territorial sea along the NSR, freedom of navigation should be in effect in the 200-mile EEZ, and the convention right of transit passage should be observed in the Russian Arctic straits. However, the very non-participation of the United States in the 1982 UN Convention on the Law of the Sea actually devalues these American statements.

First of all, this is due to the fact that the adoption of the 1982 UN Convention on the Law of the Sea had a number of policy implications [10, Rothwell D., pp. 22-23]. First, certain legal norms were enshrined in its text, which by that time had long been considered as customary[25] rules of law (for example, the treaty right of transit passage).

Secondly, in the text of the Convention, certain legal norms were fixed, which at the time of its conclusion were already a fairly common practice of a number of states, which contributed

[25] Customary law is shaped by a combination of two elements: established, widespread and consistent State practice; as well as a subjective element known as opinion juris. This means that the state is considering a particular customary law as a norm of international law, as a rule, *legally binding* (!) In between the national plan. This is an expression of the will of the state. When other sovereigns also express the will in the same direction, it formed a tacit agreement on the recognition of customary law as international legal norms. [11, Vylegzhanin, Kalamkaryan, pp. 81-83].

to their gradual transformation into customary law (for example, the 200-mile limit of the exclusive economic zone).

Thirdly, the Convention introduced new legal norms, which, however, have not yet received the widest and most consistent application. Their transformation into customary rules of law is possible only if they become generally binding practice of most states and, above all, those of them that still do not participate in the 1982 Convention [12, Harrison J., pp. 51-59; 12, Tanaka Y., pp. 140-141]. This mainly concerns Art. 76 on the definition of the outer boundaries of the continental shelf and the very concept of the Common Heritage of Mankind, but not only [14, Gudev P.A., pp. 172-173].

It is no coincidence in this connection that in 1982 it was declared: "This Convention is not a Convention codifying legal norms. The assertion that, with the exception of Part XI, the Convention constitutes a codification of customary law or reflects existing international practice is factually incorrect and legally unfounded. The strait transit regime used for international shipping and the archipelagic sea lanes regime are two examples of the many new concepts embodied in the Convention"[26].

The United States is inclined to believe that the 1982 Convention has completely and completely codified exclusively well-established rules of customary law. This position, of course, fully meets the military-strategic interests of the United States[27]. This is due to the fact that with such consideration of the role and significance of the 1982 Convention, other countries, including those not participating in it (Iran, North Korea, Syria, Libya, North Korea, etc.), are actually obliged to comply with customary law, allegedly codified in the Convention, since they are binding on absolutely all states. As a result, the United States is constantly focusing on the fact that such norms as the right of transit and archipelagic passage, the right of innocent passage of warships across the territorial sea are already well-established norms of customary international law and all countries are obliged to comply with them unquestioningly [15, Gudev P.A.].

In particular, the US tends to view the right of transit passage as a step towards codifying customary law. They consider that the absence of a legally formulated right of "transit passage" prior to the adoption of the 1982 Convention was solely due to the fact that states were not legally able to expand the border of their territorial sea beyond the prescribed 3 nautical miles, and not to the fact that it was someone either prohibited. Accordingly, this did not prevent American ships and vessels from passing through the designated corridors of the high seas in various international straits. The introduction of the 12-mile limit of the territorial sea required the development of

[26] Constitution for the Oceans. Statements by the President of the Third United Nations Conference on the Law of the Sea, Tomi TB Co URL: http://www.un.org/depts/los/convention_agreements/texts/koh_russian.pdf (accessed 14.04.2020).

[27] Protecting freedom of navigation is critical not only to the social and economic development of the United States but is also a key element of defense policy. All the main elements of the US national security sphere - strategic deterrence, operational presence, crisis response, troop transfer - directly depend on the observance of the principle of freedom of navigation, in particular the right of transit passage. Ensuring the mobility and efficiency of the transfer of aircraft to any region of the world by sea remains one of the priority areas of US policy.

conditions for transit passage in order to preserve the rights of states to pass through international straits [15, Gudev P.A., p. 112; 16, Gudev P.A., p. 178-179]. Therefore, from their point of view, the right of passage of military and civil ships through international straits existed even before the adoption of the 1982 Convention [2, Roach J., pp. 686-691].

As a result, the United States has been consistent advocates of the right of transit passage for all straits that are, or may be, used for international shipping. They have repeatedly opposed the claims of other coastal states that do not recognize or restrict the right of transit passage with respect to the following straits: Bab-el-Mandeb, Bonifacio, Golovnina, Sunda, Gibraltar, Lombok, Hormuz, Torres, Friza, as well as straits on the route of the Russian North sea route (NSR) - Laptev and Sannikov, and the Canadian Arctic archipelago, forming the route of the Northwest Passage (NWP) [2, Roach J., pp. 283-345].

However, in practice, only a few States fully agree that transit passage is a customary law norm - this is Australia[28], UK, Papua New Guinea, USA and France. Some countries (Albania, Spain, China, UAE, Peru) openly refuse to recognize transit passage as a customary law norm. Iran, Morocco, the United Arab Emirates only recognize the right of innocent passage through straits overlapped by territorial waters [17, Lopez M., P. 197]. Iran insists that the United States, as a non-party to the 1982 Convention, has no right to claim that it can use the Convention's right of transit passage, since it is not a valid customary law norm [18, Greene J., p. 9-10].

An established point of view comes from the fact that the transit passage became an international compromise and beyond the scope of both the Convention on the Territorial Sea and the Contiguous Zone of 1958, and customary international law [13, Tanaka Y., P. 106]. The most balanced approach on this issue is that the right of transit passage today is only moving towards becoming a norm of customary law in the future [20, George M., p. 189-205; 21, Bing Bing Ja, p. 123-144; 8, Brubaker D., p. 279].

The same applies to the right of innocent passage of warships. It is obvious that the right of innocent passage arose at the very beginning of the last century simultaneously with the establishment of the institution of the territorial sea [19, Gudev P.A., p. 62]. Since its inception, it has been recognized by everyone and has become a widespread practice in the vast majority of states. There is no doubt that the consolidation of this right in the framework of the 1982 UN Convention on the Law of the Sea was nothing more than a step towards codification of this law, which has long become a norm of customary international law. However, we must not forget that the monotonous and incessant practice of states in recognizing the right of innocent passage through the territorial sea exists only in relation to merchant ships; in relation to the passage of warships, this practice is not universal. Thus, it is clear that so far there are no norms of customary law with respect to the passage of warships through the territorial sea of the coastal State [22, Keyuan Z., p.

[28] True, this did not prevent Australia and Papua New Guinea from attempting to introduce compulsory pilotage through the Torres Strait, which provoked opposition from a number of states, including the United States, who perceived this step as restricting the right of transit passage.

71]. This statement is confirmed by the fact that during the III UN Conference on the Law of the Sea (1973-1982) consensus on this issue was not reached, a number of countries opposed granting this right to warships.

At the same time, the United States itself, prior to the beginning of the Cold War, adhered to the position that the right of innocent passage through the territorial sea could only be exercised if a warship received permission for such a passage from the coastal state. During the Hague Conference on the Codification of International Law, the American representative insisted that the right of innocent passage is generally not applicable to warships. This right, from the time of its inception, has been granted specifically to merchant ships. However, after the end of World War II, the United States, as its naval capabilities increased, changed its position on this issue.

The Soviet Union, for its part, even during the signing of the Geneva Conventions, said that "the Government of the USSR said that the coastal State has the right to establish a licensing procedure of passage of warships through its internal waters" [22, Keyuan Z., p. 71].

The Regulations on the Protection of the State Border of the Union of Soviet Socialist Republics, approved by the Presidium of the Supreme Soviet of the USSR on August 5, 1960, stated that "foreign military ships pass through the internal waters of the USSR and enter the internal sea waters of the USSR with the prior permission of the USSR Government in the manner prescribed the rules for visiting the territorial and internal sea waters of the USSR by foreign military vessels published in the "Notices to Mariners" (Art. 16)[29].

Then, in the Soviet national legislation (Rules of navigation and stay in the internal waters (territorial sea) of the USSR, internal waters and ports of the USSR of foreign warships, approved by the Decree of the USSR Soviet of Ministers of April 28, 1983), it was established that the innocent passage of warships through the territorial sea For the purpose of crossing the internal waters of the USSR, the USSR is allowed along the routes usually used for international shipping in the Baltic, Okhotsk and Japanese seas. At the same time, neither the Rules nor other by-laws contained any mention of the right of innocent passage in the Black Sea and the seas of the Arctic Ocean.

Accordingly, the position of the USSR was based on the fact that the right of innocent passage is granted only for convenience purposes where it is necessary in the interests of navigation. Such routes were not designated in relation to the Black Sea because the geographical position of the Soviet Black Sea coast indicated that it was located away from the routes leading to the ports of any other Black Sea state. So, for example, a passage through Soviet internal waters in the Black Sea and in the seas of the Arctic Ocean could be needed only in case of entering the internal waters and ports of the USSR, but only on the basis of the preliminary permission of the USSR Soviet of Ministers.

[29] Regulations on the protection of the state border of the Union of Soviet Socialist Republics. August 5, 1960. URL: http://shieldandsword.mozohin.ru/documents/statement_border5860.htm (accessed 17.04.2020).

True, after a series of incidents[30] [23, Kraska J., p. 257] in the Black Sea between the United States and the USSR, already at the end of the Cold War, on September 23, 1989, a USA-USSR Joint Statement on the Uniform Interpretation of Rules of International Law Governing Innocent Passage was signed, known as the Jackson Hole Agreement. It was signed by the US Secretary of State Baker and the USSR Minister of Foreign Affairs E. Shevardnadze. It was recorded that:

"All ships, including warships, regardless of cargo, weapons or engine type, in accordance with international law, enjoy the right of innocent passage through the territorial sea, for which neither prior notification nor permission is required"[31].

In addition, the parties agreed that Article 19 of the 1982 UN Convention on the Law of the Sea contains" an exhaustive list of activities in the implementation of which the passage ceases to be innocent. A vessel passing through the territorial sea and not carrying out any of these types of activities shall carry out innocent passage".

Corresponding changes were also made to the Resolution of the Soviet of Ministers of the USSR of April 28, 1983 No. 384 on the approval of the Rules for navigation and stay in the internal waters (territorial sea) of the USSR, internal waters and ports of the USSR of foreign warships. Resolution of the Soviet of Ministers of the USSR of September 20, 1989 no. 759 in Article 12 "Sea lanes and traffic separation schemes" stated that "foreign warships carrying out innocent passage through the internal waters (territorial sea) of the USSR in order to cross the internal waters (territorial sea) seas) of the USSR without entering the internal waters or ports of the USSR, use sea lanes or traffic separation schemes in those places where they are established or prescribed" [32]. Thus, the 1989 edition excluded from Art. 12 mentioning that the innocent passage of warships through the territorial sea of the USSR for the purpose of crossing the internal waters of the USSR is allowed along the routes usually used for international shipping only in the Baltic, Okhotsk and Japanese seas.

It should be noted that up to the present time the state practice on this issue is rather ambiguous. On the one hand, some states - for example, Germany and the Netherlands - when acceding to the 1982 Convention made a special clarification that the right of innocent passage through the territorial sea applies to all ships, incl. and on warships[33].

[30] Aceves W.J. The Freedom of Navigation program: A study on the relationship between law and strategy. 1990. Pp. 127–128. URL: http://digitallibrary.usc.edu/cdm/ref/collection/p15799coll38/id/82074 (accessed 18.04.2020).

[31] 1989 USA-USSR Joint Statement on the Uniform Interpretation of Rules of International Law Governing Innocent Passage. Adopted in Wyoming, USA on 23 September 1989. URL: https://cil.nus.edu.sg/wp-content/uploads/formidable/18/1989-USA-USSR-Joint-Statement-with-Attached-Uniform-Interpretation-of-Rues-of-International-Law-Governing-Innocent-Passage.pdf (accessed 19.04.2020).

[32] Council of Ministers of the USSR. Resolution of 28.04.83 No. 384 On the approval of the rules for navigation and stay in the territorial waters (territorial sea) of the USSR, internal waters and ports of the USSR of foreign warships. URL: http://www.lawrussia.ru/texts/legal_383/doc383a544x941.htm (accessed 12.12.2019).

[33] Official information regarding the declarations and statements under articles 287, 298 and 310 of the Convention. URL:https://treaties.un.org/Pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXI-6&chapter=21&Temp=mtdsg3&clang=_en#EndDec (accessed 18.04.2020).

On the other hand, about 40 states require either a notificatio[34], or permissive[35] [35] the order of the passage of foreign warships through their internal waters [2, Roach J., pp. 250-251]. For example, the PRC government, when ratifying the 1982 Convention, declared that the provisions concerning innocent passage through the territorial sea do not call into question the right of the coastal state to request a foreign state to obtain permission or prior notification for the passage of its warships[36]. Some countries (Denmark, Vietnam) have introduced a limit on the maximum number of warships that can be present in their internal waters.

The right of innocent passage has historically played an important role in the naval activities of the largest maritime powers. However, the passage of warships could threaten the security of the coastal state. Accordingly, there is a certain dilemma in international law: do warships have the right of innocent passage through the territorial sea of a coastal state? Some experts even insist that the right of innocent passage of warships across the territorial sea is not a right at all, but a manifestation of goodwill on the part of the coastal state.

Conclusion

Summing up the preliminary results, it should be noted that the permissive regime for navigation on the NSR, advocated by the Russian Federation, is based on the fact that passage along it is impossible without crossing the internal waters under full state sovereignty. In this case, we are talking primarily about the Russian Arctic straits of the New Siberian Islands and the Severnaya Zemlya archipelago. Due to climatic and ice conditions, today there are no routes for the passage of ships north of these territories. Accordingly, regardless of where the ship enters the NSR – from the Barents or Bering Seas, and through which water areas its route passes initially – through the territorial sea or the exclusive economic zone of the Russian Federation, it will in any case be forced to enter the internal waters Russia. This circumstance is one of the key, which allows us to talk about the establishment of a single navigation regime for the entire NSR, which, as we have already mentioned, does not have a fixed route.

The water area of the Russian Arctic straits was classified as internal waters on historical grounds. Despite the fact that the 1982 Convention does not contain clear criteria for this kind of legal qualification, the institution of historical waters itself was formed long before the adoption of the above-mentioned agreement, mainly on the basis of customary law and decisions of international courts. Among the criteria for referring to historical waters, the following are distinguished: important economic and defense significance for the state; by projecting them sovereignty over them for a long time and on an ongoing basis; tacit agreement of other states.

[34] Argentina, Guyana, Egypt, India, Indonesia, Yemen (NDRY), Korea (Republic of), Libya, Malta, Mauritius, Republic of Seychelles, Finland (until 1997), Sweden (until 1994), Croatia.

[35] Albania, Algeria, Vietnam, Bangladesh, Barbados, Bulgaria (until 1987), Burma, Germany, Grenada, Denmark, Iran, Yemen (YAR), Cape Verde, Cambodia, China, Congo, Maldives, Malaysia, UAE , Oman, Pakistan, Philippines, Poland, Romania, Somalia, Sri Lanka, Sudan, Syria.

[36] Official information regarding the declarations and statements under articles 287, 298 and 310 of the Convention. URL: https://treaties.un.org/Pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXI-6&chapter=21&Temp=mtdsg3&clang=_en#EndDec (accessed 18.04.2020).

The latter circumstance poses a certain problem for the Russian Federation, since the icebreakers of the US Coast Guard in the mid-1960s made several passes through the Soviet Arctic straits, which can hardly be considered a "tacit agreement", given the active correspondence between the Soviet and American diplomatic departments. On the other hand, the US reaction to the resolutions of the Soviet of Ministers of the USSR in 1984 and 1985, which at the legislative level classified these and other water areas as internal, was "curtailed". They challenged the establishment by the Soviet Union of direct baselines only in relation to the Pacific Ocean, the Japanese, Okhotsk, Bering and Black Seas [24, Nash M. , p. 1796]. This fact does not at all cancel the initial position of the United States on this issue, but it may also testify to the tacit agreement at that time of Soviet Arctic ambitions.

Another problem is the inconsistency of the statements of the Soviet leadership regarding the legal status of the waters of the Arctic straits: before the 1984-1985 decrees in diplomatic correspondence with the United States, they qualified either as a territorial sea or as internal waters. Taking into account the provisions of Art. 5 (2) of the 1958 Convention on the Territorial Sea and Contiguous Zone and Art. 8 (2) of the 1982 UN Convention on the Law of the Sea, internal waters previously treated as such shall apply the right of innocent passage. It can be considered that this is the minimum on which foreign experts insist, challenging the permitting procedure for passage on the NSR.

From our point of view, there is no compelling reason to believe that these waters were not considered by the USSR as being under full state sovereignty and to which the state border protection regime was applicable, that is, the need to obtain permission through diplomatic channels from the Soviet government. The inconsistency of the initial legal qualification was caused rather by the suddenness of the situation: the Soviet Arctic was actually a closed maritime region for the free implementation of certain types of maritime economic activities by foreign states, including military shipping. The emergence of US BO icebreakers in Soviet Arctic waters was undoubtedly an extremely annoying factor for the USSR and required the development of appropriate legal argumentation, which took some time.

In general, the main contradiction that exists between Russia and other countries, primarily the United States, regarding the legal status of the NSR is the question of the full or partial applicability of the norms and provisions of the 1982 UN Convention on Maritime Governance to the waters of the NSR and the Arctic as a whole. For the United States, the answer to this question is extremely unequivocal: Russia, as a party to the 1982 Convention, is obliged to fully implement its provisions in relation to the indicated maritime spaces. The position of Russia is fundamentally the opposite: the legal regime of the Arctic is based on a combination of treaty and customary rules of law, as well as the applicability to it of national legislation developed by our country over the course of decades.

At the same time, it is important to understand that non-recognition of the right of innocent or transit passage to the NSR does not mean the extension of these restrictions to any other

water areas outside the Arctic. This would be an extremely dangerous delusion, since, in accordance with the Vienna Convention on the Law of Treaties of 1969, any other state may consider itself not obliged to comply with certain treaty norms in relation to a country that periodically violates these norms[37]. The ships of the Russian Navy are extremely interested in unhindered passage through the key waters of the World Ocean, including international straits. In addition, as a party to the 1982 UN Convention on the Law of the Sea Russia has undertaken the obligation to respect and comply with the convention norms.

It is only about the fact that the Russian Federation can not only appeal to the unique legal regime of the NSR, which is based both on the norms and provisions of modern international maritime law, and on national legislation, but also in relations with the United States - not to consider itself obliged to take attention to the legal position of Washington on innocent and transit passages, since it is not a full party to the 1982 UN Convention on the Law of the Sea. And only a change in the status of the United States in relation to it can become the basis when in the relationship between Russia and the United States there may be a need for a more detailed discussion of the legal regime of navigation on the NSR.

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Is the Arctic on the Brink of a Hybrid War? *

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Abstract. The article examines the phenomenon of hybrid war in relation to Arctic politics. The goal of the study is to show how valid this concept is whom Western experts consider the main source of hybrid threats, and what they consider hybrid threats in the Arctic. The empirical grounds of the study are documents of international organizations and publications of Western authors. A critical analysis of documents and publications shows the concept of hybrid war was introduced into scientific circulation by the military, but it is also used in a broader meaning. Military experts have not yet come up with a clear definition of hybrid war. Representatives of political science use the concept of hybrid war in an even more amorphous meaning, which leads to its unlimited expansion. Based on specific examples, it is shown that any manifestations of Russian politics potentially fall under the concept of hybrid threats, which is conducive to the creation of political mythology that covers up the political goals of Western opponents. There is no consensus in the West regarding to the productivity of the hybrid threat/war concept. At the same more popular is the radical point of view that reduces relations in the Arctic ,and international politics in general, to confrontation.

Keywords: *Arctic, security, hybrid war, hybrid threats, Russia, deterrence.*

Introduction

Modern states' defense policy has a tendency towards a broad interpretation of security implying that the spectrum of threats covers both military and nonmilitary components. One of the manifestations of this trend is the topic of hybrid threats. The term was introduced into circulation in 2007 by American researchers [1, Hoffman F.], but a general interest in it grew after the reunification of Crimea with Russia in 2014.

In the context of a general deterioration in relations between the West and Russia, the term "hybrid war" is applied not only to specific episodes, such as "color revolutions," and individual states' foreign policy. In a hybrid war, Western experts see the seeds of a new form of war and even a "grand strategy" of states in the 21st century [2, Schmid J.]. It means Russia's policy towards Ukraine or the Baltic countries is increasingly equated with a hybrid war [3, Banasik M.]. In Europe, NATO [4, Treverton G., Thvedt A., Chen A.] and the USA [5, Davitch J.] they talked about the hybrid threat as a long-term profoundly serious security issue that is gaining global scale.

Over the past few years, Western states have formed a specific research approach based on the thesis that a new "era of hybrid threats" in security policy has begun. Its difference consists of a new combination of strategy and tactics [6, Smith A., p. 2]. The strategy for countering hybrid threats is being developed by NATO and the European Center of Excellence for Countering Hybrid Threats, established in 2017, with headquarters in Finland. The center's main task is to provide

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networking of experts and politicians and coordinate the efforts of NATO and the EU countries in the fight against hybrid threats. The scope of activities is evidenced by the fact that 27 countries participate in the center's work, including, in addition to European states, the USA, and Turkey. Also, the Multinational Capability Development Campaign project, which focuses on a conceptual framework for countering hybrid threats, has been created with the participation of all Arctic coastal states.

Recently, the topic of hybrid threats and hybrid wars began to sound with regard to the Arctic, where there was no significant deterioration in the military-political situation even in the aftermath of the Ukrainian crisis [7, Konyshev V., Sergunin A., Subbotin S.]. Can we talk about a new form in the evolution of threats in the Arctic, or is this an example of a political mythology for achieving other goals? In this regard, the article examines the sources, content, and place of hybrid threats (and wars) in some other political instruments of the Arctic policy. The study's empirical basis was made up of international organizations' documents, publications of Western academic journals, and documents of research institutes specializing in military topics.

Factors influencing the formation of security threats in the Arctic

Security threats in the Arctic are formed under the influence of factors that impact the policy of the region's states in the military-political sphere.

Since the Cold War, the Arctic has retained global strategic importance in the nuclear deterrence policy between the United States and Russia. It means that US multipurpose nuclear submarines are on patrol in the Arctic Ocean. Their main armament is non-nuclear cruise missiles. Trajectories for launching ballistic missiles from the continental United States and Russia pass through the Arctic spaces. The Russian Northern Fleet is based on the Kola Peninsula and contains two-thirds of its nuclear arsenal for strategic deterrence.

Secondly, under climate change, permanent ice is decreasing, expanding the possibilities for conducting maritime operations and naval presence in the Arctic seas. It applies mainly to the submarine fleet.

Thirdly, the nature of the contradictions between the Arctic states on regional issues, such as territorial disputes, the status of sea areas, the right to develop resources, is mainly resolved within the framework of the existing legal regime in the Arctic. The risks of a military conflict due to regional problems are assessed as quite moderate or low.

Fourthly, suppose a radical deterioration in the military-political situation nevertheless occurs. In that case, the conduct of large-scale joint operations in the Arctic using high-precision weapons will be problematic due to the harsh climatic conditions, geomagnetic interference that hinders the operation of communication systems, as well as the small number of military bases nearby [8, Voronov K.V.; 9, Zagorskiy A.V.].

Russia is in the most vulnerable position from the northern strategic direction since it has the longest border in the Arctic. Also, the Northern Sea Route runs along the coast, along which

international shipping is gradually developing, implying the right of innocent passage for warships. NATO's total power, which can be used in the Arctic, far exceeds Russia's military potential, stationed in this region [10, Konyshev V., Sergunin A.].

The prospect for further militarization of the Arctic is possible, but there are no objective grounds for turning the situation around. Of course, the continuing negative trends require a response from Russia. In particular, the number and scale of NATO exercises are growing, the West tries to include Finland and Sweden in this military bloc, military infrastructure of Poland and Norway is developing in the interests of U.S. missile defense systems that can be quickly converted from defensive into offensive systems.

Besides, Western experts and politicians' attention is increasingly attracted by new factors contributing to the militarization of the Arctic. The hybrid threat debate is a prime example. But unlike the military itself, hybrid threats are interpreted so that they can be attributed to both the spectrum of "hard" and "soft" security challenges. To understand what they are and what their place is among other security threats in the Arctic region, it is necessary to start with the hybrid war concept's military-doctrinal foundations.

Hybrid Wars and Threats: Military Doctrinal Foundations

In the discussions of Western experts about the onset of a "new era of hybrid threats", the interpretation of hybrid war remains very vague. It boils down to the thesis of a combination of various methods and tools of military and non-military nature that can be used in an explicit or hidden form. As a consequence, several scientific publications and official statements of the various states interpret not only individual actions of Russia, but all of its foreign policy as a hybrid war [4, Treverton G., Thvedt A., Chen A., p. 67; 11, Chivvis C., pp. 316-321].

To understand how this situation developed one need to refer to the US Department of Defense documents, which, in many ways, set the tone in the evolution of the entire Western military-strategic thought. It follows from the US Department of Defense documents that hybrid war as a specific type of hostilities does not exist at the military-doctrinal level. It's only about trying by military experts' to determine the specific attributes of hybrid war basing on modern experience of warfare. The general trend of research is to formulate the hallmarks of hybrid warfare, i.e., try to show that hybrid warfare is a new qualitative stage in developing the irregular war. But so far, the interpretation of hybrid war remains too amorphous and boils down to a combination of regular and irregular war methods, which, in general, is characteristic of wars over a long history. It is noteworthy that in the analysis of Russia's actions in Crimea in 2014, the US military also uses the term "hybrid war" formally, quickly moving to the terms of irregular war[1]. Therefore, one should agree with the opinion of that part of Russian and foreign experts who argue that for professional military men, hybrid warfare is reduced to nothing more than the operational art of planning and

[1] Counter-Unconventional Warfare. White paper. URL: https://info.publicintelligence.net/USASOC-CounterUnconventionalWarfare.pdf (accessed: 14 April 2020).

conducting operations, combining already known methods of confrontation [12, Konyshev V.N., Parfenov R.V.; 13, Johnson R.; 14 Russia's military; 15, Reichborn-Kjennerud E., Cullen P.].

A note sent to NATO headquarters in 2010 also indicated that the alliance does not have a clear understanding of what the hybrid threat is and how to counter it [2]. Interest in the topic faded away due to a lack of funding. As a result, it was redirected from NATO to the created European Center of Expertise for Countering Hybrid Threats (Helsinki), financed through individual states, and not from the alliance funds. However, even after the reunification of Crimea with Russia in 2014, the alliance could neither develop a definition of hybrid war or formulate a strategy for responding to hybrid threats. The 2019 NATO Secretary General's annual report states that the alliance continues to develop a strategy to combat hybrid threats, but "the primary responsibility for responding to hybrid attacks lies with the attacked state" [3]. It means that so far, the response to a hybrid attack on one of the alliance states has nothing to do with Article 5 on NATO's collective defense.

In expert discussions, there has also been little progress in understanding the essence of hybrid warfare. Within the framework of the aforementioned Joint Project on the Study of Hybrid Threats, a broad interpretation of the term "hybrid war" has been published: "in reality, hybrid war occurs on the international arena in the continuum from competition to conflict between actors". And it further clarifies that the term "war" should be understood figuratively since, in this case, it denotes the "serious, adversarial, hostile and persistent nature of the challenge" to security. The expert community and politicians are invited to operate with a concept that, on the one hand, substitutes state foreign policy as a whole. On the other, it eliminates the difference between the state of war and peace[4].

Currently, the use of the concept of hybrid warfare in political discourse demonstrates two tendencies. In a mostly military sense, hybrid warfare is in its infancy, and among the military, the attitude towards it is relatively restrained. The military also uses the term "hybrid war" as an analytical construct, i.e., an abstraction that does not yet claim to designate a new type of war. Hybrid warfare and hybrid threat in a broad and even less defined sense are increasingly being used by representatives of political science and modern politicians. Why is there such a strange situation: a poorly developed concept is borrowed from the military but is intensively used in political discourse?

The importance of the concept of hybrid war in a broad sense is determined because it allows you to transfer almost any actions of an opponent state or non-state actor into the so-called

[2] BI-SC Input to a New NATO Capstone Concept for the Military Contribution to Countering Hybrid Threats. Enclosure 1 TO 1500/CPPCAM/FCR/10-270038 5000 FXX 0100/TT-6051/Ser: NU0040 DATED: 25 AUG 10. URL: https://www.act.nato.int/images/stories/events/2010/20100826_bi-sc_cht.pdf (accessed: 10 March 2020).

[3] The Secretary General's Annual Report 2019. P. 29. URL: https://www.nato.int/nato_static_fl2014/assets/pdf/2020/3/pdf_publications/sgar19-en.pdf (accessed: 10 April 2020).

[4] MCDC Countering Hybrid Warfare Project: Countering Hybrid Warfare. March 2019. P. 17. URL: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/784299/concepts_mcdc_countering_hybrid_warfare.pdf (accessed: 16 April 2020).

"gray zone" of the international law [16, Sloan E.]. In other words, it creates an opportunity to interpret specific actions of a political opponent as aggression with all the ensuing consequences. A similar example a few years ago was the humanitarian intervention. The main problem with the humanitarian intervention was a conflict with the principle of sovereignty. In the case of a hybrid war, one has an opportunity to interpret the opponent's policy as an act of aggression. Of course, the other side of the conflict can also use the "gray zone" to mask up the real geopolitical goals.

Hence the temptation to use hybrid threats for political manipulation and legitimization of retaliatory military actions bypassing international law becomes understandable. Only these considerations can explain why Western experts, with all the ambiguity of the concept of hybrid war, nevertheless propose to make the strategy of countering hybrid threats the main priority in the strategy of the United States and NATO for years to come [5]. And in practical terms, it is proposed to strengthen NATO's presence on the front lines of defense, for example, in the Baltic countries [14, Russia's military, p. 181]. The same logic is gradually spreading to the Arctic region.

States that generate hybrid threats in the Arctic

Russia, and in perspective China, are considered to be the main sources of hybrid threats in the Arctic [17, Hicks K., Federici J., Akiyama C., pp. 3-5]. Several reasons are given to support this point. First of all, Russia and China have important and long-term interests in the Arctic. But both states do not have enough resources to implement strategic plans: Russia has underdeveloped economy, finance, and technology, and China doesn't possess a legal basis for offshore resource development. At the same time, they have coinciding interests in the Arctic, such as the Polar Silk Road project, the joint implementation of which will allow to squeeze out some of the Arctic powers [18, Sorensen C.]. But at the same time, there are certain difficulties in organizing cooperation between Moscow and Beijing. Therefore, indirect influence methods through diplomacy, economic and scientific cooperation, which China has already successfully used to strengthen its influence in the Arctic [19, Konyshev V.N., Kobzeva M.A.], are becoming incredibly useful tools.

Additionally, the West believes that hybrid warfare as a political means is attractive mainly for those states that do not expect to achieve their objectives in an open military, political or economic competition [4, Treverton G., Thvedt A., Chen A., p. 73]. Politically, China and Russia are opposed to the other Arctic powers as authoritarian, so it is expected that in their hybrid attacks, they will try to use democracies' vulnerabilities to weaken from within. Potential targets for attacks are the foundations of a democratic structure (state guarantees of political rights and freedoms, the autonomy of civil society institutions), the principle of competition between branches of government, cultural tolerance, media free for discussion, limited state influence on the economy [20, Wigell M., p. 47].

[5] Counter-Unconventional Warfare. White paper. URL: https://info.publicintelligence.net/USASOC-CounterUnconventionalWarfare.pdf (accessed: 12 April 2020).

Of course, the Arctic military-political situation is developing not only under the pressure of objective circumstances. After the Ukrainian crisis began, Russia's Arctic neighbors, with whom they had previously developed quite constructive relations, started talking about the growth of military threats from Russia. Due to its geopolitical position and NATO membership, Norway's position is of paramount importance for Russia, with which economic and military cooperation has been established (the Pomor exercises). The Ukrainian crisis gave impetus to a partial rollback of bilateral cooperation between Moscow and Oslo. At the doctrinal level, Russia was again included in the category of external threats to Norway's security, and joint military cooperation programs were stopped. Experts from the Norwegian Center for Defense Research noted that the increased risk of confrontation is associated with several factors: tendency of an authoritarian regime to use force; the successes of Russia's military modernization were underestimated in the West; Russia was able to effectively use hybrid actions in Georgia and Ukraine, which creates a temptation to repeat the success, but it is unlikely that this will affect the Arctic [21, Atland].

In the Finnish Institute of International Relations publications, it is noted that although it is not about the risk of a full-scale war, the situation in the Arctic is assessed as a strategic rivalry taking place in various forms. In addition to strengthening its military potential, Russia is actively using hybrid methods of war: incursions into the airspace of Arctic states, jamming GPS communications (at NATO exercises in Norway in 2018), cyber activity, energy policy, unfriendly diplomatic steps, organizing refugee flows into Arctic states [22, Mikkola, p. 8].

Thus, the hybrid threat was introduced into the discussion of the Arctic security agenda and was further developed.

Hybrid Threats in the Arctic

How is the problem of hybrid threats interpreted explicitly concerning the Arctic? Here we can distinguish two conditional directions of analysis: "moderate" and "radical".

A moderate number of experts are skeptical about hybrid threats. They believe that hybrid war cannot pretend to be Russia's new super strategy; moreover, such identification of foreign policy and war complicates the understanding of Russia's goals, which are of a non-military nature. Scientists rightly point out that mythologizing Russia's actions under the banner of a "hybrid war" can only play into the hands of V. Putin, strengthening the image of Russia as a strong power to be reckoned with. On the other hand, since the West often mistakenly perceived the motives of Russia's actions after the end of the Cold War, reducing Russian foreign policy to a hybrid war only because of the deterioration of its relations with the West will further exacerbate this problem [23, Renz B, Smith H., pp. 3, 10, 14, 18-20].

Discussing hybrid warfare in the military aspect, experts from the Finnish Aleksanteri Institute note that in the history of military-strategic thought, concepts have repeatedly come and gone, aimed at defining new types of wars. They express against exaggerating the Russian armed forces' real possibilities based on a successful Crimean campaign because in general, NATO has

significant advantages. The Crimean experience in the form of hybrid actions is unlikely to be directly transferred to the Baltic region or the Arctic [23, Renz B., Smith H., pp. 3, 10].

Scientists admit that little can be said definitively about hybrid warfare from a military point of view, so they base their reasoning about the hybrid threat mainly with reference to publications in the media and interviews with experts. As a result, many Finnish authors are forced to speak not even about a hybrid threat from Russia as part of a military confrontation, but about a hybrid influence (interference), which could hypothetically develop into a threat. After that, literally any political action of Russia is included in the hybrid influence: informational, financial, physical, political, cybernetic, and political violence [24, Helsinki in the era ..., pp. 4, 6].

Finnish experts recommend developing measures to counter hybrid influences. For example, in Helsinki, municipalities with broad self-government authority must take over the organizational function. They will also play a vital role if hybrid influence develops into a hybrid threat. The key to success is municipalities' ability to mobilize society, collect the necessary information at the local level, and maintain a high level of citizens' trust in each other and the authorities [24, Helsinki in the era ..., pp. 7-8]. Experts suggest considering the following types of hybrid influence:

Creation or maintenance of a vulnerability in a technical, economic, or spiritual realm. Examples are the activities of fake news websites.

Observation as the collection of information about an object to study a vulnerability.

Testing as a test of the target object's response to specific actions, such as cyberattacks, to test the stability of IT systems.

Activities to influence target objects in various ways and methods.

Sabotage, when this activity masks any other activity [24, Helsinki in the era ..., p. 9].

But under what conditions the hybrid influence ceases to be a threat? Experts are silent, referring only in the most general form to the existence of a "new type of threat". There is a logical discrepancy here. After all, the representatives of the "moderates" themselves note that such an interpretation of hybrid war blurs the line between the state of war and peace, which is fraught with a slide towards the militarization of politics, complicates the analysis of the foreign policy of states and the causes of conflicts [23, Renz B., Smith H., p. 22]. Also, the hybrid war begins to be interpreted as a continuous activity that begins long before the escalation of the conflict, which completely confuses the legal status of war and peace [14, Reichborn - Kjennerud E., Cullen P., p. 3].

One of the options for avoiding the noted contradiction is proposed in the strategy called "democratic containment", developed by the Finnish Institute of International Relations staff. To separate the military and non-military aspects of hybrid influence, M. Wigell prefers to talk not about hybrid war but only about "hybrid intervention", meaning indirect methods of struggle such as manipulative technologies that ensure the secrecy of external influence on society as a whole or individual management structure. Indirect influence is carried out through secret diplomacy,

geo-economic levers, and disinformation to wreak havoc and sowing seeds of discord in a democratic society by exploiting its vulnerabilities. The examples of such a hybrid intervention in the West are considered to be the Russian energy policy aimed at increasing contradictions within the EU; support for populist parties and Eurosceptics supporting the idea of disintegration; provoking regional economic imbalances through the creation of electoral preferences; providing economic benefits for the creation of corruption schemes within other states [20, Wigell M., pp. 5-6].

Democratic containment strategy differs from the traditional understanding of containment that was formed during the Cold War. It is not the state but the entire society that participates in democratic containment, while state bodies act as coordinators of joint efforts. In turn, this requires high cohesion and trust between the state and society. Soft power, based on the attractiveness of the institutions and values of liberal democracy, becomes the main instrument of containment. The transparency of decisions, strong compliance the rule of law, and civic activity should counter covert actions of the enemy. Contrary to the principle of balancing, the responses to hybrid influence use asymmetric means based on the achievements of democracy demonstrated its advantages to the opponent. Finally, if traditional deterrence is aimed at suppressing any aggression, then democratic deterrence is limited since it has a non-violent nature [20, Wigell M., pp. 9-11].

For the same reason, discussing development the strategy of counteracting hybrid influence, representatives of the "moderate" side prefer to focus on the concept of "elastic response" (resilience), which means an increase in the state's ability to withstand a blow and recover from the consequences of external negative influences [20, Wigell M., p. 11]. It can be viewed as part of a strategy of democratic containment in the form of a system of measures to reduce vulnerability of society and state. It is noteworthy that the "moderates" warn against exaggerating the problem of hybrid threats, causing even more damage to society than the threats themselves. General suspicion can destroy trust in society, increase contradictions, and provoke a split in political forces [24, Helsinki in the era …, p. 23].

However, among Western experts, a radical position is more widespread, supported by the institutions of the EU, NATO, and officials of the Arctic states. It is characterized by a broad interpretation of the term "hybrid threat". Similar to the assessments of the "moderates," it manifests itself in many spheres: administrative, legal, cultural, social, diplomatic, infrastructural, informational, cybernetic, space, economic, political, military, and intelligence. Moreover, this list may change [25, Nuclear energy ..., p. 10]. But more radical conclusion is then made that we are faced with a spectrum of problems that "is capable of destabilizing the international system". And if so, then it is necessary to create a common strategy for all interested countries[6]. The global nature of the threat is explained by the fact that hybrid warfare is a "grand strategy" of "revisionist" states

[6] Monaghan S., ed. MCDC Countering Hybrid Warfare Project: Countering Hybrid Warfare. March 2019. p. 16. URL: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/784299/concepts_mcdc_countering_hybrid_warfare.pdf (accessed: 16 April 2020).

seeking to change the world arena's status quo in their favor, namely: Russia, China, and Iran[7]. This insight into the scope and nature of hybrid threats is contained in concept papers published under the Joint Hybrid Threat Research Project, which serve as a guide for all experts in a scientific network led by the European Center of Expertise on Combating Hybrid Threats in Finland.

Thus, hybrid threats are brought to the global level simply declaratively, without sufficient grounds. The authors do not explain why precisely hybrid threats play such a destructive global role, and not, say, the erosion of international law, the US withdrawal from the ABM and INF treaties, the gradual militarization of outer space, the redistribution of the centers of power in the world, etc. But when we talk about "revisionist" states, why we forget that the history for many centuries demonstrates a struggle for influence? Why "revisionism" is declared a threat of global destabilization? And finally, why a negative role a priori is assigned the "revisionist" states?

In the spirit of the Cold War the radicals call for containment as a strategy for countering hybrid threats. The author of such an idea, Vytautas Kirshanskas, emphasizes that "a lack of decisiveness or inaction can undermine the containment strategy." The containment itself is aimed at "neutralizing hybrid threats before they appear." The escalation of relations to intimidate the enemy is viewed "as an integral and justified part of containment". A "soft" response to a threat demonstrates own invulnerability as well its combination with the other measures helps to motivate the enemy to stop hybrid actions. A "hard" option provides retaliation in the case of crossing the "red lines", while it is not necessary to make it clear for the enemy in what form or in what dimension the mission will be realized [26, KerŠsanskas V., pp. 9-12].

It can be noted that the "soft" response of the radicals coincides with the concept of "moderates" described above – "democratic containment". Radical experts from the Royal Danish Military College criticize the moderates for their passive response to the problem of hybrid threats and the apparent lack of "soft" measures against long-term hybrid threats, pointing to a Russian policy that "must not go unpunished". Furthermore, retaliation policy should serve as a powerful stimulus combining EU and NATO efforts. That means the response to the hybrid threat must put into effect article 5 of the Treaty providing collective defense option [27, Sorensen H., Nyeman D., pp. 3, 5].

Radical's strong emphasis on "hard" security can be explained by direct identifying the hybrid threat with specific areas of vulnerability of the modern state, for example, with the energetics. Here again, a logical discrepancy arises. The vulnerability of a state is associated with its properties, regardless of the external environment (if there is no gas in its depths, this fact itself does not depend in any way on relations with other states). But the threat arises from inside or outside the state due to the actions of the subject of politics, who may or may not use the vulnerability to cause harm. It turns out that threat and vulnerability are far from the same thing: vulnerability is

[7] MCDC Countering Hybrid Warfare Project: Conceptual Foundation and Implications for Defence Forces. March 2019. pp.1-2. URL: https:pdfs.semanticscholar.org/7207/db36faa8e51d56709c3d4ef433ddf625e730.pdf?_ga=2.263480140.1548099221.1588232627-840606667.1588232627 (accessed: 16 April 2020).

an objective attribute of a states, and the threat is an expected negative consequence of a politician's actions. Radicals' understanding means that vulnerability is always viewed as a priori external threat, which leaves no room for cooperation in advance. In other words, this is a view of states' attitude only through the prism of conflict, which is an echo of the Cold War.

Representatives of the radical point of view propose a mechanism for the manifestation of a hybrid threat in the form of three phases of activity. The first, preparatory, forms in the population and the ruling elites a long-term motivation for behavior and attitude by influencing cultural processes and interethnic relations, control over news channels, aggravating social problems, etc. The second phase, destabilization, seeks to blur the concepts that retain social order. Interpretation of external and internal threats, the jurisdiction of various levels and subjects of power, and relations between the federal center and regions. Adding additional chaos can hinder or even paralyze government responses. The first two phases create vulnerability points of another state to be converted to hybrid threats later; all activities are carried out within the legal framework. The third phase, violence, corresponds to the state of hybrid war and aims to translate threats into practical actions. It includes military and any other instruments [25, Nuclear energy ..., pp. 11-12]. The mechanism proposed by the radicals presupposes the absence of a border between the state of peace and war.

Artificial politicization is being formed when any vulnerability is presented as an objectively existing hybrid threat from the outside. For example, it is proposed to consider the energy supply or energy dependence as part of the complex of the hybrid threats for given state [28, Verner D., Grigas A., Petit F., p. 3]. Based on this logic, an assertion is made that if Finland uses nuclear reactors built according to Russian technologies and receives fuel for them from Russia, a hybrid threat arises for energy supplies and technological dependence [25, Nuclear energy ..., pp. 13-14]. Meanwhile, energy policy problems have either an economic or geopolitical background or a combination of both, which is the common practice of states, including the United States and other great powers classified as liberal-democratic. But in the case when it comes to the policy of Russia, the substitution of concepts is made. Instead of geoeconomics, it is proposed to talk about the instruments of the hybrid war used by Russia.

Western experts are transferring a similar technique to cooperation in nuclear energy between Russia and Finland. It is argued that because Rosatom's leadership is appointed directly from the Kremlin for political reasons, this makes the organization itself a convenient tool for hybrid influence. It is not necessarily direct, but through the spillover effect, it can create a lever of influence in various areas: intelligence, military, legal, social, infrastructure. In particular, the project for constructing a nuclear power plant by Russia in the Finnish city of Hanhikivi is viewed as economical and as part of a hybrid impact aimed at splitting the EU and NATO [25, Nuclear energy ..., p. 32].

In the same a priori conflicting logic, dictated by the unjustified identification of vulnerability and threat, it is proposed to consider the legal regime of the Arctic. It is known that there are

several controversial issues on the division of the shelf, the status of the central part of the Arctic Ocean, the status of straits and sea communications. Objectively, all controversial issues are resolved in the legal field, and most experts consider the likelihood of a military conflict on this basis exceptionally low [29, Zagorskiy A.V.]. But the radical view of the supporters of hybrid threats suggests that the existence of "gray zones" in legal regulation provokes a new type of military conflict, which will become widespread in the 21st century.

Legal norms as a weapon of war (lawfare) in the gray zone are based on the fact that manipulation of legal norms is used in planning a military campaign. In this interpretation, under the hybrid actions and threats, the position of Russia on the implementation of the norms of the 1982 Convention on the Law of the Sea is subsumed when it tries to defend the status of the Northern Sea Route as a national, not an international transport artery. Planting a Russian flag on the seabed in 2007 during the expedition of A. Chilingarov and even the submitting an application to the UN Commission on the extension of the shelf are labeled as provocation of conflict: "Russia ignored the claims of other Arctic states" [30, Al-Aridi A., pp. 116-117]. That means any Russia's attempt to defend its rights within the framework of the existing legal regime in the Arctic falls under hybrid actions and threats. It remains unclear why Russia's opponents in the same issue of expanding the shelf boundaries never considered a hybrid threat.

The described approach to understanding the hybrid threat, aimed at artificially politicizing regional policy issues, is especially characteristic of studies conducted under the auspices of international centers and network organizations with the United States' participation. Artificial politicization means that the discussed hybrid threat is not essential in itself but serves as a tool for achieving other goals – for example, "hybridization" is very convenient as a tool for unfair competition in the energy services market or any other area.

Techniques for identifying hybrid threats are of particular interest. The experience of expert groups from different states was summarized in a publication in the Joint Project framework on the Study of Hybrid Threats. Conventional methods based on monitoring indicators (exceeding the "threshold" of activity means an increase in the threat) are insufficient with such an amorphous interpretation of the hybrid threat's content and high unpredictability. Indeed, it is difficult to find a gray cat in a dark room.

To solve this non-trivial problem, it is proposed to divide hybrid threats into two types: "known unknowns" and "unknown unknowns". While indicators can detect the first, there are no indicators for the second type's threats since even their nature is unknown. The report does not formulate an intelligible answer on how to deal with the second type of threat. The recommendations boil down, first, to a combination of already known indicators and greater attention to threats that were previously considered marginal. Second, it is proposed to organize nationwide

monitoring of the broadest possible range of government institutions and private business activities, revealing even minor anomalies as possible signs of an unknown hybrid threat[8].

Conclusion

In political discourse, hybrid warfare is used to consolidate anti-Russian sentiments, observed in many European states, in the EU and NATO. At the doctrinal level, hybrid war and a hybrid threat have not been developed in any army in the world. Therefore its active use is mainly associated with the artificial politicization of foreign policy problems to exert pressure on Russia and other states referred to in the West as "revisionists", who, by definition, are attributed to the desire to destabilize the international system. A vague definition of the concept allows to include any manifestation of the foreign policy of an unfriendly state in hybrid actions. Hence, the European Center for Combating Hybrid Threats and other organizations' recommendations contain measures of a vast range of actions directly aimed at escalating conflict relations with Russia.

The surge in attention to hybrid threats since 2014 is partly due to the confusion in the West over the fact of rapid, successful, and innovative action in Crimea, where no shots were fired during the operation. Western experts express fears that they misjudged the Russian armed forces' depth of modernization [23, Renz B., Smith H., p. 2]. But this interest can be seen on more serious grounds. Perhaps the global scale attributed to hybrid threats and wars reflects the growing state of chaos in the international system, the erosion of international law, the collapse of global economic mechanisms and security regimes? Then, the inevitable growth of contradictions enhances international relations' conflict potential, which makes the demand for non-traditional methods of confrontation of all against all. The global threat is not created by hybridity as a form of war, but by the loss of stability in the international system, which is happening at an accelerating pace. Isn't this problem covered up by the thesis about "revisionist" states as the culprits of global destabilization?

The difference between moderate and radical supporters of the concept of hybrid wars is that moderates focus on reducing the vulnerability of the state and society in the face of external influences, while radicals, equating vulnerability and threat, tend to a priori perceive the problem of vulnerability in terms of potential conflict. But given the amorphousness of the very concept of a hybrid threat, this is fraught with an unjustified confrontation of interstate relations in the spirit of a "witch hunt". The radicals' politically dangerous position is fueled by support from NATO, the EU, a number of states unfriendly to Russia, and within the framework of the Joint Project to Study Hybrid Threats.

In practice, the topic of hybrid wars is used to persuade neutral Sweden and Finland to cooperate and subsequently join NATO. Second, hybrid warfare helps to give new impetus to strengthening NATO, an organization in crisis amid serious disagreements both between the Unit-

[8] Monaghan S., ed. MCDC Countering Hybrid Warfare Project: Countering Hybrid Warfare. March 2019. p. 25–32. URL: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/784299/concepts_mcdc_countering_hybrid_warfare.pdf (accessed: 16 April 2020).

ed States and Europe and within Europe over security issues. Third, the artificial inflating of the problem of hybrid threats serves as an argument for the supporters of an increase in European states' military spending and the activation of NATO in the Arctic.

The hybrid war agenda as a whole has roots very far from the regional problems of the Arctic. Discussions about hybrid threats look entirely artificial and are associated with a general deterioration in relations between Russia and the West, which began even before the Ukrainian crisis. Attempts to interpret the Arctic's regional problems through the prism of the concept of hybrid war have become a kind of reflection on global negative political trends. It is indicative that the supporters of the "hybridization" of international relations are ready in advance to ascribe to Russia's policy a hostile direction even concerning projects of mutually beneficial cooperation in the Arctic.

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The Svalbard[1] Fisheries Protection Zone: How Russia and Norway Manage an Arctic Dispute *

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Abstract. Svalbard and the maritime zone around this Arctic archipelago are central to Norway–Russia relations. Since 1977, a dispute has concerned Norway's right to exercise jurisdiction over fisheries. What are Russian positions on Norwegian jurisdiction enforcement in the Fisheries Protection Zone (FPZ)? How have perceptions and reactions evolved since the turn of the millennium? Has the deterioration in the bilateral relationship post-2014 sharpened the dispute in the FPZ, and has the risk of conflict increased? We find that 2014 does not appear to be a watershed with respect to relations in the FPZ around Svalbard. After the dramatic arrest of a Russian trawler in 2005, the Russian central authorities switched from protest to relatively conciliatory dialogue — with a marked exception in 2011 related to Russian domestic discord surrounding the 2010 Barents Sea maritime boundary agreement. After 2011, incidents in the FPZ have been handled without further escalation, but the situation is underpinned by various factors that might change. Russia's policies in the FPZ have been a balancing act: always stressing its official position and insisting that there are limitations to how much Norwegian enforcement can be accepted, while also ensuring that the enforcement regime survives.
Keywords: *Fisheries Protection Zone, Svalbard, Russia, Coast Guard, Arctic*.

Introduction

The Svalbard archipelago, located between the Norwegian mainland and the North Pole, occupies a special international relations position. For centuries it remained a no man's land, despite extensive economic activity in whaling, hunting, and fisheries. Only in the early 20th century did the great powers agree that Norway should have sovereignty over the islands, as stated in the Svalbard Treaty signed in Paris in 1920. Due to their economic interests, special provisions on access, taxation, and non-discrimination applied – and still apply – to economic activity on this Arctic Archipelago.

When the concept of extended maritime zones emerged in the post-war period and states subsequently implemented these, a problem arose. Did the special Svalbard provisions apply to these new maritime zones, although the zones themselves were not specified in the Svalbard Treaty? Norway has continued to argue against this, whereas other states with an economic and

[1]The Russian-language text uses "Spitsbergen", still the usual name for the archipelago in Russia. The official Norwegian name in Russian is Svalbard.

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political interest in Arctic waters – like Iceland, Russia, and the UK – take a contrarian position. Norway subsequently implemented 'only' a Fisheries Protection Zone (FPZ) in 1977 – in contrast to a full Exclusive Economic Zone (EEZ) –to avoid an outright conflict over the issue. Still, other states with an economic and political interest in Svalbard continue to dispute the Norwegian approach.

Svalbard is close to Russia (Svalbard's maritime zones border those extending from Frans Josef Land), and Russia is the only country besides Norway that has a sizeable population living and working on Svalbard, constituting a community on its own in the mining town of Barentsburg. Russia has argued against Norway's right to unilaterally establish any form of the maritime zone, which has been described as a decision in violation of the Treaty of 1920. A dispute between the two Arctic neighbors thus emerged in the 1970s, which remains unresolved.

From time to time, the dispute emerges on the political agenda in relations between Norway and Russia or in Arctic governance discussions more broadly. Moreover, at times this legal dispute gives an impression of immediate risk of conflict between a small state and its big neighbor. There is a potential for clashes, particularly in the interaction between Russian fishing vessels and Norwegian authorities enforcing regulations. Further, in Norway and in NATO, there is a growing awareness of the North Atlantic/Barents Sea as an area where Russia's military efforts are increasing.

Although other countries besides Russia holds an interest in the Svalbard maritime dispute, Russia is undoubtedly the most central actor when unpacking the complexities of this dispute. Therefore, in this article, we want to clarify Russia's interests, positions, and behavior concerning the FPZ. What are Russian perceptions of Norwegian politics in the FPZ? How have perceptions and reactions developed after Norway tightened its enforcement practices in the zone around the turn of the millennium? Have there been changes in connection with the deterioration in the bilateral relationship after 2014? What does this mean for the risk of conflict in this area?

We seek to identify factors that may increase or reduce the risk of serious conflict. The purpose is thus not to give a complete overview of all Russian positions (or actors with a position) on the Svalbard maritime dispute, but rather to make use of the events in the FPZ over the last two decades in order to examine how statements – both official and unofficial – as well s actions concerning the zone have fluctuated and altered character, and explain why. We begin by placing the FPZ in the larger context of Barents Sea fisheries and then review and analyze developments in Norwegian management of the zone and the Russian response, highlighting the constellation of actors on the Russian side at federal and regional levels. Finally, we discuss how to explain the variations in perceptions and reactions over time and what implications can be drawn regarding the future conflict in the area.

The article is based mainly on written sources, especially Russian media outlets, journal articles, expert comments, and interviews. The bulk of this material was collected in 2018 and 2019. We also lean on writings about Svalbard and the particularities of this part of the world, either examining the archipelago on its own or as part of the larger Arctic governance system. In addition,

we have conducted formal interviews and informal conversations with relevant actors on the Norwegian side. All interviewees are key participants in Norwegian fisheries cooperation with Russia. Informal discussions with a few Russian participants have added to our understanding of Russian positions.

Svalbard and the Fisheries Protection Zone

Svalbard is located approximately 650 kilometers north of the Norwegian mainland and just 1,000 kilometers from the North Pole. Initially named Spitsbergen by the Dutch explorer Willem Barentsz in the Sixteenth Century, Spitsbergen is today the name of the largest island in the archipelago while the archipelago was renamed Svalbard from 1925. Only in the early 20th century, when promising discoveries of coal were made and mines opened, were specific steps taken to establish an administration of the Svalbard archipelago. Various models were discussed before the First World War; post-war negotiations resulted in a treaty that gave sovereignty to Norway [2].

These negotiations were annexed to the peace settlements which did not involve Russia and Germany. However, as Russia had played a major role in earlier talks on the status of the archipelago, the Treaty assigned to Russia the same rights as the signatories until it could formally accede. In 1924, the Soviet government unconditionally recognized Norwegian sovereignty over the archipelago and acceded to the Treaty in 1935.

A key objective of the Treaty was, after assigning Norway 'full and absolute sovereignty' and responsibility for managing the islands, to secure the economic interests of nationals from other countries. This was done by including provisions on equal rights and non-discrimination in the most relevant economic activities: Norway could not treat other nationals less favourably than its own citizens; and taxes levied on Svalbard could be used solely for local purposes. Regardless, international economic interest plummeted, and soon only Norwegian and Soviet mining companies had activities there. Soviet attempts to gain special status on Svalbard were expressed in the aftermath of WW2 and later. The USSR was particularly concerned about possible military use, demanding strict adherence to the Treaty's ban on the use of the islands for warlike purposes and construction of fortifications or naval bases.

Developments in the law of the sea from the 1950s onwards extended the coastal states' exclusive rights to resources in the seabed as well as in the water column. Such rights were codified in the United Nations Law of the Sea Convention in 1982, but they had become customary law well before then. In 1976 Norway declared a 200-nm Exclusive Economic Zone (EEZ) off its coast. According to the Norwegian government, Norway, as the coastal state of Svalbard, was entitled to establish an EEZ around the archipelago, as the non-discriminatory provision in the Treaty referred only, and explicitly, to the islands themselves and their territorial waters.

[2] Svalbard Treaty. Treaty between Norway, The United States of America, Denmark, France, Italy, Japan, the Netherlands, Great Britain and Ireland and the British overseas Dominions and Sweden concerning Spitsbergen, signed in Paris 9th February 1920. URL: https://www.jus.uio.no/english/services/library/treaties/01/1-11/svalbard-treaty.xml

However, this view was disputed by some other states. The status of the water column was an urgent issue since Norway saw a need to manage the ongoing international fisheries in the area. To avoid recourse to legal proceedings, Norway simply established a Fisheries Protection Zone (FPZ) in 1977. Management of the FPZ would be on a non-discriminatory basis: fishers from Norway and from other nations would be treated equally, although access to the zone would be granted only to vessels from nations traditionally active in the area. Norway maintained that the zone was in line with the Treaty's 'equal treatment' provisions [3], even if its establishment was a unilateral Norwegian decision.

This arrangement in the FPZ satisfied several states who had voiced opposition to Norway's insistence on exclusive resource rights, notably the UK, the Netherlands and Denmark [1, Pedersen T., Henriksen T., pp. 146]. However, other states with extensive fishing rights were still critical, primarily Iceland, Spain and Russia, although their positions were not identical.

The Russian official position, expressed in diplomatic notes, has been that Norway had no right to unilaterally establish a fisheries protection zone: fisheries in the waters around Svalbard should have been the subject of bilateral negotiations between Norway and Russia.[4] This was the position of the USSR when Norway established the FPZ; it remains Russia's position today, reiterated by Russian legal scholars arguing that Norway has no legitimate right to enforce fisheries regulations around Svalbard. The waters are international, and regulations – which can be set only by international fisheries organizations – can be enforced by the flag state alone, in this case Russia [2, Vylegzhanin A. N., Zilanov V.], [3, Pedersen T., p. 34].

To understand Russia's position regarding this zone, we must also examine explicit interests. The primary (economic) interests in the area concerns fisheries. Despite the disagreement over the legal status of the FPZ, Norway and Russia, and earlier the Soviet Union, have a long history of cooperation in management of Arctic fisheries [5]. When 200nm EEZs were introduced, the two countries established a Joint Fisheries Commission for cooperation on the management of fish stocks in the whole Barents Sea, which comprises the Soviet/Russian EEZ, the Norwegian EEZ *and* the waters around Svalbard.

The two countries decided to treat the most important stocks (cod, haddock, capelin) as shared stocks. They institutionalized annual negotiations on the total catch limits (quotas) and agreed on a fixed distribution of these quotas (50/50). Despite problems with overfishing in the 1990s, and occasional disagreements on the total quota, this cooperation generally functioned well, and evolved to include increasingly sophisticated regulations [4, Sergunin A.]. Many observers have deemed it among the best managed international fisheries agreements in the world [5,

[3] Norwegian Ministry of Trade, Industry and Fisheries. Fiskevernsonen ved Svalbard og fiskerisonen ved Jan Mayen (Fisheries Protection Zone around Svalbard and Fisheries zone around Jan Mayen), 2014: https://www.regjeringen.no/no/tema/mat-fiske-og-landbruk/fiskeri-og-havbruk/1/fiskeri/internasjonalt-fiskerisamarbeid/internasjonalt/fiskevernsonen-ved-svalbard-og-fiskeriso/id445285/

[4] Note from Russia to Norway, 18 August 1998, cited in [1, Pedersen T., Henriksen T., pp. 146].

[5] Joint Russian–Norwegian Fisheries Commission. HISTORY, 2020. URL: https://www.jointfish.com/eng/THE-FISHERIES-COMMISSION/HISTORY.html.

Eide A., Heen K., Armstrong C., et al.], [6, Jakobsen T., Ozhigin V.K.], and in 2013 the Northeast Arctic cod stock reached an all-time high [6].

There are no separate quotas in the FPZ for Norway and Russia: catches there are within the quotas set for the whole Barents Sea. Beyond doubt, Barents Sea fisheries are important to Russia – altogether they represent 10–15 per cent of Russia's total global catch of marine living resources, probably constituting an even larger share in terms of value.[7] Fisheries in the FPZ are an important part of this picture. The Russian fishing fleet takes about a quarter of its catches in the Barents Sea in the FPZ alone, and Russia has the largest annual catch among the nations active in the zone. Russian catches there have been increasing recently, as stocks like cod and haddock have extended their distribution towards the north.

The importance of the FPZ for the Russian fishing fleet must be seen in light of the fact that Russia takes a relatively small share of its catches in the Russian Economic Zone (REZ), where fish are predominantly young and small, and weather and ice conditions are complicated [8, Zilanov V.]. Access to both the Norwegian Economic Zone (NEZ) and the FPZ is vital to the Russian fishing fleet, and it is quite clear that Russia has strong material interests in the FPZ. How, then, have Norway and Russia interacted and engaged over the Svalbard maritime dispute? How have Russian interests and concerns been reflected in Russia's practical policies towards both Norway and the Zone? How have Russia's policy response varied over time, ranging from the late 1990s, when the Norwegian Coast Guard initiated a more stringent enforcement policy in the Zone, up to 2014 when bilateral relations between the two countries deteriorated? And what does this mean for the potential for conflict over this issue?

Russian reactions and responses to the Norwegian FPZ policy over two decades

The FPZ was established in 1977, but the first twenty years of its existence saw few signs of confrontation. The Norwegian Coast Guard practised lenient enforcement of regulations, with warnings as the strongest form of reaction used. Russian fishers had instructions from their own authorities to facilitate inspections, but refrain from catch reporting and signing any inspection forms – as a symbolic indication that the Soviet Union and later Russia did not recognize Norwegian authority in the zone [2, Vylegzhanin A. N., Zilanov, V.]. According to some Russian observers there was a mutual understanding that the Soviet Union accepted Norwegian Coast Guard's inspection of Soviet vessels, while Norway, in turn, acknowledged that it was the flag state's prerogative to impose any sanctions [9, Portsel A. K.], [10, Tsypalov V.], [11, Zilanov V.].

However, from 1993, the Coast Guard began to employ arrests and other means of force in the FPZ against third-country vessels fishing there without quota [12, Kosmo S.]. And from the late 1990s came a shift in Norwegian enforcement also towards Russian vessels. Norway abandoned

[6] The cooperation has been analysed by Geir Hønneland in several publications, see [7, Hønneland G.].

[7] Russian Federal Agency for Fisheries. Итоги деятельности федерального агентства по рыболовству в 2018 году и задачи на 2019 год (Summing up the activities of the Federal Agency for Fishery in 2018 and tasks for 2019). 2019. URL: http://fishcom.ru/files/documents/ob_agentstve/kollegiya/itogi_2018_zadachi_2019_2.pdf

its previous practice of 'lenient' enforcement in order to respond adequately to cases of serious fisheries crime.

From a Norwegian perspective, this development represented a normalisation. In a period characterised by good-neighbourly relations between Norway and Russia, enforcement of fisheries regulations was no longer seen through a foreign policy prism, but was regarded as the responsibility of regular administrative bodies. It has been argued that the tougher response to rule-breakers was initiated not at the political level, but by the administration (the Coast Guard and the State Attorney in Troms and Finnmark counties), seeking better control of the rapidly declining cod stocks [12, Kosmo S. p. 46], [13, Østhagen A. p. 108]. However, many on the Russian side perceived this tightening of control as a breach of contract, given the 'gentlemen's agreement' between the two countries. When the 'agreement' was broken, it gave rise to strong reactions. The Norwegian side, however, has never acknowledged the existence of such an agreement.

Phase I, 1998–2005: Unanimous criticism of Norway's new line

In 1998, for the first time, the Norwegian Coast Guard arrested a Russian trawler, the *Novokuybyshevsk*, in the FPZ. Several fishing grounds in the zone had been closed due to large quantities of small fish in the catches [14, Skram A-I.]; when the *Novokuybyshevsk* was arrested, it was in a group of about 50 Russian fishing vessels, all fishing in a closed area [12, Kosmo S. pp. 32]. The arrest provoked loud reactions in Russia. After 'diplomatic intervention', the charges were withdrawn, and the trawler, which had been escorted to Tromsø in North Norway, was released [3, Pedersen T. pp. 35]. Nevertheless, the incident fuelled the existing antipathies towards Norway in Russian fisheries circles: the once-friendly bilateral atmosphere had been replaced by a colder climate.

In the years around the turn of the millennium, Norwegian–Russian fisheries cooperation was characterized by disagreement on several important management issues, including the size of the annual total allowable catch [15, Hønneland G., Jørgensen A-K.], and there was considerable criticism of Norway – from fishers, military elites and regional politicians. Fishers complained about stricter regulations and stricter enforcement, many of them alleging that Norway's long-term goal was to expel the Russian fishing fleet from the FPZ. Representatives of the military, for their part, argued that Norway was acting as a tool of NATO in the High North [16, Jørgensen J. H.]. Murmansk Governor Yuriy Yevdokimov demonstrated his concern for both fishing and defence interests by launching a sponsorship scheme for Russian fisheries inspection vessels (so that they could afford to go to sea and 'protect' the fishers), as well as an 'adoption scheme' for submarines of the Northern Fleet [15, Hønneland G., Jørgensen A-K.], [16, Jørgensen J.H.]. A core narrative was that Norway (once again) was exploiting Russia's temporary weakness.

> Recently, discrimination against Russian interests has become an everyday phenomenon (…) Norway is running a 'silent' campaign to expel Russian fishers from the Svalbard zone (...) In the Soviet period, there were no serious incidents.

> Norway did not want to argue with its strong neighbour in the East. After the dissolution of the Soviet Union, it was decided in Oslo that it was time to act. The Norwegians obviously believed that Russia was not able to fully defend its interests and began purposefully to expel Russian fishers from the zone... [8]

The Russian federal authorities were more restrained in their reactions, but they most likely assumed that new arrests would not occur. And indeed, an incident in 2000 similar to the *Novokuybyshevsk,* involving an unnamed vessel, was solved by 'diplomatic means' [9]. But when the trawler *Chernigov* was arrested, prosecuted and fined for serious violations in 2001, Russian official reactions were sharp: the Ministry of Foreign Affairs (MID) delivered a note – leaving out the usual diplomatic courtesy phrases – accusing Norway of violating international law [3, Pedersen T. p. 25]. In addition, Russian participants at a meeting of the Permanent Committee under the Norwegian–Russian Fisheries Commission were recalled on short notice – obviously on orders from the highest level [12, Kosmo S.]. Russia also deployed the naval cruiser *Severomorsk* to the FPZ in 2002 to protect Russian fishers against the Norwegian Coast Guard [10].

Phase II, 2005–2012: Central Power vs. Opposition

After the uproar around the *Chernigov* case, the next four years saw no arrests. In 2005, however, the FPZ controversy re-emerged with force, caused by the unsuccessful arrest of the Russian trawler *Elektron,* which had been under surveillance for some time by the Norwegian Coast Guard for illegal discarding of fish in the FPZ. The vessel was inspected, and serious violations were uncovered, including the use of an illegal, small-meshed trawl net inside the ordinary one [17, Fermann G., Inderberg T. H. J. pp. 374-376]. The trawler was then arrested and escorted by the Coast Guard vessel *KV Tromsø* towards the Norwegian mainland for the police to continue with the prosecution.

The captain of the *Elektron,* in agreement with the Russian owners, had other plans. Just before entering the Norwegian EEZ he fled, with two Norwegian inspectors onboard. For three days, four Norwegian Coast Guard vessels, as well as a maritime surveillance aircraft and several helicopters, pursued the *Elektron,* closely tailing the trawler as it headed for Russian waters, where the Russian Navy was waiting. The Norwegian Coast Guard had considered boarding the trawler, but, in the end, bad weather was blamed for not following through [18, Åtland K., Ven Bruusgaard K. pp. 341]. It is also highly likely that the Norwegian authorities were concerned about the escalation effect such action could have vis-à-vis Russia [17, Fermann G., Inderberg T. H. J. pp. 389, 395].

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[8] Egorova L. The Silent War around Svalbard. Nezavisimoe voennoe obozrenie, 1999, 11 October. http://nvo.ng.ru/world/1999-11-10/6_shpitsbergen.html

[9] Osen G. A. M. Norsk suverenitet og myndighetsutøvelse (Norwegian sovereignty and the exercise of authority). In: Sjømaktseminar nr 9, Ulvik, 2004. Sjømilitære Safmund.

[10] Ven Bruusgaard K. Fiskerikonflikter i Barentshavet – potensial for eskalering? (Fisheries conflicts in the Barents Sea – Potential for escalation?). Oslo, 2006: https://fhs.brage.unit.no/fhs-xmlui/handle/11250/2444396

Constant media coverage kept the case high on the political agenda in Norway. The event also received considerable attention in Russia, primarily because of the spectacular chase. However, official reactions on the Russian side were more mixed than in the *Chernigov* case. MID was low-key in its comments to the press, and Foreign Minister Lavrov explained, as the chase went on, that the Russian side was in constant contact with 'The Norwegian Coast Guard, the Norwegian MFA and other Norwegian authorities' [11]. The head of the Murmansk Border Service denied that the arrest had been in violation of international law though [18, Åtland K., Ven Bruusgaard K. pp. 341], while the head of the Russian delegation to the Joint Fisheries Commission stated, 'the Norwegians, understandably, had to respond to the uncontrolled fishing that goes hand in hand with [Russia's] passivity' [12].

At the regional level in Murmansk, on the other hand, there were crass statements against Norway, both from shipowners and local politicians. Their anger was also directed at their own authorities – the military and the Federal Security Service (FSB) were criticized for their unwillingness to protect Russian citizens [13]. In the media, the captain of the *Elektron* was partly hailed as a hero and partly portrayed as a criminal who had embarrassed Russia.

Thus, starting with the *Elektron* case, we see a distinction between a dialogue-oriented central power and a conflict-oriented 'opposition' concerning the FPZ. Lavrov's desire for bilateral discussions was followed up in the Joint Fisheries Commission, where the fisheries around Svalbard became a regular item on the agenda from 2005. In the ensuing years, the parties appeared to reach a mutual understanding of the need to react to violations in the Zone. Between 2006 and 2010, six trawlers were arrested in the FPZ, without triggering formal protests from Russia [13, Østhagen A. pp. 107-111]. The focus of the Russian delegation to the Joint Fisheries Commission was to reach an agreement on harmonization of Norwegian and Russian fishing regulations [14]. And in 2009/10, the parties agreed on common rules for mesh size in trawls, minimum size limits for fish and regulations concerning closing/opening of fishing grounds. Russian fishers had long complained about having to follow Norwegian rules when fishing in the FPZ, so this was an important conflict-dampening measure.

In practice, the Russian fisheries authorities' civilian surveillance vessels had little to contend with against the Norwegian Coast Guard [19, Åtland K.]. At a meeting of the 'Russian government commission for provision of Russia's presence on the Spitsbergen archipelago in December 2011 the possibility of using the Northern Fleet, as well as strategic, long-range bombers pa-

[11] Ministry of Foreign Affairs of the Russian Federation. Transcript of Remarks and Replies to Media Questions by Minister of Foreign Affairs of Russia Sergey Lavrov. Press release, 18 October, 2005.
[12] Shut D. Hvilken effekt hadde sentraliseringen i Russland på fiskerisamarbeidet med Norge? (What effect did centralization in Russia have on the fisheries cooperation with Norway?). University of Oslo, 2012: https://www.duo.uio.no/bitstream/handle/10852/34411/1/Shut-Master.pdf, pp. 64.
[13] Tjønn H. Voldsomme utfall mot Norge (Strong reactions against Norway). Aftenposten, 22 October, 2005: https://www.aftenposten.no/norge/i/JQny6/Voldsomme-utfall-mot-Norge
[14] This is evident from the annual protocols from the fisheries cooperation sessions. URL: www.jointfish.com/.

trolling the Arctic Ocean, to demonstrate strength was discussed, although direct military intervention in fisheries disputes was not considered [9, Portsel A. K. pp. 14-15].

Intermezzo 2010–2011: Turmoil surrounding the maritime boundary agreement and the Sapfir-2 case

The internal disagreement between the Russian federal authorities and the Norway-critical' opposition' in Murmansk region deepened after the parties had signed the 2010 maritime boundary treaty which defined the boundary between the Norwegian and the Russian EEZs – a matter the parties had not been able to settle when they established their EEZs in the mid-to-late 1970s. An alliance of fishers, regional politicians and some academics lobbied intensively to stop Russia from ratifying the treaty. Arguing that the treaty implicitly recognized Norwegian sovereign rights in the FPZ, they warned that the pressure against Russian fishers in the zone would increase [8, Zilanov V.], [20, Hønneland G.]. Some predicted that the number of arrests of Russian vessels would escalate after ratification. For their part, the central authorities in Moscow were doing everything they could to prevent the opposition from interfering with State Duma consent to ratification of the agreement, with media control and pressure against politicians playing an important role [21, Hønneland G.], [22, Ims M.], [23, Moe A., Fjærtoft D., Øverland I.].

In 2011 – when the agreement had been ratified and had entered into force – a total of five Russian trawlers were arrested by the Norwegian Coast Guard in the FPZ, and the fishers and their supporters understandably felt vindicated [24, Glubokov A.I., Afanasiev P.K., Mel'nikov. S.P.] Fisheries representatives and local politicians in Murmansk described the arrests as 'aggressive acts' aimed at 'driving' Russian fishers out of the Barents Sea [25, Nevskoe vremya]. They also had harsh words to their own authorities: for example, a representative in the Murmansk Parliament accused MID of taking the [Norwegian] 'intruders" side (ibid.)

The controversy peaked in autumn 2011, when the Russian trawler *Sapfir-2* was seized for discarding fish. Russian media described the arrest as unusually dramatic. Also in this case, the captain called on a Russian state vessel, *Angrapa,* for help, and media reports conveyed the impression that the Norwegian Coast Guard inspectors acted brutally to prevent Russian inspectors from coming to the rescue.[15] There had been no official protests against arrests earlier that year, but now MID delivered a sharp note to the Norwegian ambassador, declaring that Norway's actions had an 'unacceptable and challenging character', and specifically noting the many recent arrests in the FPZ [9, Portsel A. K.].

At the meeting of the Joint Fisheries Commission a few weeks after the arrest, the mood was tense [16]. At Russian request, an extraordinary session was held in February 2012 on fishing around Svalbard. Here it was agreed to 'prepare as soon as possible' a unified definition of the

[15] Mikhailov A., Chistyakova A. МИД РФ протестует против задержания норвежцами 'Сапфира-2' (Russian Foreign Ministry protests against detention of Sapphire-2 by Norwegians). Rossiyskaya gazeta, 4 October, 2011.
[16] Interview, Norwegian Directorate of Fisheries, 20 November 2018.

term 'discard'. In addition, a working group was to prepare common guidelines for inspections [7, Hønneland G.].

Phase III, 2012–2018: Control and attenuated reactions

Since 2012, there has been much less turmoil over the FPZ internally in Russia. The arrests that have taken place in the zone after 2011 have received scant media coverage; articles and commentaries about the FPZ generally refer to older cases (*Elektron*, *Sapfir-2*). In the spring of 2017, however, the arrest of the Norwegian trawler *Remøy* in the REZ, which was held back for three weeks as well as receiving a stinging fine for what the Norwegians saw as a technical registration error by the Norwegian Directorate of Fisheries, received extensive coverage in the Northwest Russian media [17]. In Norway, it was speculated that the arrest could be 'revenge' for humiliating arrests of Russian vessels in the past [18].

An important reason why the debate around the FPZ has now stalled is probably the relatively few arrests of Russian vessels in recent years (see Table I). Importantly, most of these cases – and all cases after 2013 – have been 'resolved at sea'. Under this procedure which was introduced in 2012 by the Norwegian side, arrested vessels are not brought to a Norwegian port, but are released when a guarantee for payment of imposed fines has been produced [19]. Prior to the introduction of this scheme, there were frequent complaints from Russian vessel-owners that only foreign fishing vessels were forced to go to a Norwegian port after being arrested in Norwegian jurisdictions. The shipowners saw this as discriminatory, as it entailed lost fishing time and income, in addition to the fine. The Norwegian Coast Guard believes that the new scheme has offset conflict[20] – a view supported by the relative silence on the topic of arrests in the Russian media.

Table 1

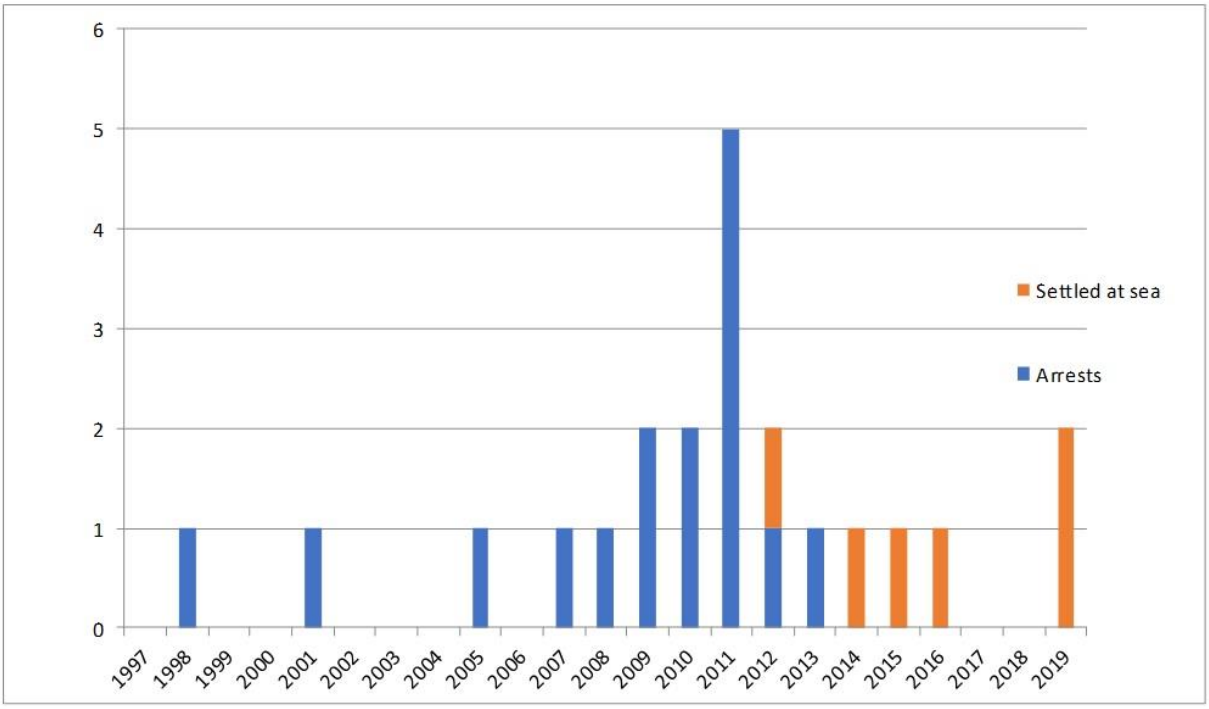
[17] Bi-port. Норвежский траулер «Remøy» был арестован за незаконный вылов почти 400 тонн креветок (The Norwegian trawler Remøy has been arrested for illegal catch of almost 400 tons of shrimp), b-port.com, 23 May, 2017. https://b-port.com/news/201324

[18] Fiskeribladet. Tolker 'Remøy'-saken som hevn (Interprets the Remøy-case as revenge). Fiskeribladet, 26 May, 2017: https://fiskeribladet.no/nyheter/?artikkel=53366

[19] The procedure requires that there is no 'need for investigation or proof of evidence beyond what the Coast Guard can carry out at sea'. The procedure is used in all Norwegian jurisdictions. (Personal communication with the Coast Guard 8 January 2019; Troms and Finnmark State Attorney's Office and Rogaland State Attorney's Office 2014.)

[20] Personal communication with the Coast Guard, 8 January 2019.

Overview of Norwegian Coast Guard arrests in the FPZ. 1997–2019. Data from the Norwegian Coast Guard and from [14, Skram A-I. p. 151].



Nevertheless, the sailing has not always been smooth. Criticism of the Norwegian Coast Guard's inspection practices has come from several corners (see, for example, [26, Sennikov S. A.]) and Chairman of the Coordination council for northern fisheries (Sevryba) Vyacheslav Zilanov claimed in an interview in 2016 that inspections of Russian vessels have 'a humiliating character' [21]. Particular attention has been given to discarding of fish. Zilanov complained that the rules for discarding are interpreted too strictly: '…if a herringbone falls overboard or the trawl accidentally splits as it is hauled, this cannot be considered a violation ...' [22]. In an email exchange with the authors in 2018, Zilanov elaborated his views:

> Discarding is a Norwegian 'invention' and the Norwegians show a consistent lack of interest in giving the concept a practical interpretation. Why? [Because] this is a favourable situation for the Norwegian coast guard, so that they can continue to arrest fishers, especially Russian ones. The Norwegians are not interested in solving this problem.[23]

The processes initiated at the Fisheries Commission's session in 2011 (unified definition of the term 'discarding', common guidelines for inspections) were aimed at addressing exactly these Russian concerns. In the years that followed, the parties tried to find mutually acceptable solu-

[21] Potashov V. Конец «рыбным конфликтам» положат единые «правила игры»? (Will the end of the 'fish conflicts' result in unified 'rules of the game'?). Mustoi.ru, 5 April, 2016: https://mustoi.ru/konec-rybnym-konfliktam-polozhat-edinye-pravila-igry/.

[22] Potashov V. Конец «рыбным конфликтам» положат единые «правила игры»? (Will the end of the 'fish conflicts' result in unified 'rules of the game'?). Mustoi.ru, 5 April, 2016: https://mustoi.ru/konec-rybnym-konfliktam-polozhat-edinye-pravila-igry/.

[23] Personal communication, Vyacheslav Zilanov, 16 November 2018.

tions, but this proved difficult. The Russian side wanted specific and strict limitations on the duration of inspections, the number of inspectors who could normally participate, etc. Furthermore, common guidelines were sought not only for the inspection phase itself, but also for the investigation phase, which in Norway falls under the competence of the prosecuting authority.[24] Negotiations on this point were not acceptable to Norway, and the work was 'temporarily' halted in 2015.

However, the atmosphere in the Joint Fisheries Commission and its subsidiary bodies has improved in recent years.[25] Norwegian participants in the collaboration state that constructive work is being done to identify matters where joint solutions are possible, and that the parties otherwise 'agree to disagree'. Interviews also indicate that the deterioration in government-level Norwegian–Russian relations after 2014 has not affected the Commission's work.[26]

In parallel with the better climate in the Joint Fisheries Commission, the official Russian presence in the FPZ has become more noticeable. Responsibility for patrolling in the area lies no longer with the fisheries authorities, but with the Russian Coast Guard. Since its formal establishment in 2004, the Coast Guard has undergone extensive modernization, and its work is prioritized [19, Åtland, K.]. Several new, more sophisticated vessels have been added[27]; some of these are ice-strengthened, and at least one vessel is equipped with a helicopter.[28] Despite Russia's weakened economy, there has been a moderate increase in Coast Guard patrolling in the FPZ in recent years.[29] The modernization of the fleet has made it possible to conduct patrols most of the year, and the helicopter-carrying vessel *Polyarnaya Zvezda* is regularly observed in the Zone.[30] By contrast, Norwegian capacities have deteriorated: the Norwegian Coast Guard is now without helicopters most of the time, due to serious delays in delivery of new helicopters, and its vessels are ageing.[31] However, there have been no attempts to interfere with Norwegian inspections in the FPZ since the *Sapfir-2* episode back in 2011 – which involved a vessel from the regional fisheries inspection agency, not a Russian Coast Guard vessel.

Statements from representatives of the Russian Coast Guard indicate an ambition to achieve some form of parity with the Norwegian Coast Guard in the FPZ. In 2016, the head of the Border Service claimed in an interview that the agency's vessels oversee Svalbard 'together with'

[24] Personal communication, the Coast Guard, 8 January 2019; Interviews in the Directorate of Fisheries, 20 November 2018.
[25] Interviews in the Directorate of Fisheries, 20 November 2018
[26] Personal communication with Coast Guard, 8 January 2019; interviews in the Directorate of Fisheries 20 November 2018.
[27] Norwegian Intelligence Service. Fokus 2018. Oslo, 2018. URL: https://forsvaret.no/fakta_/ForsvaretDocuments/Fokus2018_engelsk_Enkeltsider_Godkjent_med.pdf
[28] FishKamchatka. ФСБ: приоритет Береговой охраны — в вертолетонесущих судах (FSB: Coast Guard Priority – Helicopter-carrying Ships). FishKamchatka, 30 May, 2019.
[29] Personal communication with Coast Guard, 8 January 2019; interviews in the Directorate of Fisheries 20 November 2018.
[30] Personal communication with the Coast Guard, 8 January 2019.
[31] It is expected that the helicopters will not be delivered before 2022.

the Norwegian Coast Guard, and that they inspect 'both Russian and foreign fishing vessels'.[32] In an interview in 2012, the Border Service's press officer in Murmansk gave the impression that there was an agreement that the Norwegian Coast Guard should 'generally' refrain from controlling Russian vessels when Russian coastguard vessels were in the area.[33]

Such statements can perhaps be explained by poor information flow upwards in the system or, more likely, as 'alternative facts' intended for a domestic audience. The Norwegian Coast Guard states that there is no form of operational cooperation with the Russian side in the FPZ, other than exchanging courtesy phrases on the radio, and that joint inspections are completely out of the question – although the Russians have expressed a desire for such on several occasions.[34] Attempts by Russian Coast Guard vessels to inspect third-country vessels in the FPZ have not been observed.[35]

In summary, the dust has settled in Russian fisheries circles and in the Fisheries Commission, while the Russian presence in the FPZ has increased. But at a higher level, Russia's criticisms of Norway continue. There have been attempts to engage Norway in bilateral discussions concerning Svalbard.[36] In October 2017, Russian newspapers published excerpts from a 'leaked' report from the Russian Ministry of Defence:

> As a special threat, mention is made of Norway and its plans for unilateral revision of international agreements. The report underlines that the country's authorities are striving to establish 'absolute national jurisdiction over the archipelago of Svalbard and the adjacent 200-mile zone'.[37]

And in February 2020, in connection with the centenary of the Svalbard Treaty, Foreign Minister Lavrov sent a letter to his Norwegian counterpart listing Russian complaints, including 'the unlawfulness of Norway's fisheries protection zone'.[38] In April 2020, MID sent a formal protest note to Norway after the arrest of the trawler Borey, explicitly referring to the Svalbard Treaty. "In the year of the 100th anniversary of this document, we urge Oslo to strictly follow the spirit and

[32] FSB. Illegal migration and conflicts in the world change the situation at the border. Federal Security Service, 2016. http://ps.fsb.ru/smi/appearance/detail. htm%21id%3D10321180%40fsbAppearance.html

[33] B-Port News. Border guards patrol at Svalbard. B-Port News, 26 October, 2012.

[34] Personal communication with the Coast Guard, 8 January 2019. A specific example is mentioned in *Kyst og Fjord* (2012): A letter from the then-head of FSB's Border Guard Service in Murmansk, Sergey Kudryashov to the Norwegian Ministry of Defence, expressing a wish for 'a more formal partnership with joint Norwegian–Russian fisheries inspections in the fish-rich area around Svalbard'..

[35] Personal communication with the Coast Guard, 16 January 2019. It is also difficult to imagine that such an action would have gone unnoticed, as it would probably have led to sharp protests from the third country in question.

[36] Staalesen A. Lavrov attacks Norway, says relations on Svalbard should be better. The Barents Observer, 19 October, 2017: https://thebarentsobserver.com/en/arctic/2017/10/lavrov-attacks-norway-over-svalbard

[37] Georgievich A., Safronov I., Kozlov D. Geopolitics to help supply. Kommersant, 3 October, 2017: https://www.kommersant.ru/doc/3428044.

[38] Ministry of Foreign Affairs of the Russian Federation. Press release on Foreign Minister Sergey Lavrov's message to Norwegian Foreign Minister Ine Eriksen Soreide on the occasion of the 100th anniversary of the Spitsbergen Treaty. 2020: https://www.mid.ru/en/foreign_policy/news/-/asset_publisher/cKNonkJE02Bw/content/id/4019093

letter of the treaty" [39]. On the practical level the episode was resolved after one day, as the trawler accepted to pay a fine [40].

Explanations, implications, and conclusions

There has been considerable variation in Russian responses to Norwegian enforcement practice in the FPZ. The strongest reactions have come from regional actors, primarily shipowners in the fishing industry and their supporters in north-western Russia. Criticism from these actors was particularly sharp around the turn of the millennium and in the time around the signing of the maritime boundary agreement but weakening after 2011. The Russian federal authorities have been more diplomatic than the fishers, but they too were initially highly critical of Norway's new line – as borne out by the absence of diplomatic niceties in the note transmitted after the arrest of the *Chernigov* in 2001. From the *Elektron* case in 2005, however, Moscow focused on a dialogue-oriented approach, except for a short period after the arrest of the *Sapfir-2*.

We thus find two turning points: one in 2005, when the central power went from protest to dialogue, and one after 2011, when criticism from fishers and their supporters quieted. Interestingly, 2014 does not appear to have been a turning point, despite the deterioration in bilateral relations following the Russian annexation of Crimea. How can this be explained?

The dispute over the FPZ has more aspects than purely legal ones. Russia has extensive interests in the area, both military and economic; there is also a historical dimension, involving strong feelings. Russian observers refer both to fishing history and to the fact that early Russian marine scientists have made the greatest contributions to exploration and mapping of the stocks around Svalbard [2, Vylegzhanin A.N., Zilanov V.], [11, Zilanov V.]. There is also much to indicate that feelings of historical injustices continue to shape Russia's perceptions of its legitimate role in the area. The fact that Russia was barred from participating in the negotiations on the Svalbard Treaty has shaped Russian perceptions of Svalbard issues in retrospect [16. Jørgensen J. H.], [2, Vylegzhanin A. N., Zilanov V.]; this narrative of the 'weakened superpower' was reactivated in the Russian Svalbard debate after the dissolution of the Soviet Union.

In their criticism of Norway and the Norwegian Coast Guard, shipowners have mentioned all these factors, but that does not mean they carry equal weight. Perhaps unsurprisingly, Russian fishers seem mainly concerned with the practicalities of fishing. What they have feared first and foremost are deteriorating framework conditions for Russian fishing activities in the FPZ – at worst, being squeezed out of the zone. The campaign against ratification of the 2010 maritime boundary agreement, helped sharpen fishers' fears of underlying motives on the Norwegian side.

[39] Zakharova. Detention of Borei Russian fishing trawler in the so-called fishery protection zone around Spitsbergen. Briefing by Foreign Ministry Spokesperson Maria Zakharova, Moscow, 17 April, 2020, https://www.mid.ru/en/web/guest/foreign_policy/news/asset_publisher/cKNonkJE02Bw/content/id/4101166#21

[40] Korabel. The trawler Borey arrested in Norway has been released. Korabel.ru, 3 April, 2020. https://www.korabel.ru/news/comments/zaderzhannyy_v_norvegii_trauler_ borey_otpuschen.html

These fears were amplified when the Norwegian Coast Guard arrested a record number of Russian vessels in the FPZ soon after the agreement went into force.

Nevertheless, the wave of protests from the 'fishery opposition' in 2010/2011 was a transient phenomenon. This may partially be explained by the region's weakened position, which made it costly for regional politicians to continue to challenge the policies of the central authorities. But we believe that a more important factor was the decline in the number of arrests from 2012 onwards – and not least the new scheme for settling cases at sea. Further, the harmonization of Norwegian and Russian fisheries regulations in the Barents Sea, as well as the work of the Joint Fisheries Commission in obtaining and distributing information on national regulations, made it easier for Russian fishers to operate both in the FPZ and in the NEZ. Regional opposition to Norwegian practices in the FPZ dwindled, since so much of it had been based on dissatisfaction among fishers.

Moscow's response pattern has been more complex. Different agencies have different priorities and sometimes different worldviews and ideological positions. The ongoing power struggle among government structures adds to the complexity. In the late 1990s, power in Russia was highly fragmented. Sector interests and private interests were evident in many political areas – not least in the fisheries sector. In the Joint Fisheries Commission, several shipowners critical to Norway contributed to a high level of conflict. When the Norwegian Coast Guard began to tighten its enforcement, Russian reactions were strong but uncoordinated.

As Vladimir Putin consolidated his power soon after the turn of the millennium, Russia emerged as a more unified actor – at least in foreign policy. This became evident when the Russian authorities were faced with the *Elektron* case in 2005. Given the considerable public and international attention to the story as it unfolded, there is little reason to doubt that Putin was involved in deciding how it should be handled – and the central power chose dialogue rather than confrontation. That response seems to correspond to priorities in Putin’s early presidency, with pragmatism in most areas. True, the goal was to rebuild Russia as a great power, but this could best be achieved through stabilization and economic growth. Putin was also concerned that Russia should be perceived as a reliable and responsible partner to other countries – not least in the Arctic. Several analyses have indicated that centralization under Putin helped the Norwegian–Russian fisheries cooperation to develop in a positive direction in those years.[41]

As Jørgensen has noted [16, Jørgensen J. H.], the absence of official protests against the arrest of Russian vessels in the FPZ could be interpreted as tacit acceptance of Norway's right to exercise jurisdiction there. However, the Russian authorities made sure to send signals that they were not prepared for any kind of infringement on Russian rights. Here, Russia followed the same

[41] Shut D. Hvilken effekt hadde sentraliseringen i Russland på fiskerisamarbeidet med Norge? (What effect did centralization in Russia have on the fisheries cooperation with Norway?). University of Oslo, 2012: https://www.duo.uio.no/bitstream/handle/10852/34411/1/Shut-Master.pdf; Ven Bruusgaard K. Fiskerikonflikter i Barentshavet – potensial for eskalering? (Fisheries conflicts in the Barents Sea – Potential for escalation?). Oslo, 2006: https://fhs.brage.unit.no/fhs-xmlui/handle/11250/2444396

line as the Soviet Union: putting mild pressure on Norway to try to achieve a special position for Russia in the region – including by promoting proposals for various joint arrangements, and by sending Russian fisheries inspection vessels to the FPZ. The deployment of ships from a modern Russian Coast Guard underscores Russia's positions.

When the ratification of the Barents Sea boundary agreement was followed by an unusually high number of arrests of Russian fishing vessels in the FPZ, Moscow's dialogue-oriented line came under intense pressure. It would have been politically impossible for MID not to respond. The red-hot (in a diplomatic context) language used in the protest note delivered during the *Sapfir-2* case testifies to strong frustration. However, the Russian authorities soon resumed a conciliatory tone. Indeed, there seem to have been no protests vs arrests of Russian vessels in the FPZ between 2012 and 2019. The period includes six cases in total, five of which occurred after Russia's annexation of Crimea. All but one was resolved at sea.

The real question is why Russia has not responded more strongly. After all, the Russian official position on the FPZ has been consistent ever since 1977: Norway has no right to unilaterally establish such a zone and enforce regulations there. Perhaps Russia does not want to risk an open conflict in the Zone, for instance by using force to prevent Norwegian Coast Guard interventions?[42] Given Norway's NATO membership, such a conflict could escalate to dangerous levels. While it cannot be ruled out that such calculations play a role for central decision-makers, we hold that concern for Russian fisheries interests has more explanatory power.

This may seem paradoxical, as we have concluded that disputes about Norwegian enforcement in the FPZ have brought strong reactions from Russian fishers. However, 'Russian fishing interests' can be understood more broadly. As noted, Russian fishers catch considerable quantities in the Zone very year. Crucially, the FPZ keeps newcomers out, and third-nation vessels must fish within quotas allocated by Russia or Norway – as a share of their respective Barents Sea quotas. As third-country vessels must also comply with Norwegian regulations, the Zone protects Russian fisheries interests well. If Russia were to sabotage Norwegian jurisdiction to such an extent that the FPZ effectively broke down and the official Russian position – that these areas are international waters – were realized, third-country vessels would basically have free rein – to the detriment of Russian fishers. This paradox is understood by many, but not all, in Russia.

Logically, then, if the FPZ is so important for Russia, why does the country not formally recognize Norwegian jurisdiction? This would be a step too far, as it would collide with overarching Russian priorities and ambitions in the region. Russia has consistently argued for interpretations of international agreements, be they UNCLOS or the Svalbard Treaty, that serve to maximize Russian interests. In this respect Russia is not much different from other countries. But in the Arctic, Russian interests are stronger than those of many other states. Russian policies in the FPZ have been a *balancing act*: always underscoring its official position and demonstrating that that there are limitations to how much Norwegian enforcement can be accepted – while also making sure that the

[42] See [19, Åtland K.], [27, Østhagen A.]

enforcement regime survives, e.g. by formally instructing Russian fishing vessels to accept Norwegian inspection on board (but not sign inspection protocols) [28, Zilanov, V.]. It is not easy to maintain this balance. Forces outside the Kremlin's control may rock the boat. Earlier episodes caused outcry in fisheries circles and regionally in Murmansk. Largely because of revised procedures for interaction between Russian fishers and Norwegian inspectors, as well as clarification of regulations, such episodes have not occurred for several years. But a situation when a Russian vessel is boarded by the Norwegian Coast Guard and calls for help from the Russian Coast Guard cannot be ruled out. In the past, responses from the Russian authorities was moderate. But today, with distinctly nationalistic trends in Russian politics, as in the media and society at large, neglecting calls for intervention when Russian fishers claim mistreatment by the Norwegian authorities could prove difficult even for Moscow. The deterioration in Norway-Russia relations also means that any situation that may arise in the FPZ will be interpreted in a more tense security policy context.

Precisely this may also help to explain the willingness to avoid such situations between the two coast guards [13, Østhagen A.]. Russian operations at sea are now under better control than before. Since 2012, patrolling operations in the FPZ have been conducted by the Russian Coast Guard, subordinate to the FSB and its Border Service. Although the FSB sees itself as the nation's (coastal) defender, and some statements may indicate a desire to get on par with the Norwegian Coast Guard in the FPZ, we assume that the Border Service will have a high threshold for direct confrontation with the Norwegian Coast Guard in the Zone. The FSB has generally acted more disciplined than the fisheries authorities; moreover, the FSB answers directly to the president and is presumably highly receptive to signals from the top – for instance, to avoid direct skirmishes.

Specific measures have been taken to avoid clashes between the Norwegian and Russian Coast Guards. Several studies have highlighted the importance of contact and dialogue to avoid conflict escalation and crisis situations.[43] As Østhagen shows [13, Østhagen A. pp. 118-120], there is close dialogue between the two Coast Guards, with regular drills in the Barents Sea, annual exchanges of fisheries inspectors and personnel between headquarters, and sharing of relevant information as needed.[44] Although the 2014 Ukraine conflict brought some restrictions, dialogue has generally been maintained [27, Østhagen A. p. 53]. An important element is the person-to-person contact, at the official and the operational levels [15, Hønneland G., Jørgensen A-K.]. This is not just about meeting points, but also about continuity. Keeping the same people in key roles over time fosters personal relationships. This contributes to the development of trust, and to the formation of a commonality of interest: a group of people who approach the same problems (fisheries conflict, search-and-rescue operations, oil spills) in the same way. Also positive is the Norwegian Coast Guard's emergency assistance to Russian fishers. Its dual role, as enforcer of fishing

[43] Several studies of Norwegian–Russian fisheries and resource management, as well as coast guard cooperation, note the value of this approach in Norway–Russia relations in general. See, e.g., [7, Hønneland G.], [12, Kosmo S.], [27, Østhagen A.].

[44] Moscow Times. Norwegian Coast Guard Ship Makes Port Call in Russia's North. The Moscow Times, 3 October, 2019.

regulations and as 'merciful Samaritan' towards Russian fishers, helps to build a community of shared interest and creates goodwill on both sides. Another important forum for dialogue is the joint Norwegian–Russian Fisheries Commission. Moreover, the Arctic Coast Guard Forum has been established, focusing on practical multilateral cooperation.

Of course, cost–benefit calculations are the basis of much of this cooperation. Sustainable management of shared fish stocks benefits both parties. Emergency preparedness and search-and-rescue services are an area where cooperation achieves more than what each country can do unilaterally. Mutual interest is vital for maintaining and furthering cooperation and dialogue. But these aspects are not static. A weakening of venues for dialogue could change personnel and undercut communication channels. Perceptions of common interests may shift. Climate change, economic downturns for fisheries, and sharply reduced quotas may challenge the situation. Changes in international power relations could also entail risks for confrontation in the FPZ.

We have not found that the events of 2014 represent a watershed as regards the level of conflict in the FPZ. As during the Soviet period, both parties seem concerned with shielding fisheries cooperation as much as possible from fluctuations in (geo)political cycles. This says something about the great value that both sides place on cooperation. It also indicates that not everything with a security-policy dimension is necessarily securitized.

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Pechora Routes of the Northern Scientific and Commercial Expedition *

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Abstract: The article considers the history and the study of the Russian North completed by the Northern scientific and commercial expedition. The main directions of research and the versatility of expeditions in 1920–1924 are reflected. The geological problems that were solved by expeditions to the Arctic territories of the northeastern part of the East European platform, the Timan Ridge, and the northern part of the Ural fold system with its continuing island chain (Vaigach and Novaya Zemlya) are considered. The theoretical conclusions of A.A. Chernov are reflected. The existence of a vast coal basin, the discovery of a great amount of mineral deposits, the mapping of the North of the Urals, and the area near the Pechora are recorded. The results of the described ethnographic research are the first important components in the study of cultural heritage. Despite the multidisciplinary nature and the amount of research carried out in the Arctic, many expeditions were scattered and ineffective; the poor coordination of scientific research that time is also noted by modern researchers of the history of the Arctic development. In 1929, after the reorganization of the Geolkom, on its basis, the Main Geological Exploration Department was formed, and it continued numerous studies of the Pechora region.
Keywords: *scientific research, North expeditions, Pechora region, geology, Chernov's group.*

Organization of the Northern Scientific and Commercial Expedition

The history of the Northern Scientific and Industrial Expedition (abbreviated - Sevekspeditsiya), its activities and the results of scientific - search and industrial works, which ushered in the development of Arctic regions and many industries in the Russian North, as well as the emergence of new settlements and transportation routes dedicated many works of scientists and local historians. The scale and versatility of the expedition's activities are partially covered in some generalizing monographs by M.I. Belova [1], A.V. Koltsova [2], D.P. Belyaeva [3], E.P. Wittenburg [4], as well as in individual publications [5, 6, 7, 8, 9]. Despite the relatively good coverage in the historiography of Soviet Arctic research in the 1920s, scientific research activities in the Pechora Territory did not become the subject of a separate study.

Order No. 9792 of the Presidium of the Supreme Economic Council of March 4, 1920, stated: "For scientific and practical research and the accompanying use of natural productive forces, mainly animal, fish and reindeer husbandry in the Russian North, to establish a Northern Scientific fishing expedition". The new organization was given the task of "the production of scientific and technical research of the natural productive forces of the Russian North as well as the management and coordination of scientific and practical work carried out by all bodies and institutions on the ground" [9, Andreev A.O. et al., p. 7]. Samoilovich R.L. was appointed the head of the Scientific

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Council of the Sevexpedition. In 1921 he wrote: “Under extremely difficult conditions… it would be an excessive luxury to send an entire expedition to study this or that scientific and practical issue. On the contrary, in each expedition, in each detachment, specialists should be represented, if possible, at least the main branches of knowledge” [9, Andreev A.O. et al., p. 8]. In this regard, famous scientists were invited to the Academic Council: K.M. Deryugin – a zoologist and hydrobiologist, N.M. Knipovich – a zoologist, ichthyologist, oceanologist, geographer, academician of the Russian Academy of Sciences, A.E. Fersman – a mineralogist, crystallographer, geochemist, Yu.M. Shokalsky – an oceanographer, meteorologist, geographer, etc. Thus, the Sevexpedition was created as a leading organization coordinating all research work in the Arctic.

A special place in the plans of the Northern scientific and fishing expedition in the early 1920s was assigned to the study of the Pechora Territory, which was of strategic importance associated with the oil and gas and coal industry [10, Ievlev A.A.]. This is confirmed by the fact that the creation of the Sevexpedition took place based on the Commission for the North and the Pechora expedition. The beginning of the Pechora expeditions work is associated with the creation in 1919 of the Commission for the Use of the Natural Productive Forces of the Russian North (abbreviated as the Commission for the North). It consisted of representatives from the People's Commissariat of Trade and Industry (Yu.V. Pyatigorsky), the Supreme Council of the National Economy, the People's Commissariat of Agriculture, the Polar Commission (I.P. Tolmachev), and the Commission for the Study of the country's natural productive forces of the Academy of Sciences (A.E. Fersman), the Northern Department of the People's Commissariat of Railways (D.D. Rudnev). Well-known scientists who were already involved in the study of the Russian North were involved as scientists: R. L. Samoilovich - the former head of mining expeditions in Spitsbergen and the North of Russia, N. A. Kulik - a representative of the Geological Committee and a geologist of the Museum of the Academy of Sciences, N.S. Tikhonov is a mining engineer. In 1919, the first Pechora expedition took place, which became the largest event of the Commission for the North. Economic research was carried out during the expedition. Issues of the reorganization of suede and grinding production, salt and oil industries were considered, butter and dairy business, hunting, fishing, and reindeer husbandry were studied [10, Ievlev A.A.]. In the same year, the Ukhta Bureau was organized as part of the Commission for the North, the work of which was aimed at the survey and practical use of the Ukhta oil-bearing region. The bureau included R.L. Samoilovich, B.K. Likharev, B.V. Sabanin. The expedition work results in 1919 were presented at a meeting of the Commission for the North. N.A. Kulik, head of the Pechora expedition, emphasized the significance of the results obtained, and R.L. Samoilovich noted the increased role of the Pechora expedition [11, Silin V.I., p. 134]. On February 19, 1920, in Vologda, an interdepartmental meeting was held at the Special Food Commission of the Northern Front. The question of creating an enlarged body for the study of the Russian North was raised. There, N. A. Kulik proposed to expand the Pechora expedition's activities and include in the sphere of interests of the territory gravitating towards the Arctic Ocean. Already on February 25, the Revolutionary Military Council of the 6th Army appealed to

the Chairman of the Council of People's Commissars VI Lenin with a request to support the decision of the meeting and create a new institution with a diversified and multidisciplinary nature [8, Emelin M.A., p. 36].

Research of the Sevexpedition in 1920–1924

The first geological work was carried out by the Sevexpedition in the summer of 1920, mainly on the Kola Peninsula; in particular, P.V. Wittenburg headed the Murmansk, and A.E. Fersman led the Kola detachments. In subsequent years, the detachments under the leadership of A.E. Fersman studied the Khibiny mountains, which evoked exclusively mineralogical interest with unique lamprophyllites, eudialytes, enigmatites, and other new rare minerals [12, Proceedings].

In 1921, Professor P.V. Wittenburg explored part of the Kola Peninsula and the northern part of the Kaninsky Peninsula and, together with R.L. Samoilovich, part of the Barents Sea to Novaya Zemlya. In addition to geologists, the expedition included botanist M. I. Nazarov, hydrometeorologist B.G. Dikstveld. The captain of the schooner “Charlotte” F.M. Valnev. The expedition lasted from August 15 to September 25. During the expedition, the coastline's composition and structure were studied, a change in the landscape from a flat, abraded to mountainous alpine type in the Matochkin Shar zone was noted. For the first time, the beginning of ongoing glaciation was established in the Yuzhnaya Sulmeneva Bay. Scientists collected paleontological collections and remarkable herbarium and material on soil science. In 1921, under the leadership of the geologist N.A. Kulik in the southwestern part of Vaigach Island, in the Varneka Bay, the first polymetallic veins were discovered. In the same detachment G.F. Drucker, together with military engineer A.N. Kazakav and a student at the Geographical Institute, E.L. Bazhenova, surveyed the coast and performed ichthyological studies, assessed the prospects of fishing [13, Works, p. 13].

In 1923, R.L. Samoilovich was engaged in geological work on the islands of Vaigach and Novaya Zemlya. The expedition aimed to study geographically and geologically the western coast of Novaya Zemlya from Bezymyannaya Bay to Matochkin Shar, as well as a trip to the central part of the archipelago to find out the distribution of glaciers and determine astronomical points. The expedition consisted of six people: R.L. Samoilovich, G.P. Gorbunov, K.V. Kuznetsov, S.Ya. Mittelman, S.G. Natanson and two sailors. On August 24, the steamer “Vorovsky” delivered the expedition to the roadstead of Malye Karmakul, and on October 9, it arrived back in Arkhangelsk. Most of the research was carried out in the central part of the island on foot routes, during which more than 50 km were covered. We studied mountain ridges, composed of sandstones and clay shales, the height of which reached 300m. The coastline was precisely fixed with the establishment of astronomical points. In 1924, the expedition was divided into two groups: the first studied the geological structure of the eastern coast of the southern island of Novaya Zemlya, and the second – the western coast of Novaya Zemlya in Pukhovy Bay, where they studied relict lakes, Arctic char fishing, and rookeries. On the eastern bank, four astronomical points were identified (Kamenka River, Savvina River, Abrosimov Bay, and Schubert Bay) and one point in Petukhovsky Shar. Also, an in-

ventory of the shores was made, and the geological structure was studied. In practical terms, this expedition was of great importance, having found many animals and fish in the rivers and lips of the eastern coast [14, Samoilovich R.L., p. 67].

In 1920, Professor V.K. Soldatov, together with the hydrobiologist Professor S.A. Zernov, carried out ichthyological studies on the Pechora River. In the report, V.K. Soldatov characterized the ichthyological wealth of Pechora, highlighting the following types of fish: lamprey, salmon, nelma, omul, peled, vendace, whitefish, broad whitefish, etc. [15, Soldatov V.K., p. 72].

Beginning in 1921, large-scale expeditionary investigations began in the Pechora area (Fig. 1). More than 20 teams solved various complex tasks for four years, including mining and geological, geographical, biological, ethnographic, economic, and statistical research.

In 1921, along the Pechora, Izhma, and Usa, the Pechora economic detachment worked, studying peasant farms, trades, population registration, and other economic and geographical issues.

Ethnographers of the Geographical Institute V. Ya Vitskaktin, D.D. Travin, E.A. Dylevsky carried out ethnographic research of the Sevexpedition in the Middle and Lower Pechora.. The base for ethnographic research was Ust-Tsilma. Together with the local population (Samoyeds), scientists roamed the Bolshezemelskaya and Kaninskaya tundra, studying material and spiritual life, studying the Komi-Zyryan people and Russian population, collecting ethnographic and zoological collections. Professor V.G. Bogoraz, in a report on the results of the work of ethnographic detachments, pointed out: “The economic and everyday life of Pechora is a kind of combination of old and new principles, which fight among themselves, but partly coexist together” [16, Bogoraz V.G., p. 7]. Later, V.G. Bogoraz initiated the “Committee for Assistance to the Peoples of the Northern Outskirts” (Committee of the North), whose task was to improve the economic, cultural, and sanitary living conditions of the peoples of the North.

Several complex geological teams worked on the territory: Pinezhsky, Bolshezemelsky, and Verkhnepechorsky. M.B. Edemsky led the Pinega expeditions. The first results of geological work on the rivers Pinega, Sotke, and Kuloy were published in 1926 in Proceedings of the GM of the Academy of Sciences of the USSR. Edemsky M.B. carried out expeditionary work in 1921 and 1923-1926 in Pinega and Kuloy. The generalization of the obtained materials was the monograph “Gypsums of the Northern Territory”, published in 1931. The Pinezhsky region was illuminated from the point of view of the possibility of gypsum deposits use.

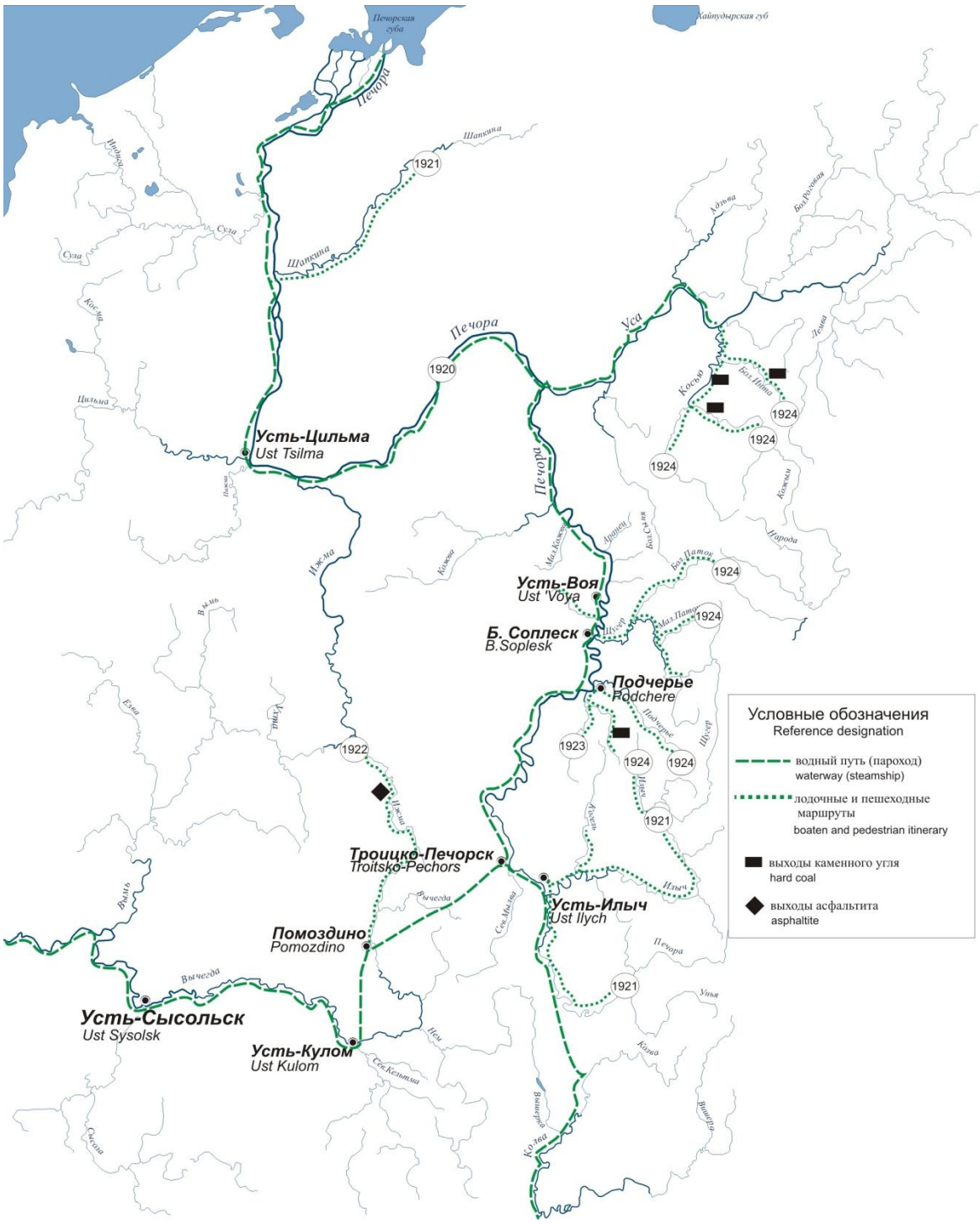

Fig. 1. Route map of expeditions of 1920–1924 in the Pechora area.

The Bolshezemelsky detachment included D.D. Rudnev, A.A. Grigoryev, G. D. Richter and V.Z. Bulwanker. In the Proceedings of the Northern Expedition for 1922, D.D. Rudnev cites a report on the work of the Bolshezemelsky detachment, which indicates that they managed to climb the Shapkina river for 200+ versts. Economic studies were carried out, according to the results of which the richness of floodplain and above floodplain forest thickets of black and red currants, mountain ash, which makes this area attractive for hunting animals (brown bear) and birds (caper-caillie, black grouse, partridge, geese, swans) [17, Rudnev D.D., p. 48]. In 1921, the expedition took about a month to get through Arkhangelsk along the Arctic Ocean to the mouth of the Pechora

River, then climb to the mouth of the Shapkin River and dragged down the river by boat. Almost all components of the geographic complex were described in detail, the structure of geological formations was considered, two moraine and interglacial (marine) horizons were identified, the structure of the relief and soils, including permafrost formations and vegetation, was studied. From the works of A.A. Grigoryev in the geographical literature began to use the concept of "Bolshezemel'skiy ridge" [18, Grigoryev A.A.]. The mentions and reflections of A.A. Grigoryev concerning finds on the Shapkin River, alluvial coal deposits: "Even earlier, between stations 17 and 18, the river alluvium turned out to be coal shale, and between 20 and 21, pieces of coal were found, apparently of Jurassic age, highly similar to the coals in the alluvial sediments of Novaya Zemlya; such coals were found further, upstream, but were not noticed below "[18, Grigoryev A.A., p. 21].

Geological work of the Verkhnepechora detachments

In 1921, the geologists of the Chernovsk group began their regular expedition work on the territory of the Pechora Territory: A.A. Chernov, V.A. Varsanofyeva, T.A. Dobrolyubova, E.D. Soshkina, M.I. Shulga-Nesterenko. Expeditions were carried out by carts and boats, in hard-to-reach places, pedestrian crossings were carried out (Fig. 1). The most acceptable means of transport on the roads was a one-wheeled car and a tarantass. Eighteen-year-old G.A. Chernov, son of A.A. Chernov, who first visited the Pechora area in 1924 and for the next sixty years studied the geography, archeology and geology, wrote: "Over the years I became convinced that it is more convenient to use a one-wheeled car on the Pechora roads than a tarantass. A one-wheeled gives only one push on bumps, a tarantass - two, and all the protection against bruises is a cozy bed of hay" [19, Chernov G.A., p. 25] (Fig. 2.).

In the first years of the expeditions, scientists working in the Pechora area faced great difficulties and problems. It was primarily due to the lack of good topographic maps, lack of transport and manpower, and poor supply of field materials. An example is a conversation between a conductor and A.A. Chernov in the route to the top of Tima-iz: "Is it still far from the hut on Ilych?" – After thinking, he replies: "If this swamp is familiar, then close, if unfamiliar, then it is still far away", - "And what kind of swamp? Familiar or unfamiliar?" – I asked. "I don't know," - the guide answers slowly… " [19, Chernov G.A., p. 13].

In 1921, the work of the Chernovsk group took place on the river. Let us see where the study of mainly Paleozoic deposits begun. The task was to build a geological profile of the lower course of the Ilych River, make a route survey and make a section of the upper reaches of the river, map the most important peaks of the Northern Urals. Based on the tasks set, the work area was divided as follows: V.A. Varsanofyeva studied the outcrops of Silurian rocks in the basin and summits of the Northern Urals on the Ilych River; T.A. Dobrolyubov and E.D. Soshkina worked in the river basins of Vuktyl, Podcherem, and Shugor; A.A. Chernov and M.I. Shulga-Nesterenko studied to the north in the basin of the Kosyu River (Fig. 3). The detachments united in the upper

reaches of Ilych, which made it possible to jointly conduct routes along the tributaries Pirs-yu, Uk-yu, Egra-Lyagi, Shezhim and rivers Kozhym and Ispered [13, Works, p. 19].

Fig. 2. Pechora tract (in the cart of M.I. Shulga-Nesterenko, T.A. Dobrolyubov). Photo by A.A. Chernov. 1924 Fund of Funds of A.A. Chernov's Geological Museum.

Geographically, the following ridges were consistently described from west to east: upper Carboniferous limestones of the Isperid rocks, lower Carboniferous quartz sandstones, shale, and limestones of An-yu Parma and Ydzhid Parma. To the east, in the river basin of Ilych, three meridianally located ridges were identified: the first included nine massifs, including the famous Torre-porre-iz, the central ridge with the Man-pupuner and the eastern ridge known as the Poyasoviy Kamen'.

Fig. 3. Varsanofyeva V.A. (sitting) with guides on Ust-Ilych (1920s). Funds of A.A. Chernov's Geological Museum.

Geologically, in the basin of Ilych, a complete section of Paleozoic sediments from ancient crystalline shales to Permian carbonate rocks were identified, which gave a general idea of the geological structure of the western slope of the Northern Urals. Varsanofyeva V.A., in the veins of the southeastern part of Kychil-iz, found the presence of iron luster and copper ore, on the northern slope of Kozhim-iz - ocher deposits, used by locals to paint sledges and household items. In the southern part of Man-Khan-Kham, locals discovered smoky quartz. Lead ores of Shatym-Priluka were studied, exploration of which was carried out in 1911 by mining engineer N.I. Erassi.

Unconditional practically interest was aroused by the findings of graphite deposits. Graphite shale is a metamorphosed coal bed of the Lower Carboniferous age. The thickness of the layers reaches 6 m. The results of geological work on Ilych gave the foundation to A.A. Chernov's suggestions that in the Permian period, the conditions of sediment deposition towards the north became more favorable for coal formation.

In 1922, due to a lack of funds, A.A. Chernov did not study the Northern Urals, but worked in the Izhma region. Back in 1902, the scientist discovered inclusions of asphaltites in the rocks on the right bank of the Izhma River at the Leg-Kost threshold. Upon completion of the work, A.A. Chernov makes a scientific report on the prospects for the industrial development of the Izhma asphalt region in the Pechora area, the operation of which will begin in the 1930s.[1]

In 1923 in the river basins of Podcherom and Shchugor carry out joint work by A.A. Chernov, V.A. Varsanofyeva, M.I. Shulga-Nesterenko and T.A. Dobrolyubova. Climbing up the river, Aleksandr Aleksandrovich, together with Vera Aleksandrovna, studied the city of Tima-Iz, then they

[1] Scientific archive of the Komi Scientific Center of the Ural Branch of the Russian Academy of Sciences. F. 1. Op.11. D. 633.

descended into the basin of the Ilych river. At the top of Tim-iz, built of quartzite sandstones, A.A. Chernov discovered a large magnetic anomaly, for the study of which in 1926 an expedition was assembled under the leadership of Professor V.F. Bonchkovsky.

A year later, T.A. Dobrolyubova continues to study the same sections. She succeeded, on the basis of faunistic and topological data, to describe the tectonics and stratigraphy of the Carboniferous deposits of the river. Let us underline. In addition to descriptions of ancient sediments, her descriptions of karst forms are also interesting: a cave, sheds, etc. When describing the stratigraphy of this region, T.A. Dobrolyubova noted that "... Vuktyl flows throughout its entire length in Artinsk and glacial sediments" [20, Dobrolyubova T.A., p. 41]. One of the main achievements of T.A. Dobrolyubova discovered a coal-bearing strata: "The clayey-sandstone suite, underlying the limestones and protruding to the east of them, is of not only scientific but also practical interest. In its outcrops at Varkyan-yol and Yugyd-yol, interlayers and layers of coal appear among clay shales " [21, Dobrolyubova T.A., p. 24].

In 1923, in the river basin of Necha a search for coal was carried out at the expense of the Komi Autonomous Region. As a result of the exploration, powerful coal outcrops were discovered. "Here, for 6km, there are three outlets, apparently, of one complex coal stratum with a maximum thickness of up to 8 meters, and the share of waste rocks in the latter case accounts for only about 0.5m" [22, Chernov A.A., p. 5]. Coal samples and a drilling log were delivered to Gosplan. To verify the data, the Bureau of the State Planning Commissions proposed A.A. Chernov to explore the river basin of Kos-yu. In 1924, a meeting of the Special Commission of the Exploration Subdivision of the Geological Committee of the Supreme Council of the National Economy (together with the coal and Ural sections) was held on the question of setting up exploration for coal in the Pechora area. It was decided to concentrate intelligence on the rivers of Kozhim, Kosyu and Necha. Due to the help of the Geological Committee and the leadership of the Autonomous Region of Komi in 1924, the Verkhnepechorsk detachment of the Northern Scientific and Commercial Expedition led by A.A. Chernov studied coal-bearing deposits in the basin of the Kos-yu River with two detachments. The group of E. D. Soshkina together with G.A. Chernov examined the exits to the rivers of Usse and Bolshaya Inta. In the slope of the river of Bolshaya Inta, individual blocks and beds of sandstones and black shales of Permian age were found. The cleanup revealed two coal seams up to one and a half meters thick. In the memoirs of G.A. Chernov writes: "Elizaveta Dmitrievna perked up ... She said that Alexander Alexandrovich would be incredibly pleased with this finding ... Our campaign is far from unsuccessful" [19, Chernov G.A., p. 40]. The second group, consisting of A.A. Chernov, M.I. Shulga-Nesterenko and geologist V.P. Tebenkova, examined the outcrops on the rivers of Pechora, Usa, Necha, Bolshaya Inta, and Kos-yu. As a result, a map was built with outcrops of carboniferous sediments, bordering the Kos-yu coal basin from the west and east. On the Kosyu River, 22 km above the mouth of the river, they discovered a coal seam with a thickness of more than 1.6 m. Kozhim discovered a section of the Lower Permian deposits, in the upper part of which there was a coal-bearing stratum with a thickness of 6m. Thus, it was established that in the

basin of Kos-yu contains two formations of coal of different ages - lower and upper Permian. According to A.A. Chernov, the basin had the shape of a wedge, the tip of which was directed to the south (the Kos-yu River basin), and the wider part to the north, and this northern boundary was still to be established by further research. In conclusion of his work, A.A. Chernov made large-scale forecasts for the discovery of high-quality coals in the Pechora area: "... If coking coals, especially low-sulfur coals, are found in large reserves, then the question of using these coals for the mining industry of the Urals may arise ... we have a vast area of the Northern Urals, which should take the path of industrial development" [23, Chernov A.A., p. 52].

The Geological Museum and the Archives of the Komi Science Center preserved handwritten materials, diaries, notebooks with descriptions of outcrops made during the expeditions of 1922–1925, as well as published scientific reports. Thus, the diary materials of V.A. Varsanofyeva "Description of outcrops along the tributaries of the Ilych from the Ust-Lyagi River and upstream"[2], scientific report by A.A. Chernov "Report of Upper Pechora geological party of the North scientific and commecrical expedition on geologiches FIR studies in the basin of Ilych"[3]. Funds of A.A. Chernov's Geological Museum keep the field diaries of V.A. Varsanofyeva from the trip of 1924 and 1926. There are a lot of rewritten diary materials, where V.A. Varsanofyeva, already in Syktyvkar, gives a more detailed description, changes terms, makes corrections. For example, in outcrop No. 9 on the right bank of the Malaya Lyaga River, which flows into Ilych, she installed the Lower Silurian carbonaceous-calcareous shales and gives a description with a neat sketch: "On the surface of the cliff, leaves of soft mica are looming, overturned to the east. But they are not always ~~clearly visible, they stand~~ out (explanation of the author: words crossed out by V.A. Varsanofyeva). Slates also appear in the riverbed along the entire length ... below outcrop 9 ...". The collected stone material of such expeditions was transported to central scientific institutions and kept in museums. Unfortunately, many collections have been lost. Only a few specimens were found in the VSEGEI Museum (St. Petersburg). In A.A. Chernov's Geological Museum, few collections of A.A. Chernov and V.A. Varsanofyeva are kept by different periods (Fig. 4).

[2] Scientific archive of the Komi Scientific Center of the Ural Branch of the Russian Academy of Sciences. F. 1. Op.10. D. 680.
[3] Scientific archive of the Komi Scientific Center of the Ural Branch of the Russian Academy of Sciences. F. 1. Op.1. D. 20.

Fig. 4. Brachiopod, C_1, Ilych River. Collected: V.A. Varsanofyeva. 1924. No. 153/2. Funds of A.A. Chernov's Geological Museum.

Ethnographic research of the Upper Pechora detachments

During the Pechora expeditions, in addition to geological and geographical research, geological scientists collected information about hunting and fishing, about the life of the local population, and made some zoological and botanical collections. A lot of ethnographic material is hidden in geological field diaries and some published materials.

It should be noted that the colonization of Pechora took place long time ago. Ethnically and ethnographically rich history of the population of the European North-East until the middle of the 20th century has not been regularly examined. A pronounced feature of the development of the Pechora area was the close territorial neighborhood and ethnocultural relationship of various nationalities. In this regard, the information obtained during geological expeditions along the Pechora River and its tributaries in the 1920s are the first ethnographic data on the crossing of ethnic boundaries between Komi, Russians, Mansi and Nenets.

By the early 1920s, whole villages were inhabited by Old Believers – the descendants of schismatics who fled to remote places from persecution. Often, Old Believers, "secrets" and Orthodox Christians could live in the same village. The routes ran through large settlements, villages, and individual huts of fishermen, which made it possible to conduct research on objects of material culture. So, the houses of the Old Believers were small, cramped and always dirty, as they were drowned in black. Each had separate dishes, for the visitors – separate appliances. There is a cross on the shrine, but they hid their gods and did not show them to strangers. There were no decorations in the huts, the dishes were also unpretentious. The clothes of the Komi hunters are simple and coarse, but the knitted stockings and linen shirts were decorated with colored ornaments. I

was surprised by the hygiene of the local population, who paid special attention to the cleanliness of their hands, and they could wash their face and teeth at will. However, in the diary entries of T.A. Dobrolyubova notes that earlier the Komi seemed to her gloomy, silent due to the harsh living conditions, but in reality they turned out to be talkative and cheerful.

On expeditions, scientists replenished their supplies by exchanging with the local population. Mostly they traded sweets, sugar, soap, threads, needles, scarves, vodka for fish and meat. They described the life of the local population. Simultaneously with the study of material culture further attention was paid to the spiritual culture. Here the work was carried out mainly in two directions: folklore and religious beliefs.

In their diary entries, scientists described the prejudices of the local population and distrust of geologists, which did not allow to improve the efficiency of the work. The inhabitants were hostile to the penetration of geologists deep into the taiga, and even more so they did not understand how women could engage in geological research. From the memoirs of A.A. Chernov about a joint expedition with V.A. Varsanofyeva in 1923, when they climbed to the top of Kychil-iz: “There we saw a small herd of deer, and then two yurts. Near one of them stood the owner, who was obviously frightened ... He turned out to be a Komi and explained that he was very frightened. It seemed to him that Vera Alexandrovna had a rifle behind her back, although she only had a backpack ... And yet, after a while, he asked the worker how many deer we would take away” [24, Kalashnikov N.V. et al., p. 129].

According to the results of work on the Ilych River, V.A. Varsanofyeva wrote an essay in which she gave an interesting geographical and ethnographic description of the nature, life, and way of life of the local population (Fig. 5). The essay also provides characteristics of the clothing of the local population, and even their legends. One of the Mansi legends about the creation of the Earth: “Two loons flew down, one big, the other small. They wanted to get land from the bottom of the sea. At first they dived one after another, but they did not get anything from the bottom of the sea. Then we decided to dive together. We had dived twice and only the third time we reached sea day. They grabbed a piece of the bottom and swam out. They put the earth on the water. The earth began to grow more and more” [25, Varsanofyeva V.A.].

Fig. 5. Varsanofyeva V.A. with Mansi in the Subpolar Urals. Funds of A.A. Chernov's Geological Museum.

In 1924, V.A. Varsanofyeva and T.A. Dobrolyubova communicated with locals of Predcherie. In her memoirs, T.A. Dobrolyubova describes a conversation about a global flood. She explained to them that there was no flood, as the Bible says, and the earth is changing all the time: where there was dry land, now the sea and vice versa. The locals treated the fossils differently. The guides, often accompanying geologists, knew some of the names (trilobites, ammonites, corals), and the common inhabitants were contemptuous and associated their origin with Satan.

And today, on the basis of the diary materials of scientists about trips to the Pechora area, it is possible to reconstruct the cultural picture of the world of preliterate societies, since at the beginning of the 20th century, a significant part of the local population of the territory was illiterate. One of the ways is reconstruction using worldview universals, which include the category of time - calendars. At the beginning of the 20th century, the most widespread wooden form of the Komi calendar was "pu svyatsi" ("wooden saints"). In many literary sources, this calendar is described as a wooden block tapering towards the ends with twelve half-edges (according to the number of months), on which there are notches signifying the days. Church holidays corresponding to the days were marked on the flat sides of the bar with special signs – "passes". To mark the past days, the notches were sealed with wax or larch resin (Fig. 6) [26, Lipin V.B.]. In the diary of T.A. Dobrolyubova, she gives the following description, which is given from the words of Yevsey, the guide on the expedition to the Shchugor River in 1924: "It (the stick) was carved in the form of a hexagonal prism about 15-18 cm long, tapering towards the ends. In the middle, it is surrounded by a furrow that divides the prism in half, making six faces on one side and six on the other. On each rib, as many scars are made as there are days in a given month.

— Well, how to use it?

— These scars, covered with wax, these are Sundays, and these here mean our religious holidays. We remember it every day on the holy calendar".

Fig. 6. The Komi calendar “pu svyatsi” [26, Lipin V.B.].

Scientists studied not only the religions and beliefs of the local population, but also their influence and manifestations in family and social life, revealed the role of one or another religious movement in the formation of the cultural and everyday specifics of a particular ethnographic group. For example, T.A. Dobrolyubova, in 1924, having visited the Shchugor River, stopping for the night in one of the huts, describes the difficult fate of a girl from Ust-Shchugor, who married an Old Believer. Old-believing customs did not allow her to sing and dance songs, wear shirts, outfits, and bras.

In the diary entries, you can find a description of the peculiarities of fishing, fur harvesting, forestry, and other resources. T.A. Dobrolyubova, in 1923, noted that the cedars were ruthlessly cut down, although the collection of pine nuts remained one of the industries. A simple method of extraction was described: a batch of cones was buried in the hot ash of a fire, after a while the resin disappeared, the steamed cone became soft, easily cleaned, and nuts were easily taken out of it.

Conclusion

Undoubtedly, the creation of the Northern Scientific and Fishing Expedition was an important step in the process of developing and studying the entire Russian North. In 1925 the Northern Expedition was transformed into the Institute for the Study of the North. In 1930, the institute was named the All-Union Arctic Institute. In 1958, due to the fact that the institute was involved in Antarctic research, it was renamed the Arctic and Antarctic Research Institute. In 1994, the institute was awarded the status of the State Scientific Center of the Russian Federation [9, Andreev A.O.].

The geological results obtained by the Sevexpedition turned out to be significant and fateful in the development of the Pechora Territory of the modern Komi Republic. In particular, A.A. Chernov draws important theoretical conclusions about the existence of a vast coal basin, a large number of mineral deposits have been discovered, and vast territories of the North of the Urals and Pepechorye have been mapped. The importance of it becomes clear to rough coal in the

North if we consider that in 1924 the import of coal to the European North-East of Russia amounted to 19.6 thousand tons [27, Ivanovskiy M.I.]. Later, Professor A.A. Chernov will single out a large coal-bearing basin and call it Pechora: "Thus, at present, in the North-East of the European part of the USSR, vague contours of a large coal basin, which is naturally called the Pechora basin, are beginning to appear" [28, Ugol'naya, p. 28]. The governing economic bodies of the Country of Soviets took very seriously the scientific foresight of A.A. Chernov. In 1925, the Arkhangelsk provincial and North-Eastern regional planning commissions published the following information: "The Bureau of Congresses for the Study of Productive Forces under the USSR State Planning Committee informed the North-Eastern Regional Planning Commission that the intelligence carried out by prof. A.A. Chernov, gave positive results. In his opinion, at present, vague contours of the coal basin are beginning to appear in the northeast of the European part of the USSR" [30, Arkhangelsk province, p. 16].

Subsequent geological surveys were already large-scale. The entire Pechora Urals was divided into territorial ten-verst sheets for geological survey. V.A. Varsanofyeva and N.N. Jordan continued to study the upper reaches of the Pechora with tributaries of the rivers Unyi and Ilycha. T.A. Dobrolyubov and E.D. Soshkin conducted a geological survey of 123 sheets of the middle reaches of the Pechora River, A.A. Chernov and M.I. Shulga-Nesterenko - 122 sheet, Usa River and its tributaries. In 1925-1927, in the Bolshezemelskaya tundra, on the Adzva River, A. N. Kulik and Yu. A. Sirotin carried out geological studies. The expedition was organized by the Geological Museum of the USSR Academy of Sciences and the Geological Committee of the Supreme Economic Council. The route survey was carried out in order to compile a 10-verst geological map (sheet 121).

The results of ethnographic research are the first important components in the study of cultural heritage. It was found that many changes in the life of the local population of the Upper Pechora were due to general socio-economic conditions, the consolidation of different directions of the Old Believers and the growth in the number of their followers. Some local Old Believers until the first half of the 20th century still adhered to strict religious rules. First of all, this is manifested in their lack of communication, which is associated with the isolation of living, and in the preservation of cultural traditions, for example, eating from individual dishes.

However, despite the formation of such a large organization as the Sevexpedition and the multidisciplinary nature of research, the expeditions conducted in the Arctic were scattered and ineffective. In the newspaper "Severnoye khozyaystvo" no. 1, 1923, they wrote: "Recently, our expeditions to explore the North have become a parable ... Every year, dozens of expeditions come to the north with the most diverse tasks. They work separately, each has its own plans, completely uncoordinated". Modern researchers of the history of the development of the Arctic also emphasize the poor coordination of research [7, Saburov A.A.]. During this period, in addition to the Sevexpedition, polar research in the Russian North was carried out by the Polar Commission of the Academy of Sciences, the Floating Marine Scientific Institute, the Russian Hydrological Institute, the Geological Committee of the Supreme Economic Council of the USSR, etc. So, from the Geo-

logical Committee in the Pechora Territory in 1923 in the basins of the Luza rivers, an expedition headed by P.M. Zamyatin, on the rivers Ukhta, Yarege and Chuti geological studies by A.A. Stoyanov were conducted.

In 1924, Geolkom was removed from the jurisdiction of the Mining Department of the Supreme Economic Council and transferred to the direct subordination of the Presidium of the Supreme Economic Council. In the same year (February 27), N.N. Yakovlev was elected director of the Geolkom, who had conducted research on the Ukhta fields before the revolution. In 1929, the Geolcom was reorganized, and on its basis the Main Geological Prospecting Department was formed, which continued numerous studies of the Pechora area.

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International Shipping Routes for Cargo Transportation in the Arctic*

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Abstract. The main purpose of the article is to study the problems of the functioning and competition of sea routes of cargo transportation in the Arctic region. Methodologically, the work is of a research nature within the framework of the global integrated and northern regional studies, based on interdisciplinarity and complexity. A complex of interdisciplinary tasks is synthesized: to show, against the background of the history of the development of the water area of the northern seas, begun in the era of Velikiy Novgorod, the priority of Russians in the Arctic; the geopolitical and economic significance of the new projects of the Northern Sea Transport Corridor (SMTC), the National Arctic Transport Line (NATL) at the present time; to reveal the presence of many actors in the Arctic region of planet Earth. Operating water area of the Northern Sea Route in 2012–2020 based on legislative acts 1998, 1999, 2012. And while it does not provide a significant share of international transit, it is developing as an internal sea route. The article analyzes the literature of domestic and foreign authors and primary sources, including: Novgorod Chronicles, cartography, current legal acts, Decrees of the President of the Russian Federation, decrees of the Government of the Russian Federation and departmental documents of the Ministry of the Russian Federation for the development of the Far East and the Arctic, FSBI "Administration of the Northern Sea Route", directorates Northern Sea Route of Rosatom State Corporation, International Monetary Fund (June 24, 2020), China White Book (2018), the Polar Silk Road project, etc. The plurality of sea routes for cargo transportation in the Arctic along the coast of Russia, off the coast of Canada, the Arctic Bridge, the Trans-Arctic sea route, the Polar Silk Road of China; modernization of the NSR infrastructure; implementation of investment projects of the oil and gas and mining complex of global significance generates new challenges and opportunities for the development of the Russian Arctic

Keywords: *Northern Sea Route, Northern Sea Transport Corridor, National Arctic transport line, Arctic sea Bridge, Trans-Arctic sea route, China's Polar Silk Road.*

Introduction

World integrated and northern regional studies as a research methodology in relation to the Arctic region is based on interdisciplinarity and complexity, practically leading to the blurring of boundaries between the internal and external policies of the Arctic countries. In northern regional studies, the space of the northern territories is comprehensively explored, including the Arctic region, the Russian North. The purpose of this study is to actualize the problems associated with the functioning and competition of international sea routes of cargo transportation in the Arctic region in the second decade of the 21st century.

Methodology

Problems of the real functioning of the polycentric structure of international economic relations (Russia, China, the Arctic Council countries) in the Arctic region, historical and modern measurements of sea routes in the Arctic are investigated based on an integrated multidisciplinary

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approach. In the study of cargo flows along the sea routes in the Arctic, their effectiveness, methods of a systematic approach, qualitative and quantitative analysis are used. The historical method of studying the activities of the Northern Sea Route at different times is based on the analysis of a wide range of sources, starting from the time of Veliky Novgorod, chronological, comparative-historical approaches, cartography. The search, theoretical, historical, statistical, descriptive methods are used: search and study of literature, study of materials in the media, work with Internet sources and electronic resources, analysis and synthesis, description and systematization of the data obtained, general scientific methods and research techniques. The interdisciplinary subject field of the study of various aspects of the functioning of the Arctic region as a whole resembles a palette of various shades and symbols, including the most unexpected stories from other scientific disciplines.

Brief overview of literature and sources

The many-sided Arctic is constantly changing in the flow of time and meanings, the Arctic thesaurus of knowledge about the Northern Sea Route is being replenished. This year, A&S published a scientific article by a scientist from India Jawahar Bhagwat, Ph.D. Arts has (History): “Navigation on the Northern Sea Route: it is necessary to pay more attention to cooperation and security. Part I” [1, pp. 5–25]. The author of this article analyzed a number of incidents that occurred on the NSR from the point of view of compliance with existing standards. In his opinion, these incidents necessitate a study of the adequacy of the Polar Code, infrastructure along the NSR and the current state of search and rescue operations. Russian scientists K.S. Zaikov, N.A. Kondratov, S.A. Lipina, and L.K. Bocharova, exploring the organizational mechanisms for the implementation of Russia's policy in the Arctic in the XXI century, considered, among other things, the features of the Northern Sea Route as a national transport communication of Russia in the Arctic [2, pp. 96–101]. National and international aspects, modern proposals and innovations for the development of the Northern Sea Route are analyzed in one of his articles by V.P. Zhuravel, head of the Center for Arctic Studies, Institute of Europe, RAS [3, pp. 1–6]. North sea route, seaports, Polar silk way are investigated in the IV chapter monograph “The many faces of Arctic in the flow time and senses”, where not only analyzed transportation volumes, but existing forecasts of their growth, infrastructure development [4, pp. 92–112]. Various sources are used. In the business environment, ministries, and departments of the Russian Federation in 2019–2020. an interesting discussion unfolded about the prospects of the Northern Sea Route, its transformation into the Northern Sea Transport Corridor, the creation of the National Arctic Transport Line from Murmansk to Petropavlovsk-Kamchatsky. It seems important to begin the study of the topics stated in this article with a brief analysis of some of the available historical evidence of Russia's priority in the development of the Arctic space, since the role of Russians and domestic navigation in the development of the Arctic and the opening of the Northern Sea Route is often distorted in the literature.

"The path and hope of strangers will be cut short, Russian power will grow in Siberia and the Arctic Ocean" (Lomonosov M.V.)

The early history of the exploration of the northern seas and islands, the search for the Northwestern and Northeastern sea passages in the water area of the Arctic Ocean dates back several centuries and was reflected in numerous scientific works. From the standpoint of the historical-chronological approach, today the first campaigns using the western part of the Northern Sea Route, which began during the existence of Veliky Novgorod, are less known. Already at the beginning of the 13th century, natives of Zavolochye mastered the Kola Peninsula, Tre and Kola. Trains of people to hunt sea animals and collect tribute from the population of the Kola Peninsula went far to the west, beyond Varangerfjord (Norway), - emphasized Doctor of Historical Sciences, Professor V.V. Mavrodin [5, pp. 96–108].

In chronicles and other sources, sea voyages to Europe from the mouth of the Dvina through the White Sea became famous. One of these first campaigns took place in 1320 "In the summer of 6828 ... and Luke go to Murmany, and N'mtsi beat Ignat Molygin's ears" [1]. The 1411 campaign from Zavolochye to Murman is known from the chronicles; campaigns in 1419, 1445 sveev murmans to the White Sea, to the Dvina; princes Ushatykh, Ivan the Bearded and Peter in 1496 [2] and others. There is a hypothesis that diplomats Dmitry Ralev and Dmitry Zayetsov in 1494 returned from Denmark back to Moscow through the White Sea [3].

Grigory Istoma, interpreter of the Grand Duke of Moscow, was sent in 1496 to the Danish king with his Scottish ambassador David[4]. They made their way not through the Baltic, but along the Northern Sea Route, which was longer, but safer. From Novgorod they reached the mouth of the Dvina, where they boarded four ships, sailed, keeping to the ocean shore. We reached the Kayanskaya land, then overland to Bergen (Norway) and from there on horseback to Denmark [6, pp. 127, 184–188; 7, vol. 1, pp. 509–515]. Vlasiy (Vlas Ignatov, Ignatiev), a translator from Latin and German, accompanied the Russian embassies to the Danish king also by sea around Scandinavia in the late 15th - early 16th centuries [6, p. 188; 7, vol. 1, pp. 515–517].

Sigismund von Herberstein (1486–1566), Austrian diplomat and writer, author of "Notes on Muscovy", twice visited Russia in 1516, 1526. He personally met with Istoma and David, mentions from their words Dvina and other places known along the way, did not always correctly determine their localization [7, vol. 2, pp. 165–166, 462].

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[1] PSRL. Vol. 4. Novgorod and Pskov chronicles. St. Petersburg: Eduard Prats Printing House. 1848.S. 49. Summer 6828.

[2] PSRL. Vol. 3. The first Novgorod chronicle of the older and younger versions. Moscow-Leningrad: Publishing House of the Academy of Sciences of the USSR, 1950. Summer: 6919, 6927, 6953, 6953. PSRL. Vol. 26. Vologda-Perm chronicle. M.-L-d: Publishing House of the Academy of Sciences of the USSR, 1959, p. 290.

[3] PSRL. Vol. 8. Continuation of the chronicle according to the Voskresensky list. St. Petersburg: Eduard Prats Printing House. 1859. S. 227-228.

[4] Grigory Istoma Maly is a member of many Russian embassies. According to I.Kh. Hamel, Istoma could have been in Ralev's retinue in 1493, and in 1496 he traveled to Denmark a second time (Hamel, 1865, pp. 162–164). A.A. Zimin indicates that Istoma was a member of the embassy in 1496 (Zimin, 1982, p. 108). The inventory of the archive of the Ambassadorial Prikaz of 1614 mentions the "a leave ... to the Danish king" of the clerk Istoma in 1498/99 (OTSAAP, p. 116).

Dmitry Gerasimov (1465 – after 1535), an outstanding Russian diplomat and scientist, theologian, translator (Latin interpreter) participated in the embassies from Muscovy to Denmark, Norway, Sweden, Prussia to the Grand Master of the Order, to the Holy Roman Empire to Emperor Maximilian, in Rome ambassador to Pope Clement VII in 1523–1526 years. In Rome, he consulted a number of Italian scientists, according to his stories, a book and one of the first maps of Muscovy were published (nautical chart from the atlas of 1553 by Battista Agnese). For the first time in history, D. Gerasimov drew up his own drawing of the Northern Sea Route. His drawing shows a route around Europe and a project for a voyage to China across the northern seas.

Fig. 1. Map of the 16th century. White line - sailing route of D. Gerasimov around Europe, red line - sailing project to China along the northern seas[5].

Paolo Giovio (1483–1520) published in 1525 in Latin "The Book of the Embassy of Vasily, the Grand Duke of Moscow, to Clement VII" (republished in 1545 and 1551), in which he reproduced many geographical and cultural information of D. Gerasimov about Russia and the Scandinavian countries [6, pp. 252–275]. The "Book" by Paolo Jovia was one of the few for the 16th century European writings, which present a positive image of Russia [8, p. 149]. *Pavel Iovy*, in his book about the Moscow Embassy, noted that "*the Dvina, carrying countless rivers, rushes in a rapid current to the North, and that the sea there has such a huge extent that, according to a very probable assumption, keeping to the right bank, from where you can get by ships to the country of China, if there is no land in between*" [6, p. 262].

Combined squads of free people (ushkuyniks, povolniks), including under the leadership of voivods, princes, with the participation of Novgorodians, Dvinyans, Vazhan, Ustyuzhan, Vyatichi went to Pechora, Yugra in 1096, 1187, 1193, 1329, 1445, 1465, 1483, to the Ob' River and the sea in 1364–1365, 1483, 1499, to Murman (to Norway) in 1320, 1323, 1348, 1349, 1411. It can be concluded that the Russians knew the coasts of the Arctic Ocean in Siberia and Norway as early as the 11th – 16th centuries. In the 16th-17th centuries the development of the northeastern section of the Northern Sea Route begins - from the Northern Dvina to the Taz Bay at the mouth of the Ob',

[5] Unknown admiral. Part 44. URL: https://flot.com/bitrix/components/bitrix/blog/show_file.php?fid=30424 (accessed 17 June 2020).

the so-called “Mangazeya Sea Route”. The history of the discovery and development of the NSR as a whole has received comprehensive coverage in the literature [6].

Fig. 2. M.V. Lomonosov’s Polar map [7].

M.V. Lomonosov (1711–1765) in his famous work "A Brief Description of Various Voyages in the Northern Seas and an Indication of the Possible Passage of the Siberian Ocean to East India" (1764) investigated the navigation undertaken to find the passage to the East Indies by the West-Northern Seas (§§ 1–21). In the second chapter, the scientist considered the search for a sea passage to the East Indies in the northeastern side of the North Siberian Ocean (§§ 22–42). To his work M.V. Lomonosov attached the world-famous Polar Map. Moreover, M.V. Lomonosov makes an important conclusion that *"the Russians have gone to the fishery faraway for about two hundred years".* With the participation of Pomor residents from the Dvina and from other places near the White Sea, some cities, forts, and winter huts were built along the great rivers in the northern part of Asia. The hike of the Kholmogorets Fedot Alekseev and the Cossack Ivan Dezhnev in 1647-1648*. “The passage of the sea from the Arctic Ocean to the Pacific has been proven, to which our main intention here extends".* The best passage through the Siberian Ocean *"is hopeful past the eastern-northern end of Novaya Zemlya to the Chukchi nose”* (§83). In the fifth chapter “On the very enterprise of northern shipping and on the establishment and growth of Russian power in the east” (§115) *M.V. Lomonosov noted: “When, by the generous divine providence and by the happiness of*

[6] Northern Sea Route - Arctic Road of Life: History of Discovery and Development of the Northern Sea Route: Rivers. list lit. / Municipal cultural institution of the municipal formation “Town of Arkhangelsk” Centralized library system, M. V. Lomonosov central town library; [comp. G. I. Popov]. Arkhangelsk, 2012, 87 p.

[7] History of cartography in Siberia. URL: https://www.sites.google.com/site/kartovedenie/_/rsrc/13547780053 32/home/istoriko-politiceskaa-kartografia-dalnego-vostoka/istoriceskie-karty-sibiri/polarnaa-karta-m-v-lomonosova/4.jpg (accessed 17 June 2020).

the all-merciful autocrat, our desired path across the Northern Ocean to the east opens, then it will be free to strengthen and spread Russian power in the east, mating with the sea route along Siberia to the shores of the Pacific Ocean".

In conclusion M.V. Lomonosov writes that the commemorated navigation is closer to us than to other European powers. "Thus, the path and hope of strangers will be cut short, Russian power will grow in Siberia and the Northern Ocean and will reach the main European settlements in Asia and America" [9, pp. 417–514].

Legally operating water area of the Northern Sea Route 2012–2020

Currently, the legitimately operating water area of the NSR and its use in the legal space of the Arctic are determined by Law No. 132-FZ of July 28, 2012 [8]. The water area of the NSR includes modalities of different legal status: internal sea waters, the territorial sea, the contiguous zone and the exclusive economic zone of the Russian Federation. Its geographical boundaries are limited "from the east by the line of demarcation of sea spaces with the United States of America and the parallel of Cape Dezhnev in the Bering Strait, from the west by the meridian of Cape Zhelaniya to the Novaya Zemlya archipelago, the eastern coastline of the Novaya Zemlya archipelago and the western borders of the Matochkin Shar, Yugorskiy Vorota Ball" (Art. 5.1.).

The previously adopted Federal Law No. 155-FZ of July 31, 1998 "On internal sea waters, the territorial sea and the contiguous zone of the Russian Federation" defines the boundaries of these waters indicated in the name, navigation in the waters of the Northern Sea Route. However, there are no geographically borders of the NSR water area in Federal Law No 155 [9]. In the Code of Merchant Shipping of the Russian Federation of April 30, 1999 No. 81-FZ (revised on 08.06.2020), the water area of the Northern Sea Route is limited from the east by the demarcation line of maritime spaces with the United States of America and the parallel of Cape Dezhnev in the Bering Strait, from the west by the meridian Cape Zhelaniya to the Novaya Zemlya archipelago, the eastern coastline of the Novaya Zemlya archipelago and the western borders of the Matochkin Shar, Kara Gates, Yugorsky Shar straits [10]. All three legislative acts 1998, 1999, 2012. do not provide a clear evidence base for the boundaries of the NSR. It is difficult to understand, for example, why all the seaports of the White, Pechora and Barents Seas: Arkhangelsk, Severodvinsk, Onega, Belomorsk, Kandalaksha, Kem, Umba, Naryan-Mar, Indiga, Varandey, Murmansk, Pechenga, Anadyr and others today are not included in the water area SMP. Although there is no doubt about their historical belonging to the water area of the Russian Arctic, and then the Russian Arctic and even to the Arctic zone, it is absolutely illegitimate in legal terms already at the time of its appearance in 1989. At the same time, the White Sea has been an internal sea of Russia since ancient times.

[8] Federal Law of July 28, 2012 No 132-FZ "On Amendments to Certain Legislative Acts of the Russian Federation Regarding State Regulation of Merchant Shipping in the Water Area of the Northern Sea Route". URL: https://base.garant.ru/70207760/ (accessed 17 June 2020).

[9] Federal Law of July 31, 1998 No 155-FZ "On internal sea waters, the territorial sea and the contiguous zone of the Russian Federation". URL: http://ivo.garant.ru/#/document/12112602/paragraph/273:0 (accessed: 17 June 2020).

[10] Merchant Shipping Code of the Russian Federation of April 30, 1999 No 81-FZ (as amended on June 8, 2020). URL: https://base.garant.ru/12115482/ (accessed 17 June 2020).

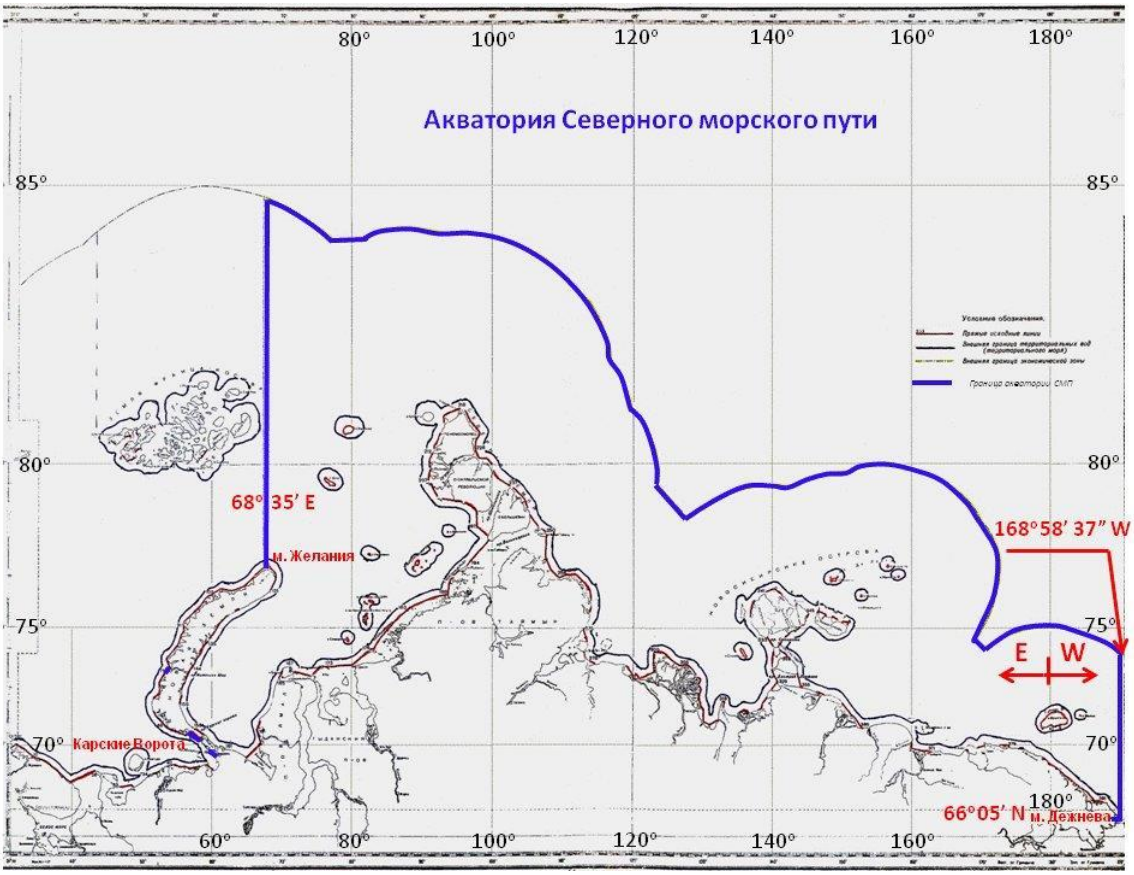

Fig. 3. The NSR water area [11].

According to the 2012 law, the NSR begins after the passage of the Kara Gates or from the northern coast of the Novaya Zemlya archipelago and ends in Providence Bay. The length of the Northern Sea Route C is 3,023 nautical miles. However, both yesterday and today, in public opinion, in the media, the beginning of the Northern Sea Route in the western part of the Arctic is often called Murmansk, Arkhangelsk, or Norwegian Kirkines. With them, sea routes using then the water area of the Northern Sea Route can begin at any seaport in Europe or Asia: Rotterdam, St. Petersburg, Kirkines, Shanghai, Yokohama. Vessels going from these ports along the Arctic routes pass the C EUMOR route within the above-mentioned legitimate borders or use high-latitude routes under favorable ice conditions. Formally, the water area of the Northern Sea Route from the Kara Gate to the Bering Sea directly includes only 4 seas: Kara, Laptev, East Siberian, Chukchi. And the White, Barents, Bering, and Pechora seas, as it were, are not Arctic. Therefore, historical, geographical, and economic meanings appear in the new concept of the Northern Sea Transport Corridor, which has not yet been officially legitimized.

In the new historical conditions, the increase in the water area of the NSR actually represents a return to the existence of the Main Directorate of the Northern Sea Route, which was responsible not only for cargo transportation in all the seas of the Arctic Ocean, but also for the industrial development of the vast northern territories in the 1930s and 1980s. The Main Directorate of the North-

[11] URL: https://static.tildacdn.com/f2f2a3bb-6cab-4749-8688-0d8ac0bafb92/1.jpg (accessed 17 June 2020).

ern Sea Route under the Council of People's Commissars of the USSR was established on December 17, 1932. Decree of the Council of People's Commissars of the USSR dated June 22, 1936 No 1100 approved the Regulations on the Main Directorate of the Northern Sea Route, the area of activity of which was determined in the European part of the USSR of the islands and seas of the Arctic Ocean the Asian part of the USSR - the territory north of the 62nd parallel. Clarifications to this document were made by the resolution of the Council of People's Commissars of the USSR dated January 25, 1941, No. 189, which became invalid in 1988. State measures for the development of the NSR and the industrial development of the northern regions, improvement of management was taken in the former USSR and the Russian Federation at the highest level in 1967 1994, 1997, 1998, 2011.

Currently, since 2019, the Northern Sea Route has been operated by the state corporation Rosatom, which has included FSUE Rosatomflot since 2008. The Government of the Russian Federation, by its order of December 21, 2019 No. 3120-r, for the first time approved the ***Plan for the Development of Infrastructure of the Northern Sea Route until 2035***, which includes 84 measures in 11 directions. It should be emphasized that this is not an ordinary sectoral plan developed by the State Atomic Energy Corporation Rosatom for its departmental tasks, but in essence a nationwide cross-sectoral project for the development of the Northern Sea Route, aimed at the long-term evolution of the Russian Arctic with guaranteed investments. When forming the federal budget for the next financial year, budgetary allocations will be provided for the implementation of planned activities included in the corresponding state programs and federal project [12]. The specified plan is based on the forecast of raw materials projects implemented and planned by PJSC Novatek, PJSC Gazprom Neft, PJSC MMC Norilsk Nickel, LLC UK Vostok Ugol, JSC Independent Oil Company, LLC GDK Baimskaya and KAZ Minerals PLC, Vostok Engineering LLC, Severnaya Zvezda LLC. It also includes other freight flows along the Northern Sea Route.

- **2017**: 10.7 million tons were transported in the water area of the NSR, including 9.7 million tons of various cargoes (90.65%) by sea vessels, 797.2 thousand tons of cargo (7.45%) by river vessels, transit ships - 194.4 thousand tons (1.82%).
- **2018**: the total volume of cargo transportation amounted to 20.2 million tons, including transit - 491.2 thousand tons or 2.43%.
- **2019**: a record amount of cargo in the history of the NSR was transported – **31.5 million tons**, including transit - 697.2 thousand tons or 2.21%. These data are in million tons for 2017–2019 leads N.A. Monko, acting Head of the Federal State Budgetary Institution "Administration of the Northern Sea Route"[13]. The main points through which cargo transportation along the NSR was carried out in 2019 were ports: Sabetta - 20.5 million

[12] Plan for the development of the infrastructure of the Northern Sea Route for the period up to 2035. URL: http://static.government.ru/media/files/itR-86nOgy9xFEvUVAgmZ3XoeruY8Bf9u.pdf; http://govern-ment.ru/docs/38714/ (accessed: 05 June 2020).

[13] Mon'ko N. In 2019, the volume of cargo transportation along the Northern Sea Route increased by 56.7%. February 20, 2020. URL:https://www.mortrans.info/morskoj-byulleten/v-2019-godu-obem-gruzoperevozok-po-sevmorputi-vyros -na-567/ (accessed: 05 June 2020). Percentages by type of transportation are calculated by the author of the article.

tons, or 65% of the total volume of cargo transportation along the NSR, the terminal near Cape Kamenny - 7.7 million tons (24.4%), Dudinka - 1.5 million tons (4.76%). The annual northern delivery (coal, fuel, food, timber and general cargo, containers) to hard-to-reach regions of the Far North, associated with sea and river transport, occupies its permanent niche in the cargo traffic along the NSR. Transit volumes in 2017–2019 fluctuated from only 1.82% to 2.43% of the total volume of cargo transportation along the NSR.

The key competitor in the world market for the NSR is the Egyptian **Suez Channel,** 193 km long, which is one of the busiest maritime arteries in the world. Its main problem now – the restriction on the size of the ships and the large ships have to reload to the ships of the Suez Channel Administration, which leads to additional time lose and costs. At the same time, the growth in demand for channel services is faster than the growth in its capacity.

Fig. 4. The NSR and the route via the Suez Channel[14].

A comparative analysis of the key indicators of the two routes shows that the navigation through the Suez Canal lasts all year round, in contrast to the NSR. For the passage from Europe to China by the Northern Sea Route, on average, it takes 25 days and 625 tons of fuel oil, and when using the Suez Canal - 35 days and 875 tons of fuel oil. Passage through the Suez Canal costs $250,000, and the icebreaker escort fee along the NSR is approximately $380,000. The traditional route via the Suez Canal loses the route around the Cape of Good Hope, around Africa[15]. By now, the understanding has come that there are no good reasons to talk about the competition between the Northern Sea Route and the Suez Canal in terms of the volume of transported goods. Overall, the 2019 Suez Canal took about 18.9 thousand ships against 18.2 thousand units in 2018. The net tonnage reached 1.2 billion tons - growth at 5.9%, revenue administration amounted to $5.8 billion[16]. *Dr Tuomas Kiiski* , an expert on Arctic shipping at the University of Turku (Finland), believes that the economic

[14] Business news. URL: https://delonovosti.ru/wp-content/uploads/posts/2017-04/1493018981_smp.jpg (accessed 18 June 2020).
[15] Cheremnykh I. Northern Sea Route and the Suez Canal. Business News. IAA. June 18, 2020. URL: https://delonovosti.ru/analitika/3921-severnyy-morskoy-put-i-sueckiy-kanal.html (accessed 18 June 2020).
[16] The Suez Canal will raise the transit fee. URL: https://seanews.ru/2020/ 01/10/ru-sujeckij-kanal-podnimet-tranzitnyj-sbor/ (accessed 07 June 2020).

potential of the Northern Sea Route as a seasonal Arctic passage between Europe and Asia is controversial. Despite the fact that the route along the NSR is shorter, the ships must travel more slowly through the still icy waters. Most vessels must be ice-class to operate there at all, which increases costs. Transit times for timely delivery of cargo are unpredictable so far, and shallow water along the Russian coast excludes large container ships that dominate interoceanic traffic. Similar arguments are given in his article by *M.Yu. Gutenev* , noting that the relatively short period of operation does not allow the NSR to become a reliable alternative for Asian transport companies. These shortcomings explain why, despite advertising the NSR, shipping companies are hesitant to "*dip their toes in the cold waters" of the* Arctic [10]. At the same time, China, as a world economic power, the Arctic route provides an opportunity to save time and money, - emphasizes the Chinese scientist *Cheng Hongjie* [11].

The Arctic is rich in natural resources, but their scale and commercial benefit from their development remains in question, - emphasizes the researcher from India *D. Bhagwat.* The extraction of Arctic resources, in his opinion, is technically difficult and costly. The use of energy and mineral resources in other parts of the world, such as the Middle East, Africa and South America, is much cheaper, especially if the price of oil falls below $ 50 a barrel; the existing shipping lanes that run through the Southeast to Northeast Asia have several advantages. The economy of container transportation along the NSR is not optimal [1, p. 9]. Discussion is the pessimism of some Chinese experts regarding Russia's ability to increase the construction of ships and marine technology to support the growing volume of cargo transportation in the Arctic. The consortium of AO Rosneftegaz, PJSC NK Rosneft and AO Gazprombank has been implementing a large domestic project in the Far East since 2015 - the Zvezda shipbuilding complex is being built [17].

At present, the thesis that it is important for Russia to develop the Northern Sea Route as an internal transport artery, taking into account security, and with the hope of transforming over time into a major international route in the Arctic, is receiving more and more support. Since 2019, ships flying the flag of the Russian Federation have received the exclusive right to sea transportation of oil, natural gas, gas condensate, coal mined in Russia and loaded onto ships in the waters of the NSR. A notification character of the passage of foreign warships along the NSR is introduced.

What caused the world's attention today to the development of sea communications in the difficult climatic conditions of the cold and harsh Arctic?

The natural resources of the Russian Arctic and its sea routes have no analogues today in any other Arctic country (USA, Canada, Norway, Sweden, etc.), or in the world. The Northern Sea Route (NSR) currently provides not only part of the traditional cargo from the North, but also solves the commercial problems of modern Arctic shipping, in particular, the export of oil and gas and mining products to the domestic and world markets of the global society of the Earth. At present in the waters of the Northern Sea transport corridor, comprising himself ports and waterways of the Arctic

[17] SSK "Zvezda". URL: https://sskzvezda.ru/index.php/ru/ (accessed: 26 June 2020).

seas (from the Barents Sea to the Bering) and flowing into these rivers, the export of oil in both year-round and seasonal navigation, is made with the terminal in the Pechora Sea (Pomorsky sector) and in the Gulf of Ob' of the Kara Sea (sector of the Northern Sea Route) [12, pp. 65–71].

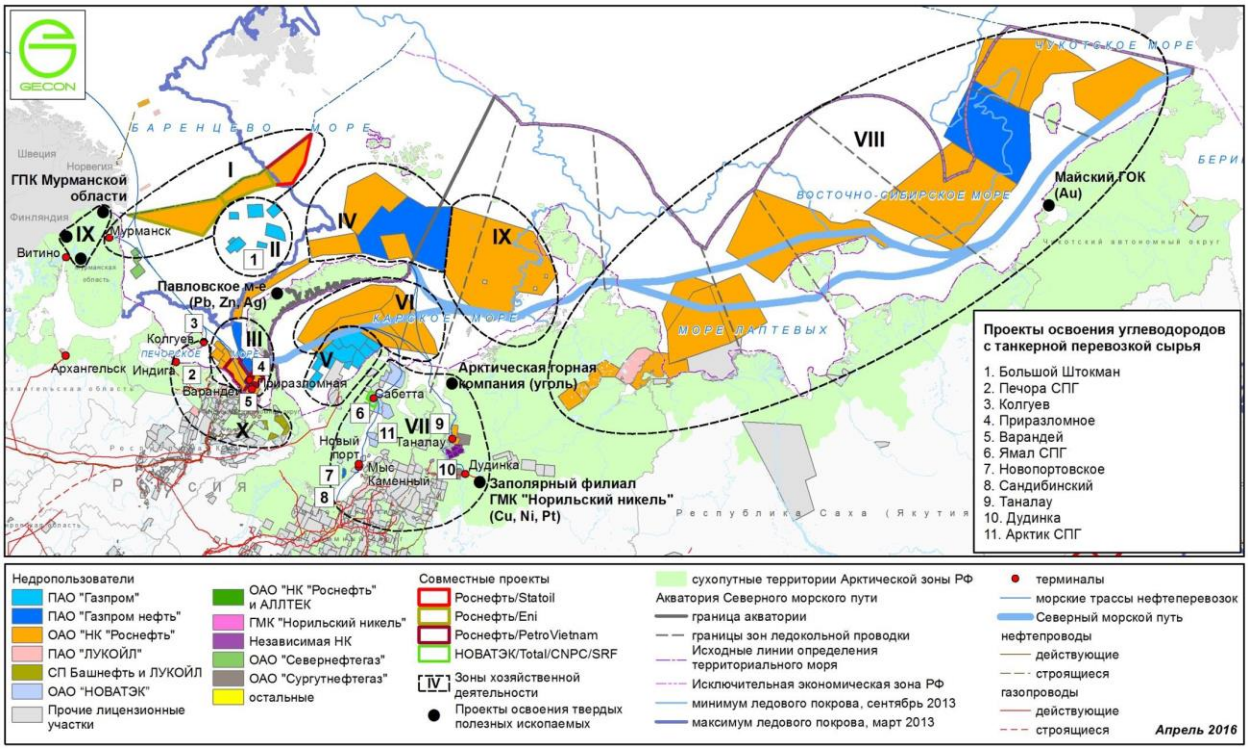

Fig. 5. Grigoryev M.N. Projects for the development of natural resources of the Arctic zone using the maritime transport system. 6th International Conference "Logistics in the Arctic". Murmansk, 12 April 2016.

Analyzing the resources of the Russian Arctic, it should be borne in mind that this is not only oil and gas, but also coal, copper-nickel ores, tin, rare metals and rare earth elements, gold, platinoids, tungsten, chromium, titanium and much more that is needed today for effective development of industry, technologies in the world [18].

The AZRF is currently not positioned either as a macrozone or as a macroregion, but is defined as a ***geostrategic territory of*** several constituent entities and parts of constituent entities of the Russian Federation, which is essential for sustainable socio-economic development, territorial integrity and security of the Russian Federation, characterized by specific living conditions and activities. The development of the main transport infrastructure is ensured, among other things, due to "*the functioning and growth of the freight traffic of the Northern Sea Route* ***as a full-fledged international transport corridor****, including the development of the icebreaker fleet*". The Strategy for the Spatial Development of the Russian Federation until 2025 identifies opportunities for the im-

[18] Brekhuntsov A., Mullin A., Petrov Yu., Proskurin G. (Scientific and Technical Center of the MNP "GEODATA") February 28, 2020. What are we going to transport along the Northern Sea Route? Overview of the raw material base. URL: https:// www.korabel.ru/news/ comments/resursnaya_baza_arktiki_i_severnyy_morskoy_put.html (accessed 20 June 2020).

plementation of innovative socio-economic projects in priority development areas (PDA), improving the quality of life of northerners [19].

In the water area of the Arctic Ocean, competition for the operation of certain sea routes is intensifying. The role of China in the Arctic is growing. In international relations, it is natural that each Arctic state defends its national interests. Of the 21 countries, members and observers of the Arctic Council, three groups of NATO member states have actually formed, the European Union - 14 countries; in BRICS, SCO - India, China and Russia; The Asia-Pacific Cooperation (APEC) includes the United States, Russia, Canada, Japan, South Korea, Singapore.This division of the AU is actually in conditions of information and psychological warfare, sanctions against Russia, militarization and the great redistribution of the Arctic, - already from the very beginning, genetically creates a conflict situation and tension due to lack of trust and differences of national interests. In terms of population and territory, the AU is dominated by India, China and Russia, which are home to 2.9 billion people or 38% of the total population of the global society of the Earth, possessing enormous human capital and resources. In terms of GDP (PPP), according to the IMF estimates in 2017, China ranked first ($23,308 billion), second – the United States ($19,485 billion), third - India ($9,474 billion). The 4th and 6th places in this ranking were: Japan ($5,443 billion), Germany ($4,199 billion) and Russia ($ 4,016 billion) Purchasing Power Parity (PPP), in contrast to nominal indicators, allows us to reflect the real volume of production in the country goods and services, and with this approach goes beyond the US dollar [4, pp. 73, 117].

The COVID-19 pandemic has pushed countries into a Great Self-Isolation regime that helped contain the spread of the virus and save lives, but also triggered the worst recession since the Great Depression. C total losses of production in the world economy in 2020–2021 as a result of the crisis caused by the pandemic, implied in the amount of over USD 12 trillion, the IMF predicts a significant decrease in the rate of GDP growth in 2020 [20].

Forecasts of the prospects for the development of the world economy

Real GDP growth (change in %)	2019	2020	2021
All sates	2.9 %	- 4.9 %	5.4.%
China	6.1 %	1.0 %	8.2 %
India	4.2 %	- 4.5 %	6.0 %
USA	2.3 %	- 8.0 %	4.5 %
Russia	1.3 %	- 6.6 %	4.1 %
Canada	1.7 %	- 8.4 %	4.9 %

[19] Strategy of spatial development of the Russian Federation for the period up to 2025. February 13, 2019. URL: https://www.garant.ru/products/ipo/prime/doc/72074066/ (accessed 02 August 2020).
[20] Discovery after “The Great Self-Isolation: A Bumpy Recovery Amid Uncertainty. Gita Gopinath. June 24, 2020. URL: https://www.imf.org/ru/News/Articles/2020/06/24/blog-weo-update-reopening-from-the-great-lockdown-uneven-and-uncertain-recovery (accessed 25 June 2020).

Japan	0.7 %	- 5.8 %	2.4 %
Euro zone	1.3 %	- 10.2 %	6.0 %

Source: IMF. World Economic Outlook Bulletin, June 2020 [21].

Obvious challenges arise not only for Russia. The global slowdown in economic growth may negatively affect the overall growth of freight traffic in the Arctic and in other regions of the world. What will be the demand for energy sources and their demand for consumers around the world after the global coronavirus pandemic and the decline in economic activity? Therefore, the urgency of modernizing the state management of the Russian Arctic, its de-bureaucratization, increasing the efficiency of Arctic cargo transportation, and the quality of life of the entire local population, including the indigenous peoples of the North, increases many times over.

Northern maritime transport corridor: Pros and Cons

A well-known expert on the Arctic, Candidate of Geological and Mineralogical Sciences, Director of Gekon LLC M.N. Grigoryev, a member of the Scientific Council under the Security Council of the Russian Federation, having systematically studied this topic in his writings in 2016-2020, understands the NMTC as a historically established national transport communication of the Russian Federation, which includes ports and maritime shipping routes of the Arctic seas and the Barents rivers flowing into them, The White and Pechora Seas on the western flank, the Northern Sea Route (Kara, Laptev Sea, East Siberian and Chukchi) in the central part, and the Bering Sea on the eastern flank [13, p. 111].

The boundaries of the NMTC in the west - the line of delimitation of the sea spaces of the Russian Federation and the Kingdom of Norway in the Barents Sea according to the law of April 5, 2011 No. 57-FZ; in the east - the line of delimitation of the sea spaces of the USSR and the United States by agreement between them in 1990. The water area of the SMTK is divided into three sectors: 1) the Pomor sector; 2) Sector of the Northern Sea Route; 3) Kamchatka sector (see the map of the “Gekon” center).

[21] IMF. World Economic Outlook Bulletin, June 2020. URL: https://www.imf.org/external/russian/index.html (accessed 25 June 2020).

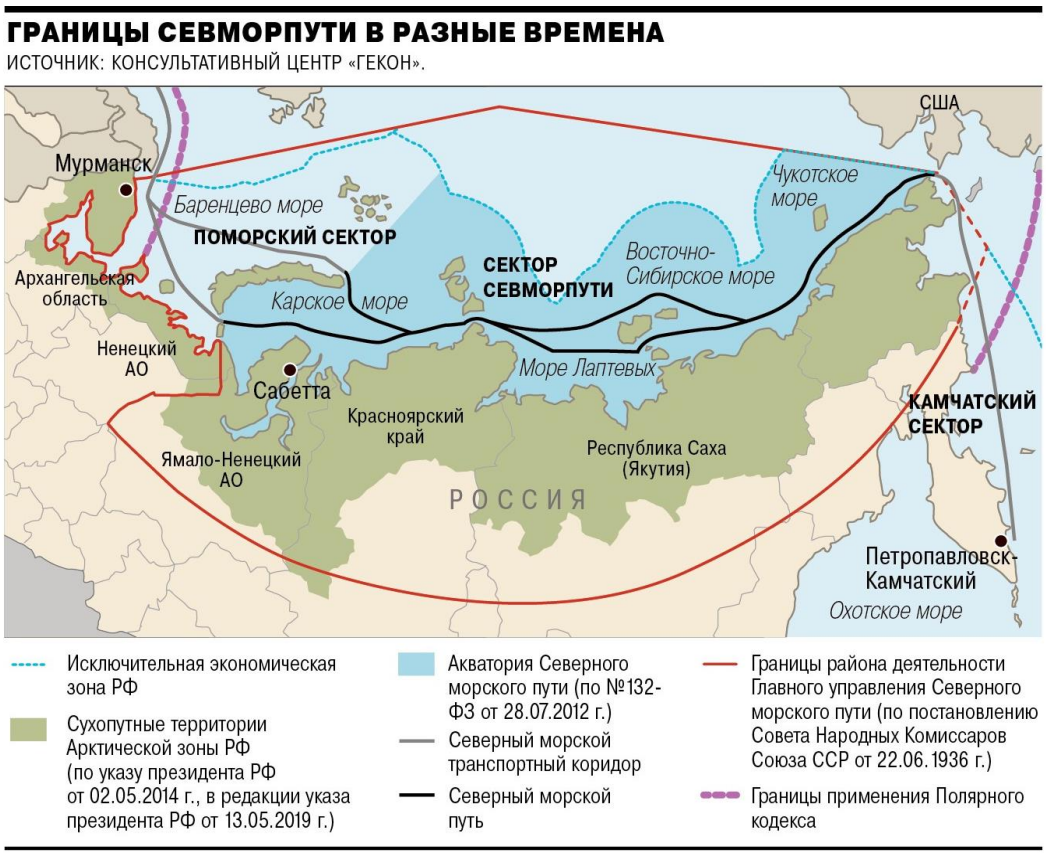

Fig. 6. Northern maritime transport corridor boundaries in different periods of time [22].

The Northern Sea Route is one in three – routes, water area, ways, as stated for the first time at the VI International Conference in Murmansk "Logistics in the Arctic" on April 12, 2016 by M.N. Grigoryev. Northern Sea Transport Corridor (NMTC) - Barents, White and Pechora seas on the western flank, the water area of the Northern Sea Route and the Bering Sea on the eastern flank [14, p. 3]. The development of the SMTK should take place in an evolutionary way.

- **The first phase**: fulfilling the role of the historically established national transport communication of Russia - ensuring the maintenance of the activities of settlements ("northern delivery") and exporting products (Varandey, Norilsk, Pevek, etc.), ensuring the implementation of large investment projects, national security and the country's sovereignty.
- **The second phase**: development of transport infrastructure to ensure the export of products of the Arctic oil and gas complex to the APR markets. This will require the development of an icebreaker and support fleet, port infrastructure, emergency rescue forces, navigation and hydrographic support.
- **The third phase** of development is the formation of an international transport artery that ensures not only the export of raw materials extracted in the Russian Arctic to world markets, but also a growing transit traffic, both between the western and east-

[22] Kommersant. Sevmorput. The government is thinking of extending the route to Sakhalin. URL: https://im. kommersant.ru/ISSUES.PHOTO/DAILY/2020/088/123.jpg (accessed 07 June 2020).

ern regions of Russia, and between the markets of the Atlantic and the Pacific Ocean [23].

On October 28, 2019, in the Federation Council of the Federal Assembly of the Russian Federation, Deputy Minister of the Russian Federation for the Development of the Far East and the Arctic A.V. Krutikov said that in the Arctic strategy until 2035, "*we are introducing a new concept of the Northern Sea Transport Corridor - in fact, the entire transport communication from Murmansk to Kamchatka, and we believe that the functions of a single operator of the NSR should extend to this entire corridor*"[24]. Substantiating this proposal, A.V. Krutikov focused on the growth in oil and gas production and LNG production in the Russian Arctic. An increase in production volumes will lead to an increase in freight traffic along the Northern Sea Route to 80 million tons in 2024, 120 million tons in 2030, and by 2035 will increase to 160 million tons per year[25]. The department also believed that in order for the sea route to cope with the task, it was necessary to create a regular container line between Murmansk and Petropavlovsk-Kamchatsky. The only way to prevent the disruption of the May decree of the President of the Russian Federation on increasing cargo traffic along the NSR is to expand its borders. In this case, its cargo turnover will include the existing projects in the Pechora Sea - the Prirazlomnaya platform of Gazprom Neft, transshipment at the Varandey terminal of LUKOIL, the extraction of iron ore at the Kovdorsky GOK in the Murmansk Oblast, part of Eurochem, etc. Thus, the total increase in freight traffic due to the expansion of the borders of the NSR will amount to 61 million tons [26]. In fact, such an increased traffic already exists. And the spears break here, among other things, because of management, competition, bureaucratic procedures, how to count certain cargo flows, how to statistically consider the entire volume of cargo flows throughout the Russian Arctic.

The draft ***Strategy for the Development of the Russian Arctic and Ensuring National Security for the Period up to 2035*** set the task of the integrated development of the infrastructure of the NMTC, including the ports and sea shipping routes of the Barents, White, Pechora and Bering Seas. At the same time, the previous concept of the Northern Sea Route was used as part of the NMTC[27]. At the meeting of the Presidium of the State Commission for the Development of the Arctic on May 13, 2020, during the discussion, this innovation did not find unified support, despite the fact that A.V. Krutikov gave weighty arguments about the competitiveness of the Northern Sea

[23]Mikhail Grigoryev on the evolution of the Northern Sea Corridor. URL: https://pro-arctic.ru/03/02/2017/ expert/25036 (accessed 07 June 2020).

[24]The role of the Arctic in the development of Russia will increase. 29.10.2019. URL: https://minvr.ru/press-center/news/ 23697/ (accessed 15 May 2020).

[25]Freight traffic on the NSR by 2035 may grow to 160 million tons per year. URL: https:// arc-tic.gov.ru/digest/ ?date_start=2019-12-06%2000:00#news-21466 (accessed 12 June 2020).

[26] The government discussed the expansion of the boundaries of the Northern Sea Route at the expense of five seas. URL: https: //www. rbc.ru/business/20/05/2020/5ec51c9d9a79471c48fb0af3 (accessed 03 June 2020).

[27]"On the progress in preparing the draft development strategy for the Arctic zone of the Russian Federation until 2035". Recommendations. Approved at a meeting of the Federation Council Committee on Federal Structure, Regional Policy, Local Self-Government and Northern Affairs (Minutes No. 210 of December 10, 2019). URL: http://council.gov.ru/ activity/activities/parliamentary/109343/ (accessed 27 June 2020).

Route and about the coordination of changes with the Ministry of Transport, Rosatom and the Ministry of Foreign Affairs of Russia. "*Neither we, nor the Russian Foreign Ministry sees any negative legal consequences of using this terminology,"* – said the deputy Minister, referring to the Northern Maritime Transport Corridor [28].

Deputy Prime Minister of Russia - Plenipotentiary of the President in the Far Eastern Federal District Yu.P. Trutnev, at the same meeting of the State Commission for the Development of the Arctic on May 13, 2020, expressed as a counterargument that the government would not adjust plans for the volume of cargo transportation along the Northern Sea Route. "*Today we have no such plans. But let's get out of this crisis first, and then we will make decisions* , "he prudently noted. More thoroughly Yu.P. Trutnev asked his colleagues to think over the terminology, bearing in mind the proposed SMTK concept, for a broader designation of the entire route from Murmansk to Kamchatka. The Ministry for the Development of the Russian Far East, the Ministry of Transport, the Ministry of Foreign Affairs and Rosatom had to submit to the government agreed proposals on changes to the Merchant Shipping Code (MSC) and the inclusion of inland sea waters, the territorial sea and the exclusive economic zone of the Russian Federation in the Barents, White, Pechora, Bering and Okhotsk seas [29]. The above departments at a meeting with Deputy Prime Minister Yu.P. Trutnev in June 2020 decided not to expand the boundaries of the Northern Sea Route (NSR), so as not to conflict with international law. Technically, it is possible to make changes to the Merchant Shipping Code, but then the effect of the rules for sailing along the NSR will automatically expand to new water areas and contradictions with international law will arise [30]. According to Article 234 of the UN Convention on the Law of the Sea, coastal states have the right, within the exclusive economic zone, to establish special rules for ships only in ice-covered areas in order to prevent pollution of the marine environment. However, it will be quite difficult to prove the presence of long-term ice in new water areas.

Director of the Department for the Development of the Northern Sea Route and Coastal Territories of the Directorate of the Northern Sea Route of the State Atomic Energy Corporation Rosatom, Ph.D. in Law *M.V. Kulinko* [31] believes that in essence we are talking about the revival of the concept of Glavsevmorput used during the Soviet era. He explained: "This is not a replacement for the Northern Sea Route, but it is a more ***economically correct model for the development of*** our northern seas." The Northern Sea Transit Corridor, according to M.V. Kulinko, is just the name of the

[28] IAA PortNews May 13, 2020. URL: https://www.facebook.com/PortNewsIAA/posts/2995300060549976 (accessed: 07 June 2020).
[29] State Commission for the Arctic: development strategy until 2035, expansion of the NSR and renovation of Norilsk. May 13, 2020. URL: https://ru.arctic.ru/infrastructure/20200513/943068.html (accessed 07 June 2020).
[30] The authorities refused to expand the boundaries of the Northern Sea Route. June 20, 2020. URL: https://www. rbc. ru/business/20/06/2020/5eecb19f9a7947cfd9e8abaf?noredir=true (accessed: 20 June 2020).
[31] Kulinko M.V. worked in the apparatus of the government of the Russian Federation in 2006-2018. in the position of Assistant to the Deputy Prime Minister of the Russian Federation, was Assistant to Deputy Prime Minister D. Rogozin (2011–2018). In 2015–2018 - Executive Secretary of the State Commission for the Development of the Arctic. Since October 4, 2018, Maksim Kulinko, Deputy Director of Directorate - Director of the Department for Development of the Northern Sea Route and Coastal Territories, ROSATOM.

project of a ***container line from Murmansk to Petropavlovsk-Kamchatsky***, passing through the NSR within its established borders, which should work between the European and Asian markets. Rusatom Cargo plans to reorient to SMTK part of transit cargo in containers from the southern sea routes, including those passing through the Suez Canal. Rosatom is already working on the contours of a single infrastructure operator of the NSR, the possibility of setting up hub ports in Murmansk and Petropavlovsk-Kamchatsky for container shipping. Rosatom and Roskosmos are engaged in the creation of a satellite constellation necessary to ensure navigation in the water area of the NSR [32].

Scientific and practical substantiation of the project for the creation of the *National Arctic Transport Line was* first given in the article by N. Pegin, candidate of sociological sciences, general director of the Kamchatka Development Corporation JSC, published by the magazine Arctic and North back in 2016. The National Arctic Transport Line (NATL), in contrast to the traditional definition of the NSR, according to Nikolai Anatolyevich, represents is a broader concept and implies the formation and development of an integrated infrastructure project for the organization of an international transport line with specific points of entry and exit *: "Murmansk transport hub in its western part and Petropavlovsk-Kamchatsky transport hub in the eastern part, as well as supporting ports"* (14, p. 33). Revealing the unique transport and logistics advantages of NATL, N.A. Pegin formulated a number of key problems, including a single management body, a single operator as a single window for freight carriers, and justified the formation of a hub port in Petropavlovsk-Kamchatsky. The organization of such a transport line in the Arctic is becoming a reality and will allow integrating a new sea route into international cargo flows between the Asia-Pacific region, the West Coast of America and Europe, will contribute to the development of territories adjacent to the NSR, will provide a Russian presence in the Arctic and will open access to its resource potential [15, p. 34].

Development of the Russian Arctic until 2035

If we sum up some intermediate results of what has already been done at the state level, then the Decree of the President of the Russian Federation of March 5, 2020 No. 164 "On the Fundamentals of State Policy of the Russian Federation in the Arctic for the period up to 2035" came into force. One of the 6 national interests of the Russian Federation in the Arctic is named "*Development of the Northern Sea Route as a competitive national transport communication of the Russian Federation on the world market"*[33]. Zhuravel V.P. in his article noted that the Fundamentals do not mention the *support zones of development,* which were previously proposed by the State Commis-

[32] Northern Sea Route. The government is thinking of extending the route to Sakhalin. May 21, 2020. URL: https://www.kommersant.ru/doc/4349939. At the beginning of the Northern Sea Route. URL: http://strana - rosatom.ru/2020/02/04/at the beginning-north-sea route/; Rosatom and Roskosmos will create a satellite constellation to ensure navigation in the water area of the Northern Sea Route. October 30, 2019. URL: https://portnews.ru/ (accessed 09 June 2020).

[33] Decree of the President of the Russian Federation of March 5, 2020 N 164 "On the Fundamentals of the State Policy of the Russian Federation in the Arctic for the Period until 2035". URL: https://www.garant.ru/products/ipo/prime/doc/73606526/ (accessed 14 June 2020).

sion for the Development of the Arctic. The status of the Arctic territories of the Russian Arctic will be determined in terms of the significance of the projects that will be carried out there, as well as the point development of the Arctic. At present, out of 8, only the Kola and Yamalo-Nenets support zones are developing [16, p. 6].

The Government of the Russian Federation completed the preparation and approved in July 2020 the draft Strategy for the Development of the Russian Arctic until 2035, for the first time including the concept of the Northern Sea Transport Corridor (NMTC): "13. The main tasks in the field of infrastructure development in the Arctic zone are achieved through the following set of measures: a) *comprehensive development of the infrastructure of the transport corridor, which includes the ports and sea shipping routes of the Barents, White and Pechora Seas on the western flank, the waters of the Northern Sea Route, the Bering Sea on the eastern flank (hereinafter referred to as the* ***northern sea transport corridor*** **);** b) the *creation of a* ***headquarters for maritime operations*** *to manage shipping in the entire water area of the northern sea transport corridor;* c) *integration of the provision of transport and logistics services for transportation along the northern sea transport corridor based on a* ***digital platform for*** *paperless processing of multimodal passenger and cargo transportation*"(p. 10). The implementation of this Strategy is ensured by amending the state program of the Russian Federation "Socio-economic development of the Russian Arctic", sectoral state programs of the Russian Federation, state programs of the constituent entities of the Russian Federation, national projects, as well as the implementation of measures for the development of the infrastructure of the Northern Sea Route (paragraph 36, p. 31) [34].

In July 2020, the State Duma adopted a package of draft laws: No. 895550-7 "On state support for entrepreneurial activity in the Arctic zone of the Russian Federation"; No. 895543-7 "On amendments to the Tax Code of the Russian Federation in terms of stimulating the search and assessment of hydrocarbon deposits, exploration and production of hydrocarbons in certain territories of the Russian Arctic"; No. 895545-7 "On Amendments to the Tax Code of the Russian Federation in Connection with the Adoption of the Federal Law "On State Support for Entrepreneurial Activity in the Russian Arctic"; No. 895557-7 "On Amendments to Certain Legislative Acts of the Russian Federation in Connection with the Adoption of the Federal Law "On State Support of Entrepreneurial Activity in the AZRF"[35].

Earlier, by decree of the Government of the Russian Federation No. 656 of May 12, 2020, a priority development area (TOR) "Capital of the Arctic" was created in the Murmansk Oblast[36]. The

[34] Strategy for the development of the Arctic zone of the Russian Federation and ensuring national security for the period up to 2035. URL: http://www.azrf.labourmarket.ru/docs/проект%20Стратегии%20АЗРФ-2035.pdf (accessed 07 August 2020).

[35] Federal Law of July 13, 2020 No 193-FZ "On state support for entrepreneurial activity in the Arctic zone of the Russian Federation" and other. URL: http://www.consultant.ru/document/cons_doc_LAW_ 357078/ (accessed 07 August 2020).

[36] Decree of the Government of the Russian Federation of May 12, 2020 No. 656 "On the creation of the territory of priority social and economic development "Capital of the Arctic". URL: http://www.consultant.ru/cons/cgi/ online.cgi?req=doc&base=LAW&n=352331&fld=134&dst=1000000001,0&rnd=0.8424026694568092#0824748575263813 (accessed 17 June 2020).

TOP includes four anchor investors, among which, in addition to LLC NOVATEK-Murmansk with the investment project “Center for the construction of large-capacity offshore structures”, included: LLC Sea Commercial Port Lavna with the investment project “Construction of a new coal terminal in the sea trade the port “Lavna” on the western coast of the Kola Bay” ; LLC “Sea Terminal TULOMA” with an investment project to create a terminal for mineral fertilizers and apatite concentrate in the sea-port of Murmansk; JSC “Corporation for the Development of the Murmansk Oblast” with an investment project to create an international cultural and business center to realize the geopolitical and cultural potential of the region. In a speech at the V international conference A.V. Krutikov said that Murmansk, as the only ice-free Russian port in the Arctic, could become one of the two hubs of the Northern Sea Transport Corridor and a service center for offshore projects in Russia, after the launch of the Novatek large-scale offshore facilities construction center the region will become one of the largest development centers shipbuilding technologies [17, p. 7].

Geographically, China is an "almost arctic state"

The shortest sea trade route from the Atlantic to the Pacific through the Arctic waters due to global warming and the reduction of sea ice is becoming quite affordable for the optimization of shipping using: Northern Sea Route (NSR) along the coast of Russia, North-West Passage (NWP) off the coast of Canada, as well as through the high-latitude circumpolar route in the center of the Arctic Ocean - Trans-Arctic Sea route (TSR), Arctic Sea Bridge (ASB) – Arctic sea bridge between the ports of Murmansk (Russia) and Churchill (Canada).

In this article, it is possible to touch upon China’s strategic interests only briefly in the Arctic in the context of existing sea routes. China is using all the possibilities for its ships to pass along this route. Arctic strategies of Iceland, Denmark, Canada, China, Norway, Russia, USA, Finland, Sweden are reflected in the Arctic Encyclopedia (2017), where in one of the sections E.S. Kotlova et al. investigate international relations and organizations in the Arctic region [18].

The Northern Sea Route along the coast of Russia and its promising development projects (NMTC, NATL) have already been discussed earlier. As far as the Arctic Bridge is concerned, the Arctic Bridge is a seasonal, irregular sea route of about 4,200 miles, connecting the port of Murmansk in the Barents Sea with the Canadian port of Churchill in the Hudson Bay. The Arctic Bridge, together with the Northwest Passage, may in the future become the main trade route between Europe and North America, provided there are economically viable constant volumes of freight traffic.

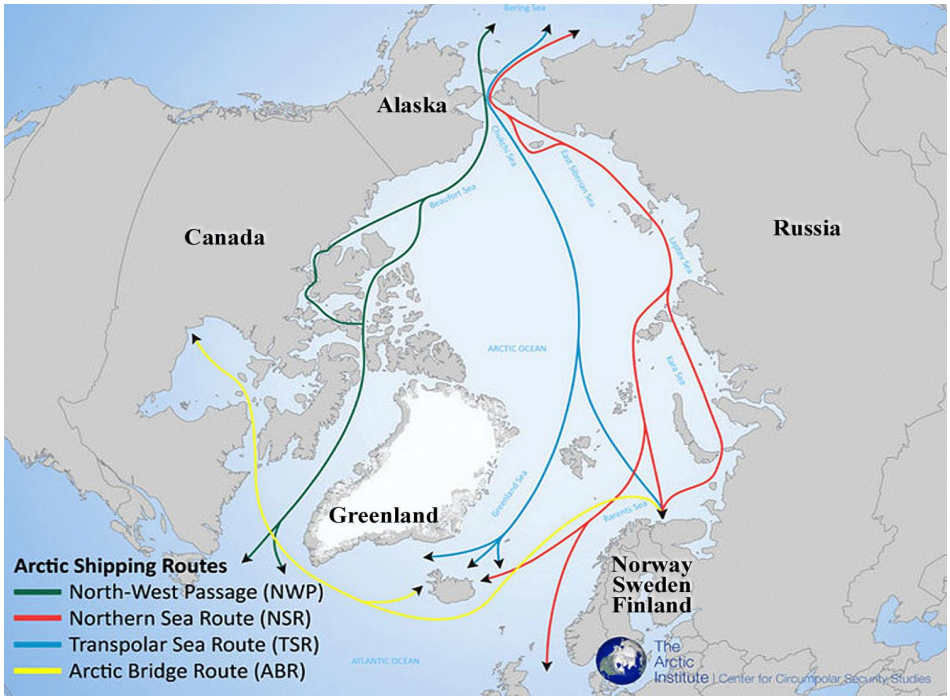

Fig. 7. Sea transport routes in the Arctic [37].

The path from Canada to East Asia and the Atlantic Ocean through the North-West Passage - North-Wes t Passage (NWP) is 7 thousand km shorter than the path through the Panama Canal. A shorter route saves not only time, but also money (lower fuel consumption, lower transit fees). Back in August 2008, the Danish cable ship “Peter Faber” easily covered the route through the Northwest Passage from Taiwan to the destination located between Newfoundland and Greenland [19, p. 92].

China is purposefully studying the possibilities of ships' passage along all routes in the Arctic Ocean basin (AO). The icebreaker "Xuelong" in the process of scientific expeditions consistently passed through them. The climatic motivating factor for China in the development of the Arctic using the Trans-Arctic S ea route (TSR) is mentioned by many experts, linking it with economic benefits. The Northern Sea Route " *is a gold mine, having access to which China will be able to increase their exports not only to the already well-established partner countries, but also get the opportunity to discover new trade chain* ", - noted Yu Andreeva, M. Gibadulin M., Frolova V.A. from the Federal State Budgetary Educational Institution of Higher Professional Education "Vladivostok State University of Economics and Service" in 2015. Prospects for obtaining both economic, strategic, and military benefits pay off all the costs that Beijing has to go to [20, pp. 495–498]. Chinese shipping companies are constantly exploring the economic potential of the Arctic waterways. The fleet of Chinese container ships (Yang Ming Marine Transport Corp) is being updated at an accelerated pace. The Polar Silk Road Program is consistently revealing its Arctic ambitions. The concept of Polar Silk Road itself appeared as the Northeast Passage became more and more associated with

[37] Sea transport routes in the Arctic. URL: https://johnenglander. net/wp/wp - content/uploads/2019/05 /TAI - Arctic - Shipping - Routes - labeled. gif (accessed 17 June 2020).

Asia, especially China, - emphasized Mia Bennett , Assistant professor at the University of Hong Kong [38].

The initiative "belt and road" – this is China's infrastructure development strategy, which focuses on the development of and investment in 152 countries and international organizations on several continents. "Belt" applies to overland routes for roads and railways, and the "road" – to the Silk Road of the Sea 21st century [39].

Geographically, China is an "***almost Arctic state"***, one of the continental states closest to the Arctic Circle, - is justified in the Arctic policy of China or in the so-called. White Paper. China intends to cooperate with other countries: 1) in protecting the environment; 2) in protecting the ecosystem; 3) in solving the problem of climate change; 4) in the development of Arctic sea routes; 5) in the exploration and exploitation of oil, gas, mineral and other inanimate resources; 6) in the conservation and use of fish and other living resources; 7) in the development of tourism resources; 8) actively participate in the management of the Arctic and international cooperation, promoting peace and stability in this region[40]. States outside the Arctic region, according to the PRC, do not have territorial sovereignty in the Arctic, but they have rights in relation to scientific research, navigation, overflight, fishing, laying of submarine cables and pipelines on the high seas and other relevant sea areas in the Arctic. The "White Paper" emphasized that the capital, technology, market, knowledge and experience of China will play an important role in expanding the network of shipping routes in the Arctic, will contribute to the economic and social progress of coastal states along these routes [21, pp. 126–128].

[38] Bennett M. Along the Polar Silk Roud, China Breaks the Ice. URL: http://cn.chinausfocus. com/finance-economy/20181106/34091.html#eng (accessed 17 April 2019).

[39] Full text of the Concept for Maritime Cooperation under the Belt and Road Initiative. URL: http://russian.news.cn/2017-06/20/c_136381457.htm (accessed 11 July 2020).

[40] Full text: China's Arctic Policy. The State Council Information Office of the People's Republic of China. January 26, 2018. URL: http://english.www.gov.cn/archive/white_paper/2018/01/26/content281476026660336.htm (accessed 17 June 2020).

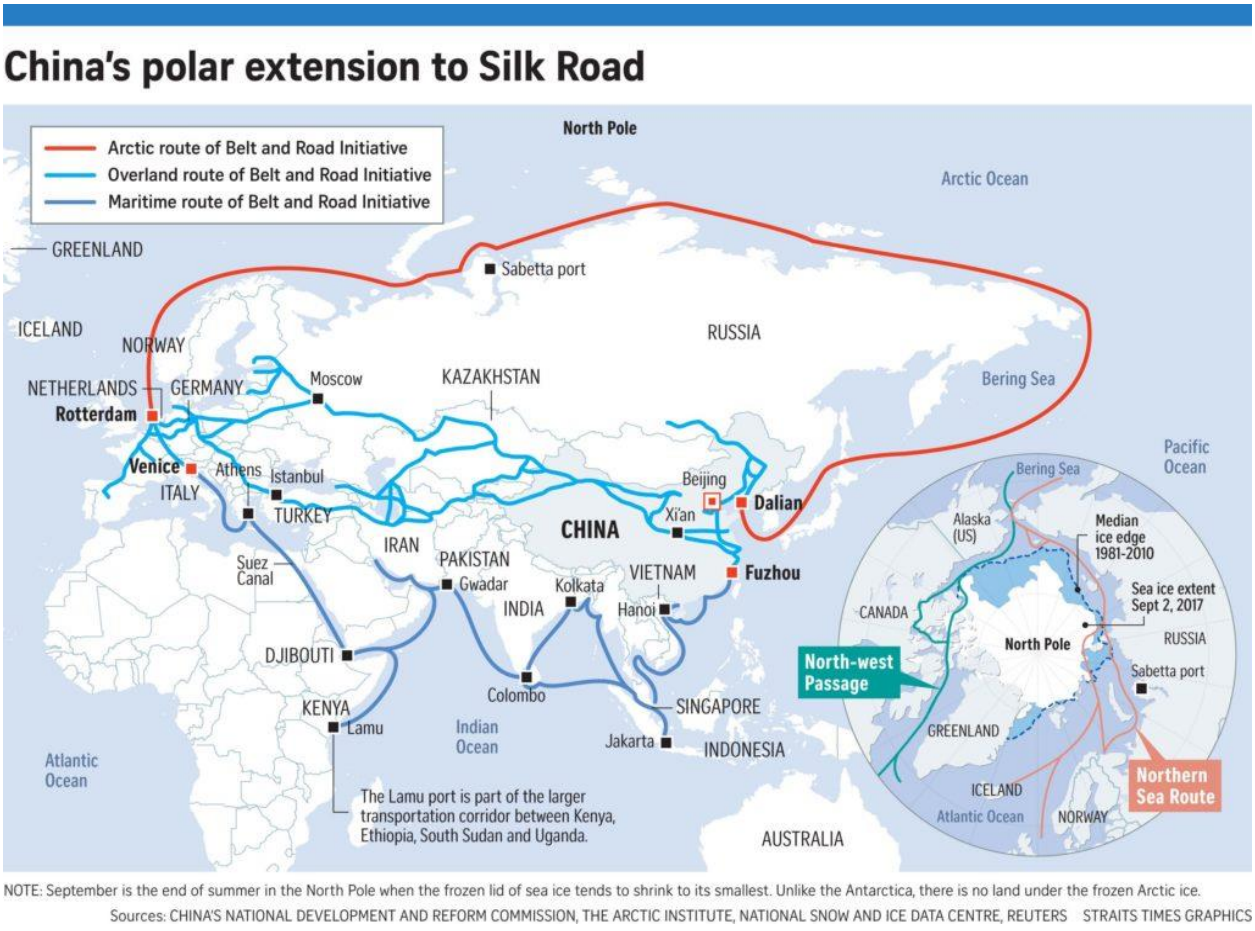

Fig. 8. Polar silk road [41].

Dr Collin Koh Swee Lean, Research Fellow, Institute for Defense and Strategic Studies, School of International Studies named after S. Rajaratnam, based at the Nanyang Technological University of Singapore, in his article "China's strategic interest in the Arctic goes beyond the economy," stressed that Beijing has long viewed the Arctic as a consequence of its strategic, economic and environmental interests[42]. This is primarily economic, especially energy cooperation with Russia: the Power of Siberia gas pipeline, the key role of Chinese companies in the Arctic LNG 2 project, the creation of a global transport corridor through the Northern Sea Route. Chinese sponsors, including the Silk Road Foundation, have provided billions of dollars to help build the Yamal LNG project. Chinese experts and diplomats talk about the need to achieve a "high level of trust" with Russia and suggested at one time five ports as reference ports for China's participation - Murmansk, Sabetta, Arkhangelsk, Tiksi, Uelen. China's interests in relation to sea transport corridors in the Arctic, interaction between Russia and China in the Arctic, the potential of Russian-Chinese cooperation were discussed in their article by *Qin Dong* , PhD student, and *A.L. Lukin* , associate professor of the Far Eastern Federal University [22, pp. 158-166]. In pursuit of its own interests, China intends to maintain an appropriate balance of its current and long-term interests in

[41]The Polar Silk Road Comes to Life as a New Epoch in History Begins. URL: https://southfront.org/the-polar-silk-road-comes-to-life-as-a-new-epoch-in-history-begins/ (accessed 11 July 2020).
[42]Collin Koh Swee Lean. China's strategic interest in the Arctic goes beyond economics. URL: https://www. defensenews.com/opinion/commentary/2020/05/11/chinas-strategic-interest-in-the-arctic-goes-beyond-economics/. URL: https://www.rsis.edu.sg/profile/collin-koh-swee-lean/ #.Xvi75OoudPY (accessed 10 June2020).

order to contribute to the sustainable development of the Arctic, including in scientific terms. General Director of the Center for the ICIE "Silk Road Economic Belt", D.Sc. n. *V.N. Remyga* awakens the possibility of creating a Russian-Chinese consortium for the implementation of Arctic projects. As a first step, he proposes to develop a program for the construction and joint operation of ice-class ships. The total funding for the implementation of this program will be 2 - 3 billion US dollars. In this regard, on the agenda is the question of whether to develop rachivaniya in China program for the construction of its own icebreaker fleet. It would be more logical to combine the capabilities of the two countries [23, p. 21].

Institute of Oceanology RAS named after P.P. Shirshova and Qingdao National Marine Science and Technology Laboratory establish Arctic research center[43]. Tianjin Center for Marine Cartography of the People's Republic of China has prepared a "Collection of Maps and Reference Materials on the North Pole" [44].

At the heart of the differences between Russia and China on Arctic issues is the concept of "common heritage of mankind", which is used in two ways: underline the international status of the Arctic sea routes and the delimitation of the continental shelf in the Arctic Ocean, - noted *Sun Syuven* in his dissertation "Problems and prospects for Russian-Chinese cooperation in the development of the Arctic "(2019). The diplomatic philosophy of China "Qutong Tsunyi" (to find common ground in the existing differences) can contribute to the Arctic interaction as a whole [24, pp. 5–6, 14, 35].

China is investing heavily in the development of Greenland. In 2017, Shanghai-based Shenghe Resources bought a 12.5% stake in Greenland Minerals and Energy A/S and became its largest shareholder, having the right to increase its stake in the flagship project of the Greenland uranium mining company in Kwanefjeld to 60%.

Another Arctic country**,** Iceland, **is** receiving special attention from China. Iceland's central location in the northern hemisphere makes it the ideal northern gateway to Europe from East Asia, similar to the prosperous port of Piraeus in Greece, which in a few years is expected to handle up to 6.2 million TEU per year, making it one of the five largest ports in Europe. Over time, Iceland could become a similar transit hub in the Atlantic Arctic, expanding infrastructure as needed as the international shipping network expands through Arctic routes. Italian Prime Minister D. Conte and Chinese President Xi Jinping signed an agreement on China's investment in the development of the commercial ports of Genoa and Trieste on March 23, 2019, as well as on the development of tourism and the export of Italian oranges. 13 EU countries have signed memorandums of intent to cooperate with China. The number of European countries ready to develop trade relations with China continues to grow. By the end of 2020, it is planned to conclude a comprehensive investment agreement between the EU and China.

[43]Russia and China will begin joint research in the Arctic. URL: https://ocean.ru/index.php/novosti-left/novosti-instituta/item/1311-rossiya-i-kitaj-v-arktike (accessed 06 August 2020).
[44]The first Chinese collection of maps and reference materials on the North Pole is being prepared for publication. URL: https://russian.dbw.cn/system/2014/05/19/000854084.shtml (accessed 06 August 2020).

Conclusion

In conclusion, it should be noted that the Great Redistribution of the Arctic was by no means completed in the XX century. This is evidenced by the refusal of the United States to ratify the 1982 UN Convention on the Law of the Sea (UNCLOS), conflicts around the passage along the Northern Sea Route, the unfinished division of the continental shelf of the Arctic Ocean, the creeping militarization of the Arctic, and the threat of cyber-attacks.

The Russian state, business and transport organizations can really become catalysts for positive changes in the AZRF in the new historical and economic conditions of the third decade of the 21st century. The development of hydrocarbons, mineral and biological resources after the coronavirus pandemic in the Russian Arctic will largely determine the development of the Northern Sea Route and the legitimization of the Northern Sea Transport Corridor, which was first included in the AZRF Development Strategy until 2035. Further infrastructure development to meet the needs of the Russian population in increasing the coastal sailing, northern delivery. There are still many climatic, legal, environmental, economic, political, and technological uncertainties in the commercialization of transit. In this context, it would be logical to practically, in fact, transform the entire Russian Arctic into a territory of advanced socio-economic development.

It is important not to forget about the increasing role of the PRC in the Arctic region, the promotion of projects within the framework of the Polar Silk Road. Otherwise, the Arctic picture will not be complete. The capital, technology, market, knowledge and experience of China in expanding the network of sea routes in the Arctic and promoting the economic and social progress of coastal states along the routes, become the basis of Chinese leadership and geopolitics in the Arctic.

The plurality of sea routes for cargo transportation in the Arctic along the coast of Russia (NSR, NMTC, Northeast Passage); The Northwest Passage (NWP) linking the Atlantic and Pacific Oceans through the Canadian Arctic Archipelago; the irregular Arctic Bridge from Murmansk to the Canadian port of Churchill; c the shortest of the Arctic sea routes - a promising circumpolar route Trans-Arctic sea route from the Atlantic Ocean to the Pacific Ocean through the center of the Arctic Ocean (TSR); China's Polar Silk Road linking Asia and Europe; modernization of the NSR infrastructure; the implementation of investment projects of the oil and gas and mining complex of global significance – all this generates new challenges and opportunities for the development of the Russian Arctic, due to geographically, economically, geopolitically, and has practical significance.

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Strategy for the Development of the Russian Arctic. Results and Prospects *

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Abstract. On March 5, 2020, the President of the Russian Federation approved a new edition of the Basics of State Policy in the Arctic for the period until 2035. The document defined the goals and objectives of the development of the Arctic zone of the Russian Federation for the next 15 years. The main tool for implementing state policy in this high-latitude region should be a new strategy for the development of the Russian Arctic zone. Summarizing and analyzing the results of the current Strategy for the socio-economic development of the Arctic zone of the Russian Federation and ensuring national security for the period up to 2020 (Strategy) will allow us to concentrate the efforts of the state on the most significant problems of the macroregion. The article is devoted to reviewing the results of the implementation of the Strategy, the adoption of which, in 2013, among other things, stimulated the processes of separating the macroregion into an independent object of state administration. The authors analyze the goals, objectives, and results achieved at each stage of the Strategy. Their impact on the socio-economic development of the region as a whole is evaluated.

Keywords: *Arctic, development strategy, socio-economic development, national security, development prospects, public administration*.

Introduction

In 2008, after the approval of the Basic Principles of Russian Federation State Policy in the Arctic to 2020 and beyond[1], the Russian Arctic once again became the focus of public administration after the reforms of the 1990s. This became the starting point for the public administration system in the Arctic zone of Russia (AZRF or the Arctic zone of Russia). The goals, objectives, priorities, and mechanisms for the implementation of state policy were determined, as well as the composition of the Arctic territories[2], the State Commission for the Development of the Arctic was created, the Arctic zone was allocated as a separate object of statistical observation, which signifi-

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[1]Fundamentals of the state policy of the Russian Federation in the Arctic for the period up to 2020 and beyond. Approved by the President of the Russian Federation on September 18, 2008 (Pr - 1969).

[2]Decree of the President of the Russian Federation dated 02.05.2014 No. 296 "On the land territories of the Arctic zone of the Russian Federation" (as amended by the decrees of the President of the Russian Federation dated 27.06.2017 No. 287, dated 13.05.2019 No. 220, of 05.03.2020 No. 164). URL: http://www.kremlin.ru/acts/bank/38377 (accessed 27 July 2020).

cantly contributed to the improvement of the quality of monitoring the achievement of the set development goals and improving the quality of life of the population in the macroregion.

In pursuance of the Fundamentals of State Policy in the Arctic in 2013, the Development Strategy of the Arctic zone of the Russian Federation and National Security for the period up to 2020 was approved[3] (the Strategy). In 2014, the State program of socio-economic development of the Russian Federation's Arctic zone was adopted as a tool for implementing the Strategy[4].

The development and approval of these documents were timely. By 2010 – early 2011, all the Arctic states with access to the Arctic Ocean worked out documents aimed at developing their Arctic territories and defining Arctic priorities, to one degree or another. The first scientific discussions on these documents' content appeared [1, Brosnan J.G., Leschine T.M., Miles E.L.].

So, in 2006 Norway presented a development program for the northern territories – "New Building Blocks in the North"[5] . In 2009, a new version of this program was adopted, and a plan for its implementation was formed. According to these documents, Norway planned to increase its efforts in the region, primarily in scientific research. Denmark had developed its strategy for the Arctic[6] in May 2008; its primary goal was to strengthen Greenland's autonomy while maintaining the role of Denmark as one of the key players in the region. According to Canada's northern strategy[7], adopted in 2009, this Arctic state is focused on strengthening Canada's sovereignty, the socio-economic development of the northern territories, and protecting the fragile nature of the Arctic and the development of self-government of peoples inhabiting northern Canada. Presidential Directive on National Security [8] in 2009, a new US Arctic strategy was adopted. During the same period, the Arctic Council member countries (Iceland, Finland, Sweden) and observer countries in the Arctic Council, China, and India, developed their Arctic strategies. It should be noted that the strategic documents of the four Arctic coastal states, in contrast to the Russian Arctic Strategy, directly noted the need to achieve leadership in the region.

As a result, various models for managing the development of the Arctic spaces were created, which differ in many characteristics (the scale of the territories, physical-geographical and natural-climatic features, various models of the administrative-territorial and state structure, the level of socio-economic development of the Arctic territories, etc.). At the same time, the European

[3] Strategy of socio-economic development of the Arctic zone of the Russian Federation and ensuring national security for the period until 2020. Approved by the President of the Russian Federation Pr-232 on February 8, 2013. URL: http://government.ru/info/18360/ (accessed 27 July 2020).

[4] Resolution of the Government of the Russian Federation of April 21, 2014 No. 366 "On approval of the state program of the Russian Federation" Social and economic development of the Arctic zone of the Russian Federation for the period up to 2020".

[5] New Building Blocks in the North. The next Step in the Government's High North Strategy. URL: http://www.regjeringen.no/en/dep/ud/Documents/Reports-programmes-of-action-and-plans/Action-plans-and-programmes/2009/north_blocks.html?id=548803 (accessed 27 July 2020).

[6] Arktis i en brydningstid. Forslag til strategi for aktiviteter i det arktiske område. URL: http://www.um.dk/da/menu/Udenrigspolitik/GlobaleEmner/Arktis/ArktiskStrategi/ (accessed 27 July 2020).

[7] Canada's Northern Strategy. Our North, Our Heritage, Our Future. Сайт Северной стратегии Канады. URL: http://www.northernstrategy.ca/index-eng.asp (accessed 27 July 2020).

[8] National Security Presidential Directive and Homeland Security Presidential Directive. Сайт Белого дома. URL: http://georgewbush-whitehouse.archives.gov/news/releases/2009/01/20090112-3.html (accessed 27 July 2020).

countries that are part of the Arctic Council believe that the solution of the main development problems of this macroregion, unique in many respects, is possible only with the participation of the largest countries - world leaders, such as China, India, Japan, the Republic of Korea [2, Zaikov K.S., Kondratov N.A. et al.].

This year, the implementation of the Russian Arctic Development Strategy is coming to an end. Summing up, analysis and critical, realistic assessment of the achieved results are the basis for the development of a new Strategy for the development of the macroregion, which will act as an instrument for the implementation of the Fundamentals of State Policy of the Russian Federation in the Arctic for the period up to 2035[9].

The first results of the implementation of the Strategy of social and economic development of the AZRF

In the first decade of the twentieth century, the AZRF had to face such threats as the outflow of labor resources, the low quality of life of the indigenous minorities, the low population density and its uneven distribution, the lack of technologies for the development of new deposits, the aging of the icebreaker fleet, the lack of means of constant, integrated space monitoring, etc.

In this regard, the strategy's implementation was planned in two stages, the first of which ended in 2015. During this period, it was planned to increase the efficiency of state management of the region, develop a system of economic incentives, including support for indigenous peoples, create an information and telecommunications infrastructure, and ensure a favorable operational regime, create an integrated security system to protect against natural and human-made emergencies, ensure the elimination of environmental damage and take other measures to ensure environmental safety in the Russian Arctic. The continuation of scientific research, including the substantiation of the continental shelf's outer boundary, was also set as priorities.

As noted above, during this period, the foundation was laid for the Russian Arctic state administration system. Thus, by the Decree of the President of the Russian Federation dated February 03, 2015, No. 50, the State Commission for the Development of the Arctic was established. This body's tasks include ensuring the coordination of state authorities' activities and local self-government in solving the problems of development of this high-altitude region.

The National Security Strategy of the Russian Federation, approved in 2015, focuses on the need to solve strategic tasks in the Arctic [10]. An equally important document for the development of the region is the Maritime Doctrine of the Russian Federation [11], which defines a wide range of tasks for developing marine activities in the Arctic latitudes. In the same period, indicators of the

[9] Decree of the President of the Russian Federation of March 5, 2020 No. 164 “On the Fundamentals of the State Policy of the Russian Federation in the Arctic for the Period until 2035”. URL: https://www.garant.ru/products /ipo/prime/doc/ 73606526/ (accessed 27 July 2020).

[10] Decree of the President of the Russian Federation of December 31, 2015 No. 683 “On the National Security Strategy of the Russian Federation”, Article 62.

[11] Marine doctrine of the Russian Federation. Approved by the President of the Russian Federation on July 26, 2015 No. Pr-1210.

development of the Arctic zone of the Russian Federation and, in particular, the Strategy for its development were included in the Federal Plan of Statistical Work. Thus, the AZRF was singled out both as an object of state administration and as an object of statistical observation.

In addition to improving the regulatory framework for the macroregion development, significant results have been achieved in the first years of the Strategy implementation. The Comprehensive Project for the Development of the Northern Sea Route was approved. Reconstruction of its base and support ports (Murmansk and Arkhangelsk) began. The construction of the seaport of Sabetta on the Yamal Peninsula was continued, the Arctic Gate oil terminal was launched. As part of the development of transport support, the modernization of airport complexes (Naryan-Mar, Pevek, Norilsk, etc.), automobile and railway infrastructure has begun. In the same period, measures were taken to renew the icebreaker fleet: icebreakers were put into operation, capable of breaking ice up to 1.5 meters thick. A decision was made to build new nuclear icebreakers for project 22220. These icebreakers' capacity will allow breaking ice up to 3m to conduct caravans of ships with a deadweight of up to 100 thousand tons and to fully important function in the mouths of Arctic rivers.

A large-scale work was carried out to eliminate the accumulated environmental damage, including the environmental clean-up of military units. Besides, the formation of a production waste management system and creating specially protected natural areas in the Russian Arctic have begun. Work has been carried out to expand existing and create new, specially protected natural areas.

At the first stage of the Strategy implementation, remote sensing space constellation has begun.

The largest project in Russia's Arctic zone was Yamal LNG, the active implementation of which began in 2013. The project includes the construction of a new seaport of Sabetta and an airport and the creation of a natural gas liquefaction plant with a capacity of 16.5 million tons.

It should be noted that the Arctic strategies of states having access to the Arctic Ocean and claiming active economic activity in the region are based on forecasts of significant reserves of natural resources and are associated with the prospects for their industrial development. [3, Pavlenko V.I., Melamed I.I., et al.]. Simultaneously, in comparison with other Arctic coastal states, the most powerful industrial base has been created in the Russian part of the Arctic. The share of mining enterprises in the domestic, regional product created in the Russian Arctic is about 60%, while it does not exceed 30% in Canada and Alaska. In the northern European countries, which belong to the Arctic, this figure is at the level of 15%. At the same time, according to the characteristics of the quality of life, the Arctic zone of Russia lags significantly behind the other Arctic and subarctic states. For example, in terms of the population's income level in terms of purchasing power parity, Russia is 2 times behind the Arctic regions of Denmark, 3 times less than Norway and Canada, and 4 times less than the USA [4, Zalyvsky N.P.]. This lag has led to challenges to the Russian Arctic's sustainable development and to ensuring Russia's national security in the Arctic.

And at present, this lag has not been radically reduced. However, it should be noted that over the years of the implementation of the Strategy, the level of socio-economic development of most of the Arctic territories shows positive dynamics.

Several planned tasks remained unresolved or incompletely resolved at the end of the strategy implementation stage. Thus, a regulatory legal framework has not been formed that comprehensively covers the region's development issues, including regulating the preservation of the traditional way of life of the indigenous and small-numbered peoples of the North, Siberia, and the Far East. Difficulties arose with the construction of the icebreaker fleet and other types of vessels required for the AZRF. The modernization of the port infrastructure was not efficient enough; there was still poor coordination and support for delivering goods to the Far North and Arctic territories. Difficulties also arose with the development of domestic Arctic technologies, which largely determined foreign partners' attraction to the implementation of large investment projects. Thus, during the implementation of the Yamal LNG project, large orders for developing the necessary equipment were placed at Chinese enterprises that did not have experience in such production [12]. The formation of new technological competencies in Chinese contractors was financed.

According to experts [13], by 2015, it was impossible to form the primary conditions for further developing the Arctic zone of Russia [5, Minakir P.A., Leonov S.N.].

One of the reasons for such an ineffective start in implementing the strategy was the lack of the necessary resources. According to the Federal Law of the Russian Federation “On Strategic Planning in the Russian Federation” [14], the actual instruments for implementing strategies are government programs. At the same time, the State program “Socio-economic development of the Arctic zone of the Russian Federation”, approved in 2014, was analytical and did not imply the allocation of independent funding [6, Smirnova O.O.]. Its implementation was planned through activities included in other state programs. Several key tasks of the Strategy did not find their solution by the program-target method; some tasks were solved only partially. The activities of various state programs did not cover the entire range of tasks defined by the Strategy for the Development of the Arctic Zone and the Fundamentals of State Policy of the Russian Federation in the Arctic for the period up to 2020 and beyond. Even in their totality, the events within the framework of the State Program “Social and Economic Development of the Arctic Zone of the Russian Federation” did not become an instrument for implementing strategic planning documents for the development of the region. It should be noted that it is in this high-altitude region that the provision of

[12] Zero rate. Yamal LNG is becoming a portal for pumping significant funds to foreign contractors, whose competence is sometimes questionable. Kommersant. 2014. No. 19 November. p. 17. URL: https://www.kommersant.ru/doc/2612964?query=%D0%BD%D1%83%D0%BB%D0%B5%D0%B2%D0%B0%D1%8F%20%D1%81%D1%82%D0%B0%D0%B2%D0%BA%D0%B0 (accessed 27 July 2020).

[13] Trutnev Y. The Arctic needs incentives and tax holidays for everything. Interfax interview on March 4, 2019. URL: https://www.interfax.ru/interview/652915 (accessed 27 July 2020).

[14] Federal Law “On the strategic planning in the Russian Federation” of June 28, 2014 No. 172-FZ (as amended 18.07.2019 No. 183-FZ). URL: http://www.consultant.ru/document/cons_doc_LAW_164841/ (accessed 27 July 2020).

socio-economic development and national security are maximally interconnected. First of all, this concerns the issues of infrastructure development, the development of Arctic technologies, the intensification of scientific research, which will allow our country to increase technological and intellectual presence in the region [7, Kudryashova E.V.].

Development of the Arctic zone of Russia 2015–2020

At the second stage of the strategy implementation, it was planned to transition to the sustainable, innovative social and economic development of the region. By 2020, the tasks of transport support for the Arctic regions, as well as Eurasian transit through the construction of ice-class ships and support ships, and the development of the infrastructure of the Northern Sea Route, were to be solved. Besides, the anthropogenic load on the Arctic region's environment had to be reduced, measures were taken for environmentally efficient nature management, including the sustainable use of aquatic biological resources. Equally important tasks were in information support for the development of the Arctic zone, including the creation of information and telecommunications infrastructure, the development of radio navigation systems, the development of an integrated security system against threats of emergencies, and much more.

However, the implementation of the first stage made it necessary to adjust the measures taken. So, by the beginning of the second stage, the necessary regulatory legal framework was not fully formed, stimulating the development of the Arctic zone of Russia and regulating the preservation of the traditional way of life of the indigenous and small peoples of the North, Siberia and the Far East. As before, the development of normative tools was required to modernize life support systems for the region's population and ensure the delivery of goods to the Far North regions. The postponement of the planned construction dates for icebreakers, which was primarily due to the system-wide problems of domestic shipbuilding, was a constraining factor in developing the cargo base of the Northern Sea Route. Problems in the field of Arctic shipbuilding acted as a marker signaling the most complex problems in the implementation and development of advanced technologies adapted to the Arctic conditions, as well as the introduction and use of dual-use technologies in the interests of comprehensively addressing defense, security, and sustainable socio-economic development of the Arctic zone. Russian Federation.

To meet the challenges in August 2016, the Strategy implementation plan was approved [15], which contained 80 items, grouped according to main priority areas. A year later, in 2017, the state program was also adjusted [16], which defined and consolidated a new approach to implementing state policy in the Russian Arctic. The subprograms are focused on three key problems of the region's development: the development of the Northern Sea Route and the creation of domestic equipment to develop mineral resources of the Russian Arctic. The main innovation of the

[15] Implementation Plan for the Strategy for the Development of the Arctic Zone of the Russian Federation and National Security for the Period up to 2020 (No. 6410p-p16 of August 30, 2016).
[16] Resolution of the Government of the Russian Federation of August 31, 2017 No. 1064 “On Amending the Resolution of the Government of the Russian Federation of April 21, 2014 N 366”.

updated state program was the definition of support zones for development as the primary tool for stimulating the Arctic region's socio-economic development. At the same time, its funding from the federal budget was fixed in the state program, which gave a certain impetus to the macroregion's development.

Summing up the results of implementing the second stage and the entire Strategy, we can confidently note that significant results have been achieved.

For investors working in the Arctic zone, a system of preferences has been formed aimed at stimulating the implementation of new investment projects in the Arctic zone of the Russian Federation. The President of the Russian Federation signed a package of relevant laws [17]. Any entrepreneur registered in the Arctic who is ready to implement a new investment project and invest at least 1 million rubles can become a resident of the Arctic zone [18]. Resident status implies several tax benefits and non-tax preferences. They are also provided for by the new edition of the Tax Code of the Russian Federation [19]. These benefits and preferences aim to enhance the exploration and assessment of hydrocarbon deposits and stimulate their production in the Arctic.

In the development of the fuel and energy complex, work has been completed to extend the Kola NPP's life in the Murmansk Oblast. The commissioning of a floating nuclear power plant in the town of Pevek in the Chukotka Autonomous Okrug, the construction of which began in 2008, is nearing completion. At present, a power plant has been commissioned, and hydraulic structures and coastal infrastructure facilities. New facilities of the coastal network were built to launch the station, providing communication between the station and the high-voltage networks of the Chukotka Autonomous Okrug. In June 2020, the station was connected to the heating networks of Pevek [20].

As part of the transport infrastructure development, the construction of the Utrenniy liquefied natural gas terminal has begun, facilitating the development of the Salmanovsky (Utrenny) oil and gas condensate field on the Gydan Peninsula of the Yamal-Nenets Autonomous Okrug. This field should become the resource base for the Arctic LNG 2 project. Also, the reconstruction of the sea channel in the Ob Bay has begun. The construction of a coal terminal “Chaika” (Krasnoyarsk Territory) in the port of Dikson is also underway. The terminal will make it possible to develop the Syradasayskoye coking coal deposit in the Lemberov River region, Taimyr Dolgano-Nenets municipal district of Krasnoyarsk Territory.

[17] The President of the Russian Federation signed a law on tax incentives for investors in the Arctic. URL: https://minvr.gov.ru/press-center/news/24541/ (accessed 27 July 2020).

[18] Putin signed the law on benefits for business in the Arctic. Kommersant, 13 July 2020 URL: https://www.kommersant. ru/doc/4416226 (accessed 27 July 2020).

[19] Federal Law of 18.03.2020 No. 65-FZ “On Amendments to Part Two of the Tax Code of the Russian Federation”. URL: http://publication.pravo.gov.ru/Document/View/0001202003180041?index=27&rangeSize=1 (accessed 27 July 2020).

[20] Vavina E. In Russia, the world's first floating nuclear power plant was launched. Vedomosti. December 19, 2019. URL:https://www.vedomosti.ru/business/articles/2019/12/19/819169-rossii-zarabotala-plavuchaya-stantsiya (accessed 27 July 2020).

Despite the postponement of the commissioning of new nuclear icebreakers, their construction is at the final stage. In June 2020, it is planned to commission the lead icebreaker Arktika. Two subsequent serial universal nuclear icebreakers are to be commissioned by 2022. In 2019, FSUE Atomflot and JSC Baltiyskiy Zavod signed an agreement to construct the third and fourth serial universal nuclear icebreakers of project 22220; their delivery is scheduled for December 2024, and December 2026 [21]. Besides, since 2010, 34 units of rescue vessels have been admitted to the rescue fleet. Currently, the construction of 4 more vessels of the rescue fleet is underway.

It is impossible not to note the changes in the healthcare sector in the Russian Arctic. During the implementation of the Strategy, a gradual modernization of the material and technical base of health care in the subjects whose territories belonged to the Arctic zone was carried out: deliveries of ambulances were carried out, 35 paramedic and obstetric points were opened in 2019, as well as five outpatient oncological care centers. Telemedicine technologies are actively developing; about 100 medical organizations of the Russian Arctic are connected to the Russian Ministry of Health's telemedicine system. If in 2016, about 115 telemedicine consultations were carried out, then in 2019, almost 8 thousand such consultations were carried out. Medical aviation continues to develop, which is carried out to provide emergency medical assistance to citizens living in remote areas of the Russian Federation. As part of the implementation of the priority project “Development of medical aviation”, which ended in 2019, new aircraft were used, produced in Russia, and equipped with a medical module.

The results achieved in the healthcare sector significantly influenced life expectancy in the Russian Arctic from 70.65 years in 2014 to 72.39 years in 2018 (Fig. 1)

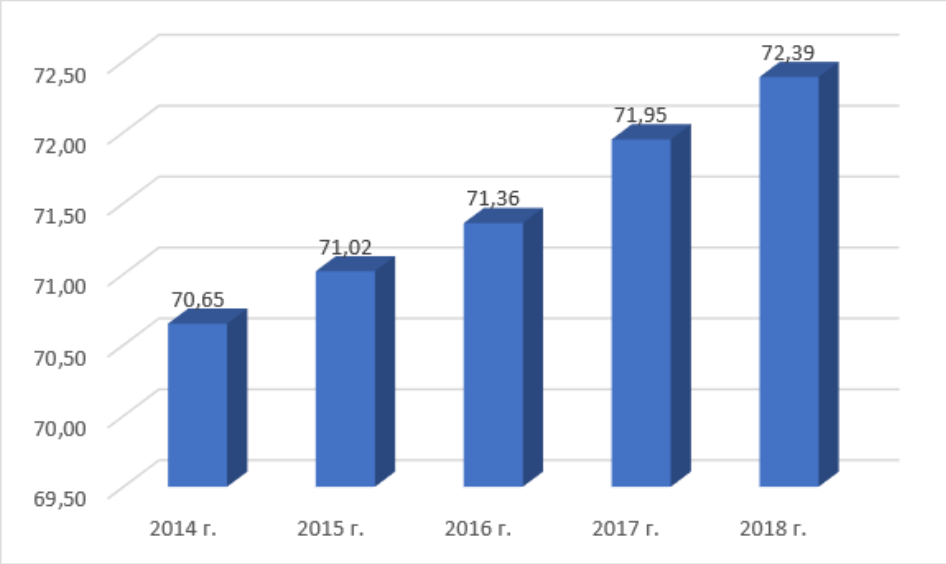

Fig. 1. Life expectancy at birth, years [22].

[21] Mooring trials of the icebreaker “Arktika” will begin on May 27, in June the vessel will go to sea trials. IA Interfax North-West. May 26, 2020. URL: https://www.interfax-russia.ru/northwest/news/shvartovnye-ispytaniya-ledokola-arktika-nachnutsya-27-maya-v-iyune-sudno-uydet-na-hodovye-ispytaniya (accessed 27 July 2020).

[22] Rosstat data. Compiled by the authors.

Also, according to Rosstat data, the rate of natural population growth is consistently decreasing in the Arctic zone (Fig. 2). Against the background of relatively stable figures, the number of people who left the region at the level of about 140 thousand people a year indicates the aging of the Russian Arctic population.

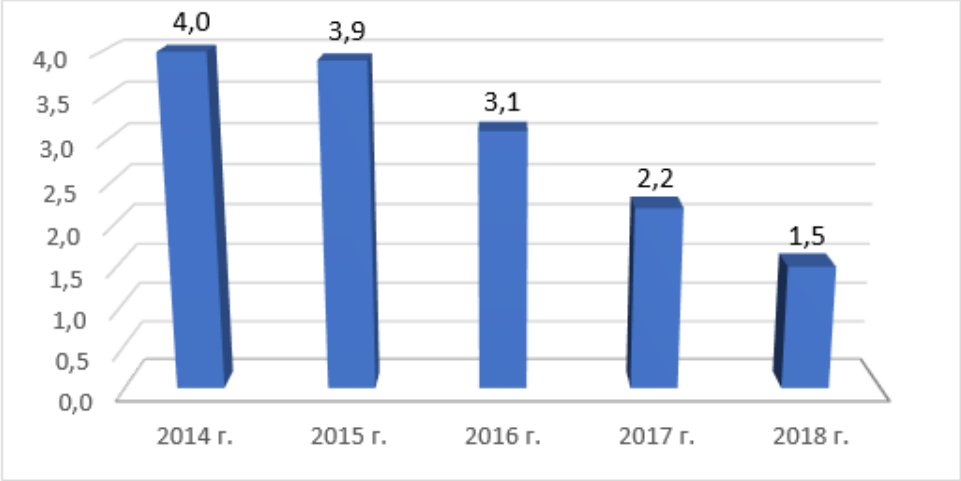

Fig. 2. Dynamics of the rate of natural population growth (2014-2018) [23].

However, according to which the natural population growth rate in 2018 was -1.6, the AZRF coefficient of 1.5 looks good compared to the all-Russian data. At the same time, if we study the dynamics of this indicator for 2018 in the context of the territories of the Russian Arctic, then the leader in the birth rate growth is the Yamal-Nenets Autonomous Okrug, which is explained by the attraction of labor resources for the development of hydrocarbon deposits (11.8 in 2014, 8.7 in 2018). The most significant decrease in the rate of natural increase is observed in the Republic of Karelia (-13 in 2018) and the Arkhangelsk Oblast (-2.3 in 2018). In this regard, it can be assumed that one of the tasks of state policy in the Arctic region should be at least maintaining such indicators of natural population growth as a whole in the Russian Arctic and increasing this coefficient in regions where it is significantly lower than the all-Russian values.

It should be noted that during the period of implementation of the Strategy, the migration outflow of the population, as the difference between the arriving and leaving population, decreased by 53% from 22,835 people in 2015 to 12,335 people in 2018. Also, the largest migration outflow in 2018 was observed in the territories referred to as the Russian Arctic, in the Republic of Karelia and the Republic of Komi per 1,000 people of the resident population (-15.4 and -34.3, respectively). At the same time, the number of the resident population in the Russian Arctic remains at the level of 2.4 million people (Fig. 3), and the negative trend of decrease in the number was reversed.

[23] Rosstat data. Compiled by the authors.

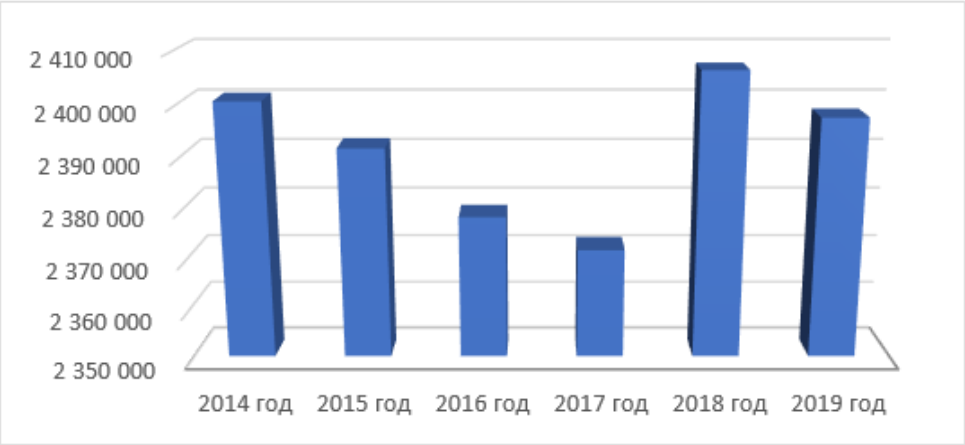

Fig. 3. Dynamics of the resident population of the Arctic zone of Russia, million people [24].

This is largely due to the creation of new jobs, which positively affected the unemployment rate, which decreased from 5.6% in 2017 to 4.6% in 2019 (according to the methodology of the International Labor Organization). This, in turn, was one of the factors in the increase in the share of the gross regional product produced in the Russian Arctic in the total gross regional product of the constituent entities of the Russian Federation from 5% in 2014 to 6.2% in 2018 (Fig. 4).

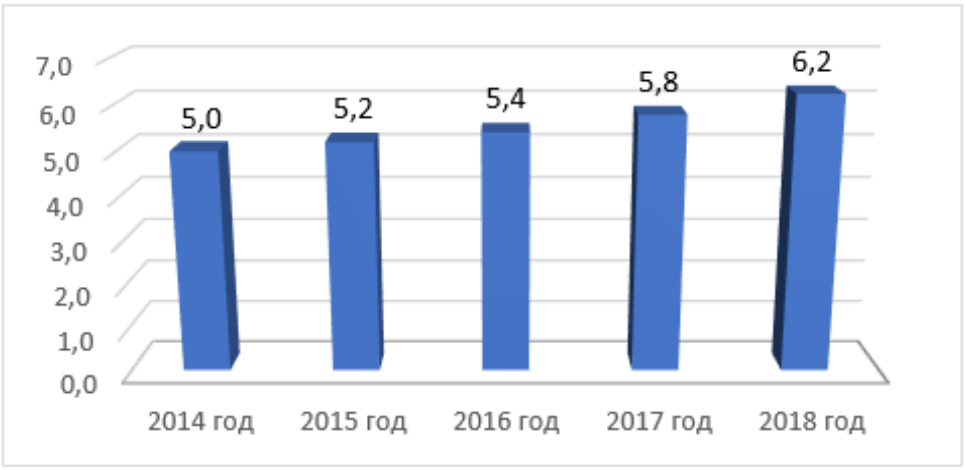

Fig. 4. Dynamics of growth in the share of gross regional product produced in the Arctic zone of the Russian Federation, percentage [25].

This was facilitated by an increase in the share of budgetary funds (budgets of all levels) in the total volume of investments in fixed assets in the Arctic zone from 5.5% in 2014 to 7.6% in 2019. Current expenditures on research and development have also increased from 4.3 billion rubles in 2016 to 4.6 billion rubles in 2018. However, the share of the added value of high-tech and science-intensive sectors of the Russian Arctic economy's economy decreased slightly from 7.5% in 2016 to 6.1% in 2018.

The growth rate of the Arctic region's development is also evidenced by the growth in traffic volumes along the Northern Sea Route, which has grown by almost 8 times compared to 2014 (Fig.5).

[24] Rosstat data. Compiled by the authors.
[25] Rosstat data. Compiled by the authors.

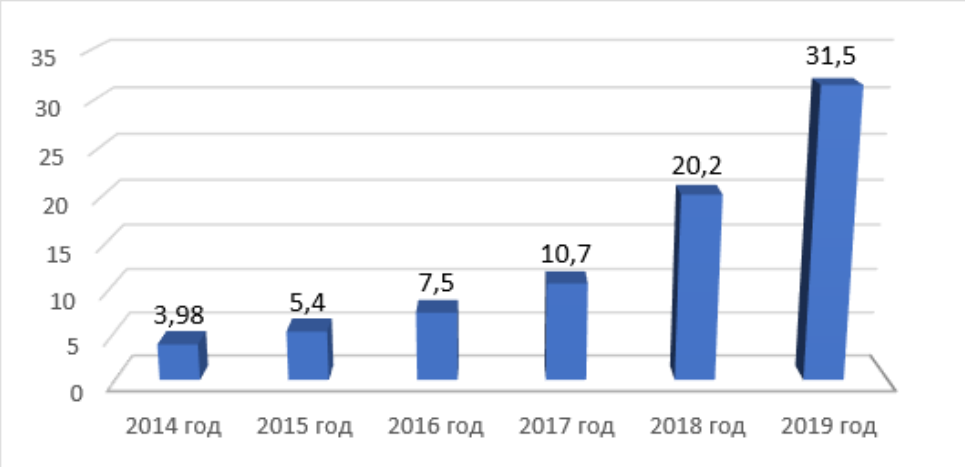

Fig. 5. Dynamics of traffic volumes along the Northern Sea Route, million tons [26].

At the same time, the volume of cargo transshipment in the ports of the Arctic Basin increased almost 3 times (Fig. 6), which indicates the prevalence of export cargo. On average, such cargoes make up about 77%, and coastal ones - about 10%. Such an increase in export traffic along the Northern Sea Route ensured an increase in the transportation of liquid cargo associated with hydrocarbon deposits.

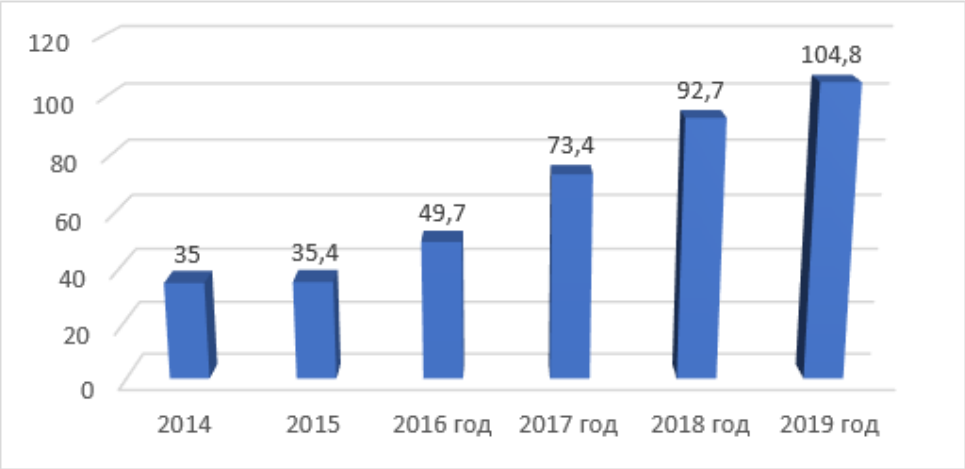

Fig. 6. Dynamics of the volume of cargo transshipment in the seaports of the Arctic basin, million tons [27].

At the same time, several negative trends and risks remain in the field of socio-economic development and ensuring national security in the Russian Arctic:

- a decrease in the natural growth rate of the population of the Russian Arctic by 2.5 times from 4.0 in 2014 to 1.5 in 2018, which, together with the ongoing migration outflow, forms a stable trend towards a decrease in the population of the region;
- a high percentage of emergency housing against the background of low volumes of housing stock construction, an insufficient level of availability of high-quality social services, an increase in wage arrears from 26.8 million rubles in 2018 up to RUB 162.1 mln. (as of January 1, 2020, which affects 2 thousand people) create the basis for high risks in the social sphere;

[26] Rosstat data. Compiled by the authors.
[27] Open media data. Compiled by the authors.

- the delay in the development of the infrastructure of the Northern Sea Route, the postponement of the construction of icebreaker and other types of fleet from the planned ones gives rise to risks of failure to achieve the set national development goals defined by the decree of the President of the Russian Federation of May 7, 2018, No. 204 "On national goals and strategic objectives of the development of the Russian Federation for the period up to 2024", and also hinders the implementation of other investment projects in the region;
- a decrease in the added value of high-tech and knowledge-intensive sectors of the economy in the Russian Arctic gross regional product from 7.5% in 2016 to 6.1% in 2018. Against the background of strengthening sanctions regimes and setting targets for the development of domestic technologies for Arctic projects, concerns are raised by the fact that that the financing of the subprogram "Creation of equipment and technologies for oil and gas and industrial engineering required for the development of mineral resources of the Arctic zone of the Russian Federation" will begin in 2021, and then subject to the allocation of additional budgetary allocations from the federal budget [8, Kudryashova E.V., etc.]

It should be noted that the Ministry for the Development of the Far East and the Arctic is developing a draft of a new Strategy for the development of the Arctic zone of the Russian Federation and ensuring national security for the period up to 2035. It can be assumed that in the new version of the Strategy until 2035, these and other negative trends should be considered, and measures should be formulated to neutralize them.

Conclusion

In recent decades, the Arctic has been undergoing significant transformations, driven by climate change. This gives rise to a change in the tactics and development strategy of both the Arctic states and countries geographically located outside the region. Analysis of ongoing processes and determination of the region's development prospects form the choice of state policy instruments in the Arctic [9, Schach M., Madlener R.]. Moreover, this circumpolar region's development is always a compromise between the need to ensure environmental protection and adaptation to the consequences of climate change and the need to develop economic activities [10, Heininenn L.]

Compared to 2013, the development objectives of the Arctic zone have not fundamentally changed. This is a comprehensive socio-economic development, the intensification of scientific research, the development of advanced Arctic technologies, the formation of various infrastructure (from energy, transport to information and telecommunications), ensuring environmental safety and preserving the Arctic as a zone of peace through the development of international cooperation. However, over the past years, the emphasis has shifted somewhat. If in the early

2010s, the task was to create a lot of new, then in the early 2020s, the task is to develop and improve what has been achieved.

In 2019, the President of the Russian Federation, in his speech at the Arctic – Territory of Dialogue International Forum, noted that "a new strategy for the development of the Russian Arctic until 2035 should combine the activities of Russian national projects and government programs, investment plans of infrastructure companies, programs for the development of the Arctic regions and cities"[28].

At the same time, the development of the Arctic spaces is impossible without the population permanently living in the region. All Arctic states "rely" on their permanent population strategies, and Russia is no exception. In this regard, we believe that ensuring the quality of life at a level not lower than the national average and achieving the average Russian values of key socio-economic indicators should be one of the strategy's key goals until 2035. At the same time, development issues should consider the specifics of the life of the indigenous peoples of the North.

One of the national development goals for the period up to 2024, determined by the President of the Russian Federation, is to ensure the transportation of goods along the Northern Sea Route in 80 million tons. Achieving such an ambitious goal implies the comprehensive development of the transport sector. And this is not only the construction of icebreaking vessels but also vessels for transporting goods, as well as vessels supporting the corresponding ice class, the development of port infrastructure along the entire length of the Arctic sea route, the development of inland waterways, navigation facilities, meteorological support and much more. It also requires the development of other infrastructure, primarily energy. Infrastructure projects can serve as the basis for attracting additional investments and implementing large business projects.

We believe that the adoption of the new Strategy for the Development of the Arctic Zone of the Russian Federation for the period up to 2035, as well as the adjustment of the State Program "Social and Economic Development of the Arctic Zone of the Russian Federation" will contribute to the continuation of Russia's policy towards the Arctic region.

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The Arctic Population: Dynamics and Centers of the Settlement System *

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Abstract. The article presents an estimate of the Arctic population in 1900–2019 by country and macro-region, obtained using official statistics of eight Arctic States. Analysis of spatial and temporal data revealed the main patterns of the Arctic population formation. Calculations show the world's Arctic population increased from 1.3 million in 1900 to 6.1 million in 1989, and then declined to 5.4 million in 2019. The share of Russia varied from 22% to 58%. The data show that interregional migration in the Russian Arctic had a decisive influence on the demographic dynamics of the Arctic in general. The main reasons for the decline in the Arctic population in different periods were the completion of cycles of natural resource development and lower quality of life in comparison with the central regions. To smooth out differences in national statistical accounting systems, the article examines the dynamics of the population in 17 major centers of settlement in the Arctic, where more than two-thirds of the population lives. Calculations show that urbanization and population concentration in several of the most attractive areas of the Arctic continue. Administrative and educational centers, which are points of attraction for residents of other Arctic territories, get an advantage. The results of the study allow us to predict the further evolution of the Arctic settlement system. They can be used in the development of strategies and programs for the spatial development of the North and the Arctic.

Keywords: *population, demography, centers of the settlement system, spatial development, the Arctic.*

Introduction

Interest in the Arctic in the scientific world is due to the huge reserves of natural resources, the prospects for the development of transport routes, climatic changes, high human development and the original culture of the indigenous peoples of this mega-region [1, Fauzer V.V., Smirnov A.V.]. It is no less important that the Arctic is a unique example of how millions of people live in extreme natural and climatic conditions. The accumulated experience can be in demand in various spheres [2, Zamyatina N.Yu., Pilyasov A.N.], which determines the relevance of the study of Arctic societies.

The high spatial heterogeneity of the demographic characteristics of the Arctic, combined with the cyclical nature of migration processes, make it difficult to study the population. Therefore, in most publications on the Arctic population, attention is focused either on individual territories or on short time periods. Even the most ambitious analysis given in the Arctic Human Development Report [3, Bogoyavlenskiy D., Siggner A., p. 30], considers only the interval 1940–2000 and has many data gaps. Another problem is the differences in the administrative-territorial and municipal structure of the Arctic countries, which do not allow direct comparisons of indicators characterizing the features of settlement. All this makes it difficult to obtain new knowledge about the patterns of population development and the evolution of settlement systems in the Arctic.

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In this paper, using a variety of statistical databases published in recent years, an attempt is made to consider the dynamics of the size and distribution of the population in the context of all Arctic countries and macroregions over an extensive time interval from 1900 to 2019. To neutralize the influence of national characteristics of statistical accounting, the dynamics of the population in the vicinity of the seventeen most populated points of the world Arctic is additionally considered. Distances between settlements can be calculated using the same methodology for all countries, which allows the formation of comparable statistical units for comparative analysis.

The object of the study is the population of the Arctic. The purpose of the article is to improve understanding of the processes of formation of the Arctic population as a unique socio-demographic phenomenon, using spatial and temporal analysis of demographic statistics. The scientific novelty of the study lies in the fact that for the first time, using a unified methodology, estimates of the number of all territories of the world Arctic have been obtained since the beginning of the 20th century, and trends in the evolution of the largest centers of settlement in the Arctic have been identified.

At the beginning of the article, theoretical approaches to the study of demographic processes in the Arctic are considered. Then the research methodology is presented. The main results are divided into two sections: the first is devoted to the dynamics of the population of the Arctic in the 20th – 21st centuries, the second - to the processes of urbanization and the evolution of settlement systems in the Arctic at the beginning of the XXI century. In the conclusion, conclusions are formulated and prospects for further research are indicated.

Arctic population as a socio-demographic phenomenon

The main characteristics of the population of the Arctic include: a high degree of urbanization with a low population density, a high proportion of men with a low proportion of the elderly, high birth rates with a low life expectancy, and high migration mobility of the population (in comparison with the non-Arctic territories of the northern countries). All demographic characteristics of the Arctic are extremely heterogeneous both between countries and between the territories of individual countries. In many regions of the Arctic, the spatial distribution of the indigenous peoples of the North has a great influence on demographic processes. For areas inhabited by indigenous peoples are usually characterized by a higher birth rate and low life expectancy [3, Bogoyavlenskiy D., Siggner A.; 4, Heleniak T., Bogoyavlenskiy D.; 5, Hamilton L.C., Wirsing J., Saito K.]. Indigenous people make up almost 90% of the population of Greenland, more than half of the population of the Arctic territories of Canada, 15% in Alaska and from 0 to 12% in the European Arctic. In Russia, the indigenous peoples of the North make up about 4% of the population of the Arctic[1].

The above is reflected in two theoretical approaches that are used to study demographic processes in the Arctic - resource and spatial. The first focuses on the temporal measurement of

[1] Atlas of Population, Society and Economy in the Arctic. Stockholm: Nordregio, 2019.80 p. DOI: 10.30689 / WP2019: 3.1403-2511

demographic processes in the context of economic cycles, the second - on the patterns of distribution of population, infrastructure, and natural resources in space. Together, these two approaches form the conceptual framework of Arctic demography.

The resource-based approach considers demographic development in relation to the stages of natural resource development. Organization of large-scale mining requires the involvement of a large number of workers during the "boom", and after their depletion or decrease in demand for resources, a period of “bust” occurs, there is a migration outflow of the population, the age and sex structure is deformed [4, Heleniak T., Bogoyavlenskiy D.; 6, Shiklomanov N., Streletskiy D., Suter L. et al.]. The cyclical nature of migration processes, not only long-term, but also seasonal, sets the rhythm of life for Arctic communities and generates social and infrastructural problems.

Since in the Western European Arctic sectors of the economy that are not related to raw materials bring a significant part of the gross product, the influence of cyclicality there is not so noticeable. It is also important that these countries hold leading positions in terms of human development and the quality of life of the population. As a result, research aimed at the formation of smart specialization of territories is becoming increasingly important [7, Jungsberg L., Copus A. et al.; 8, Teras J., Salenius V. et al.], stimulating human development and dissemination of knowledge in the Arctic [9, Pilyasov A.N.; 10, Petrov A.; 11, Petrov A.; 12, Smirnov A.V.].

The spatial approach considers demographic processes from the standpoint of proximity and remoteness of settlements [13, Zamyatina N.Yu., Pilyasov A.N.], the influence of the agglomeration effect [14, Scott A., Storper M.; 15, Zamyatina N., Goncharov R.], transport accessibility and geographical features of settlement systems [16, Huskey L.; 17, Berman M., Lance H.]. The settlements of the Arctic are considered as “settlements at the edge”, the demographic situation in which can radically change as a result of migration [18, Saxinger G., Petrov A., Krasnoshtanova N. et al.]. In addition, rotational work organization is widespread in the sparsely populated areas of the Arctic. It can give rise to socio-demographic problems, since jobs go not to the local population, but to residents of other territories. At the same time, the transfer of competencies from shift workers to local residents is organized extremely rarely [7, Jungsberg L., Copus A. et al.].

The spatial approach also includes a significant part of studies of the influence on demography of natural and climatic factors: these are medical and geographical restrictions on living in the Arctic [19, Vinogradova V.V., Zolotokrylin A.N., Krenke A.N.], and migration under the influence of climatic changes [20, Heleniak T.; 21, Hamilton L.C., Saito K. et al.]. It is expected that climate change faster and more intense will occur in the Arctic [22, Bird D., McLeman R., Gísladóttir G. et al.]. They will cause a decrease in the ice area, coastal erosion, the disappearance of populations of game animals and the thawing of permafrost, which will negatively affect the infrastructure of Arctic settlements and affect the way of life of indigenous people.

Obviously, the most productive for the study of the population in the Arctic is an integrated approach that simultaneously considers both temporal and spatial characteristics of demographic

development. A basic statistic such as population size provides detailed data for a wide variety of locations and times.

Research methodology

Although people have been living in the Arctic for about 40 thousand years [23, Pavlov P., Svendsen J.I., Indrelid S.], the Arctic was most intensively populated in the 20th-21st centuries. In addition, starting from the late 19th - early 20th centuries. In most countries, population censuses have begun, which allows obtaining more accurate data on the dynamics of the number of inhabitants living in the Arctic regions. Therefore, 1900 was chosen as the starting point for the analysis of the population size.

The Arctic includes all or part of the territory of eight countries. Russian Arctic in the study adopted in the regulatory approved boundaries of the Russian Arctic (as amended on May 13, 2019 [2]), and foreign - within the boundaries determined by the Arctic Council [3]. For the convenience of analysis, the Arctic will be considered within the framework of three macroregions: Russian, Western European, and North American (Table 1). The population of the entire world Arctic, whose territory occupies about 13.2 million square km (8.9% of the earth's land area) is only 5.4 million people. This roughly corresponds in number to cities such as St. Petersburg or Singapore. However, considering unfavorable natural conditions, this value is quite large. For comparison, the southern circumpolar region - Antarctica - has no permanent population, and the temporary does not exceed several thousand people.

Table 1

Composition of the Arctic [4]

Macro region	Country	Territories	Area, km^2
Russian	Russia	*Completely included:* Murmansk Oblast, Nenets AO, Yamal-Nenets AO, Chukotsky AO; *Partly included:* Arkhangelsk Oblast (7 townships and municipal areas), Republic of Karelia (3), Komi Republic (1), Krasnoyarsky Krai (3), Republic of Sakha (Yakutia) (13)	4 769 508
West European	Finland	Lapland, Nort Ostrobothnia, Kainuu	168 910
	Sweden	Norrbotten, Västerbotten	153 431
	Norway	Nordland, Troms, Finnmark, Svalbard, Jan Mayen	174 350
	Iceland	*Completely arctic*	102 775

[2] Decree of the President of the Russian Federation of 05/02/2014 No. 296 "On the land territories of the Arctic zone of the Russian Federation" (as amended by the Decrees of the President of the Russian Federation of June 27, 2017 No. 287, of 05/13/2019 No. 220).

[3] Arctic administrative areas. URL: https://arctic-council.org/images/PDF_attachments/Maps/admin_areas.pdf (accessed 01 March 2020).

[4] Compiled by the author.

	Denmark	Faroe islands	1 399
North American	Denmark	Greenland	2 166 086
	Canada	Yukon, Northwest Territories, Nunavut	3 921 739
	USA	Alaska	1 723 337
Total			13 181 534

Estimation of the population of the Arctic in the 20th-21st centuries was carried out in three stages. The first stage is the collection of data from official statistical agencies on the population of 26 arctic areas is found in Table. 1. The sources were databases and publications of statistical agencies of eight Arctic countries [5]. Priority was given to the results of population censuses. At the second stage, the values of the population of the Arctic regions were estimated for those years for which there is no official statistical information, which mainly concerns the first half of the 20th century. Often, gaps in official data cover no more than 4-9 consecutive years. Using the linear interpolation method, intermediate values were estimated from the nearest known values. This made it possible to estimate the population size at the beginning of each year, starting from 1900. When interpreting the results, it should be borne in mind that such a method can distort the situation in those years when significant demographic changes took place, for example, during world wars. At the third stage, the data were aggregated at the levels of the Arctic countries, macroregions and the world Arctic as a whole.

The greatest difficulty was caused by the estimation of the population of the Russian Arctic, since until 1959 the population censuses were irregular, and the intercensal periods were extremely long. In addition, the borders of the Arctic zone of the Russian Federation pass not only between regions, but also between municipalities within regions, the contours of which in the 20th century changed several times. The assessment was based on a study of the population dynamics of the Arctic zone of Russia in 1939–2017 [24, Fauzer V.V., Smirnov A.V.]. It is supplemented by taking into account individual time periods and territories that entered the Arctic zone as a result of its expansion in 2019.In addition, the estimates of the population of Yamal in the first half of the 20th century, obtained by N.A. Mikhalev [25, Mikhalev N.A.]. Nevertheless, since the boundaries of the territories during the first population censuses differed significantly from the current ones, the estimate of the population size of the Russian Arctic at the beginning of the 20th century may have a high error.

In the 21st century, demographic data were released more frequently and in greater detail. Therefore, for the period 2000–2019. it became possible to study not only the dynamics of the population, but also detailed patterns of its spatial distribution. To this end, the largest settlement centers have been identified in the world Arctic, with more than 70 thousand inhabitants living with-

[5]URL: Russia: gks.ru, demoscope.ru/weekly/ssp/census.php; USA: live.laborstats.alaska.gov/cen/hist.cfm, census.gov; Finland: stat.fi, pxnet2.stat.fi/pxweb/pxweb/en; Sweden: scb.se/en, statistikdatabasen.scb.se/pxweb/en; Norway: ssb.no/en/befolkning; Iceland: px.hagstofa.is/pxen/pxweb/en; Canada: statcan.gc.ca; Denmark: bank.stat.gl/pxweb/en, statbank.hagstova.fo/pxweb/en; World: population.un.org/wpp/dataquery, The World at Six Billion. UN (accessed 01 March 2020).

in a radius of 100 km. More than two thirds of the Arctic population live in 17 centers. The number of inhabitants of settlement centers was estimated in the context of three zones, differing in distance from the center: the central city, settlements within a radius of up to 50 km from the center, and a settlement within a radius of 50 to 100 km from the center. Such values were chosen because a distance of up to 50 km is comfortable for "pendulum" migrations of workers, and 100 km is the approximate border of the zone of influence of large urban agglomerations on the placement of settlements and residents [26, Pumain D., p. 83]. The citypopulation.de databases were used for calculations [6] (population of settlements) and geonames.org[7] (geographic coordinates of settlements for calculating the distance between them). Analysis of the population dynamics in the vicinity of these 17 points made it possible to assess in detail the current processes of urbanization and population polarization in the Arctic space.

Regularities of the formation of the population of the Arctic

First of all, let us pay attention to the total population of the northern circumpolar region of the Earth. The population of the global Arctic grew during most of the 20th century (Table 2). By 1989, it had increased 4.7 times - from 1.3 million at the beginning of the century to 6.1 million, reaching its peak. The growth rate throughout this period was about 1–3% per year. In absolute terms, the population of the Arctic increased the fastest in the 1970s and 1980s. Starting in 1990, the upward trend changed to a diminishing one, but in the 2010s the population stabilized and even began to increase again. After 1989, the Arctic has lost 0.6 million inhabitants, or 10% of the population. The share of the Arctic in the world population increased during the first six decades of the 20th century, after which, on the contrary, it decreased. By 2019, it became even lower than at the beginning of the 20th century.

Table 2

Population of the Arctic by countries, 1900–2019, thousand people [8]

Territory	Year												
	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010	2019
World Arctic	**1303**	**1441**	**1618**	**1966**	**2512**	**3150**	**3820**	**4442**	**5199**	**6037**	**5600**	**5399**	**5439**
including:													
Russia	282	358	435	643	1043	1398	1766	2257	2819	3429	2867	2526	2439
USA	64	64	55	59	73	129	226	300	402	550	627	710	737
Finland	281	296	331	384	434	527	612	598	613	641	651	659	664

[6] The citypopulation.de demographic database was compiled by T. Brinhoff on the basis of official statistical publications of the countries of the world. URL: www.citypopulation.de (accessed 01 March 2020).

[7] The GeoNames geographic database covers all countries and contains over eleven million geographic names. URL: www.geonames.org (accessed 01 March 2020).

[8] Calculated by the author based on data from collections and databases of national statistical agencies of the Arctic countries and the UN. Norway before 1990 - excluding Svalbard.

Sweden	279	323	365	404	436	473	501	490	509	513	515	508	521
Norway	243	266	291	315	344	404	437	456	469	464	467	468	489
Iceland	78	85	93	106	120	141	174	204	227	254	279	318	357
Canada	51	18	13	13	17	24	36	51	68	84	93	106	124
Denmark	26	31	35	41	46	54	67	85	93	103	102	105	108
including:													
Greenland	11	13	14	17	18	23	33	46	50	56	56	56	56
Faroe Islands	15	18	21	24	27	31	34	39	43	48	45	48	52
For reference:													
World, million people	1650	1750	1860	2070	2300	2536	3035	3700	4458	5327	6144	6957	7714
Share of the Arctic in the world population,%	0,08	0,08	0,09	0,09	0,11	0,12	0,13	0,12	0,12	0,11	0,09	0,08	0,07

In terms of countries, throughout the entire period in terms of population, Russia was in the lead (until 1990 - the USSR), whose Arctic population for the period 1900-2019. increased by 8.6 times. Due to this concentration of human resources, primarily engaged in the extraction of minerals, Russia has become a leader in terms of the volume of GRP produced in the Arctic, while yielding to other countries in terms of relative economic indicators [1, Fauzer V.V., Smirnov A.V., p. 17]. The share of Russia in the population of the world Arctic ranged from 21.6% in 1900 to 57.5% in 1989, and by 2019 decreased to 44.8%. The US Arctic population, the second largest, has increased 11.5 times over these 120 years. Other countries showed moderate growth, ranging from 1.9 to 4.6 times, because they did not have such a high potential for internal migration. The smallest share in the population of the Arctic is in Canada and Denmark, despite their vast territories. The dynamics in the context of macroregions shows that in different parts of the Arctic, the rates of population varied significantly (Fig.1).

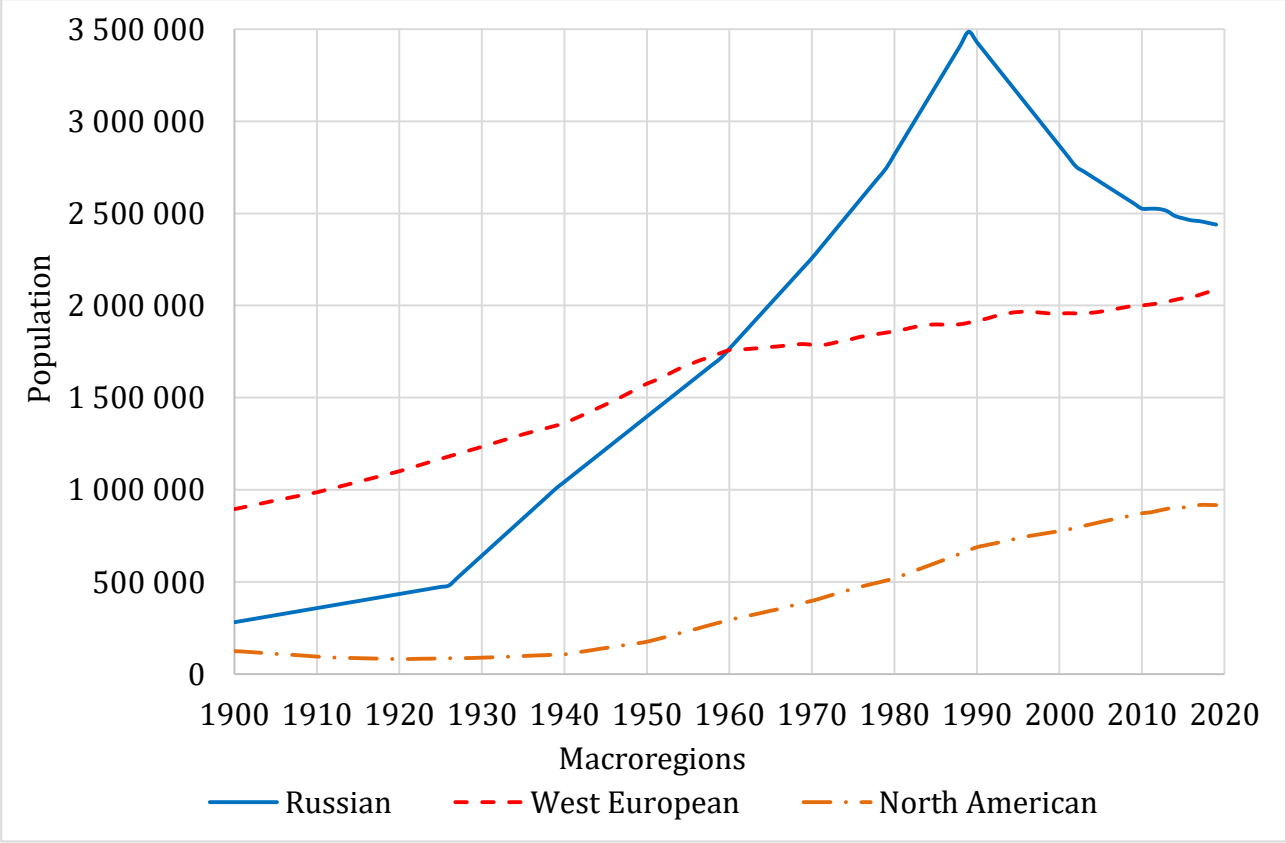

Fig. 1. Population of the Arctic by macroregions, 1900–2019, people[9].

If at the beginning of the 20th century. the slope of the population dynamics curve for the Russian Arctic did not differ from that in Western Europe, but in the 1930s it changed during the period of large-scale development of the Arctic space by the Soviet Union. The graph shows that it was the Russian Arctic that made the greatest contribution to the demographic dynamics of the global Arctic in the 20th century. More than 60% of the total increase came from Russia. The rapid increase in the population in the Soviet period was provided primarily by interregional migration, partly forced [27, Lytkina T.S., Fauzer V.V.; 28, Fauzer V.V., Lytkina T.S.].

The Arctic population has not always and everywhere demonstrated growth. There have been three major population declines. The first occurred in the North American Arctic in 1900–1919. The outflow to the United States and Canada during this period was fueled by the end of the Klondike Gold Rush. The decline over 20 years was a total of 47 thousand people, or 41% of the population of Alaska and the Canadian Arctic in 1900. The second reduction is the migration outflow from the Arctic regions of Finland and Sweden in the 1960s to the central regions and neighboring countries. The decline was caused primarily by the difference in the standard of living between neighboring territories and amounted to 26 thousand people or 2.3% of the Arctic population of these countries.

Finally, the third and largest reduction, which continues today, is the migration outflow from the Russian Arctic, which began in 1990. Its genesis is of a combined nature. In part, it is caused by a

[9]Compiled by the author based on data from collections and databases of the national statistical offices of the Arctic countries.

decrease in the need for workers in the extractive industry, influenced by the growth of labor productivity and the reduction in the volume of mining. By the 1990s in many territories of the old development, a stage of decline in the resource cycle has begun, associated with both the depletion of deposits and a decrease in demand for resources after the destruction of the Soviet economic system and established supply chains. Many industrial productions turned out to be uncompetitive in a market economy. In addition, the Russian Arctic has lost its attractiveness for migration in the perception of the residents themselves due to a decrease in the relative level and quality of life, compression of the once extensive social and engineering infrastructure, the lack of prospects for long-term development of territories [29, Lytkina T.S., Smirnov A.V.; 30, Lytkina T.S., Smirnov A.V.]. By 2019, the decline was 1,046 thousand people, or 30% of the 1989 population. Despite the high migration mobility, the permanent population in the Russian Arctic is decreasing annually, and the move from central Russia to the Arctic continues to be considered as a tool for accumulating resources for further movement to a larger and "prestigious" city outside the Arctic zone [31, Zamyatina N., Yashunsky A., p. 83].

These patterns have also led to some changes in the population density of the Arctic territories of the countries (Fig. 2). The countries of Western Europe are distinguished by a high density, in the Arctic parts of which in 2019 it ranges from 2.8 to 4.0 people per 1 sq. km. The opposite situation is in Canada and Denmark (0.03 and 0.05, respectively), where the population density is two orders of magnitude lower. In the Russian Arctic (0.51) and Alaska (0.43), the density roughly corresponds to the global Arctic average (0.41). A consequence of the high share of Russia both in the population size and in the area of the Arctic territory is that throughout the entire period, the population density of the global Arctic did not differ significantly from the density of the Russian part. For this indicator, the Arctic stands out significantly on a global scale. The density of the world's population is 51.5 people per 1 sq. km of land, which is more than two orders of magnitude higher than the population density of the Arctic. From the Arctic regions, a similar density value can be observed only in the Faroe Islands (36.8).

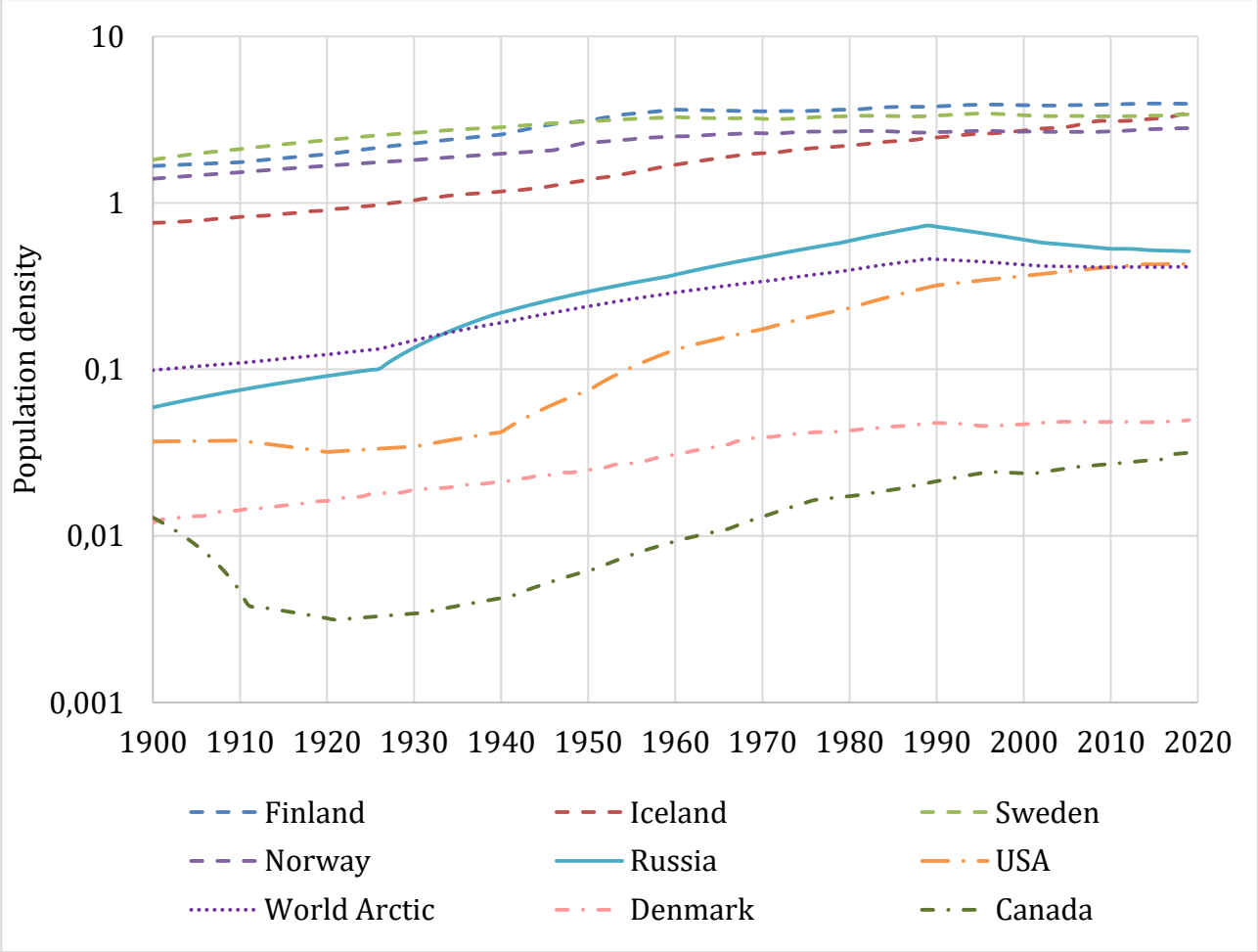

Fig. 2. Population density in the Arctic by country, 1900–2019, people per sq. km[10].

In the dynamics of the population of the Arctic 20th-21st centuries the influence of both global demographic trends and socio-economic characteristics of individual countries is traced. Since the Arctic countries belong to the highly developed "global North", they have fully felt the impact of the urbanization of the first and then the second demographic transition to fewer children, which was reflected in a decrease in the rate of natural population growth. After 1960, the share of the Arctic in the world's population began to decline. At the same time, migration remained the main driver of demographic dynamics, which was largely determined by the economic and geopolitical priorities of states. The large-scale and extensive development of natural resources in the Soviet Union, the development of the navy and transport routes required the involvement of a huge number of workers in the sparsely populated areas of the Arctic. Similar processes took place on a smaller scale in the USA and Canada.

In Western European countries, the Arctic territories are no longer perceived as sources of natural resources; the service sector and the knowledge economy are actively developing there. Nevertheless, due to the huge reserves of hydrocarbons in the 21st century the ups and downs in the Arctic economy, associated with the discovery and depletion of resources, will continue. They

[10]Compiled by the author based on data from collections and databases of the national statistical offices of the Arctic countries.

will continue to influence the population size [4, Heleniak T., Bogoyavlenskiy D., p. 102]. All demographic projections agree that the population of the Arctic will grow at a moderate pace over the coming decades. The continuing population decline in the Russian Arctic will partially counterbalance the growth in other Arctic countries [32, Emelyanova A.; 33, Gassen N.S., Heleniak T.; 34, Heleniak T.]. In the long term, we can expect the stabilization of the population of the Arctic zone of the Russian Federation and population growth in the global Arctic, caused by the high migration attractiveness of the northern countries.

The analysis shows that the Arctic in the 20th-21st centuries underwent dramatic fluctuations in population, while maintaining an extremely high uneven settlement. And if in the first decades the settlement processes clearly obeyed the logic of the development of natural resources, then by the end of the 20th century other motives began to come to the fore - the spatial unevenness of economic development and the quality of life of the population. For a detailed analysis of the spatial patterns of population formation, it is necessary to consider the key centers of settlement of the world Arctic.

Population in the Arctic: remoteness and over-urbanization

The small number of medium and large cities in the Arctic and significant distances between them [35, Fauzer V.V., Lytkina T.S., Fauzer G.N., p. 49] have led to the fact that only a few places concentrate in themselves most of the demographic and labor potential, form the cultural and infrastructural provision of vast territories. The role of the largest cities and their inhabitants in the Arctic regions will remain decisive. When attracting a large number of employees from other regions, the labor market is segmented into a sector for the local population and a sector for visitors. Moreover, the level of remuneration in the latter is often higher, which leads to stratification, conservation of poverty and growth of social tension. Therefore, the principles of sustainable development predetermine “the further formation of the Arctic settlement according to the principle of “base city - intra-regional shift”, when there is an interaction of stationary base cities, with a full-fledged infrastructure and multifunctional purpose, where the working contingent with families constantly lives, and small mobile settlements at the fields” [36, Blagodeteleva O.M., p. 21]. In scientific works, the concepts of self-sufficient settlements [37, Dmitrieva T.E., Bury O.V.] and supporting settlements [38, Fauzer V.V., Smirnov A.V., Lytkina T.S., Fauzer G.N.] in the Arctic, the most suitable candidates for the role of which are the largest cities that combine many functions and have sufficient human potential.

Large and medium-sized cities, due to the economic advantages caused by the spatial proximity of residents and organizations (agglomeration effect), draw the population from the adjacent areas, increasing the degree of concentration of the Arctic settlement system (Table 3). More than two-thirds of the entire Arctic population lives in the 100-kilometer neighborhood of the 17 largest centers of settlement in the world Arctic, although their area is only 4% of the area of the Arctic territories. The largest settlement centers are Arkhangelsk (600 thousand inhabitants), Murmansk

(458), Anchorage (369), Oulu (358) and Reykjavik (268). These five cities and their surrounding territories are home to 38% of the Arctic population, or more than 2 million people. Arkhangelsk together with Severodvinsk and Novodvinsk forms the largest urban agglomeration in the world Arctic.

Table 3

Largest centers of settlement in the Arctic at the beginning of 2019 [11]

Rang	Settlement centers	Country	Population, people		Share of the Arctic population (100 км), %	Average annual air temperature, °C
			in the largest city	within a radius of 100 km		
1	Arkhangelsk	Russia	348 343	600 463	11,0	0,8
2	Murmansk	Russia	292 465	458 329	8,4	0,2
3	Anchorage	USA	291 538	369 090	6,8	2,1
4	Oulu	Finland	202 586	357 567	6,6	1,9
5	Reykjavik	Iceland	128 793	268 090	4,9	4,7
6	Apatity	Russia	55 201	213 728	3,9	-1,0
7	Norilsk	Russia	180 976	202 378	3,7	-10,2
8	Luleå	Sweden	48 728	185 297	3,4	1,4
9	Umeå	Sweden	89 402	164 673	3,0	2,7
10	Noyabrsk	Russia	106 135	142 459	2,6	-5,0
11	Novy Urengoy	Russia	116 938	138 435	2,5	-7,4
12	Tromsø	Norway	40 471	132 545	2,4	2,2
13	Rovaniemi	Finland	53 361	107 862	2,0	0,5
14	Fairbanks	USA	31 516	99 671	1,8	-2,9
15	Bodø	Norway	41 720	96 612	1,8	4,6
16	Salekhard	Russia	50 064	93 473	1,7	-5,8
17	Vorkuta	Russia	54 223	74 339	1,4	-6,8

The forms of settlement in the Arctic are largely determined by the natural and climatic features of the territories. In all the largest centers of settlement in the foreign Arctic, except Fairbanks, the average annual temperature is positive. Only Russia has a unique experience of building large cities in an absolutely unfavorable zone in terms of natural conditions for the life of the population. More than 400 thousand people live in this zone, which includes Norilsk and Vorkuta. According to medical and geographical indicators, the optimal period of residence of the newcomer population here is estimated at 1–2 years. More than 1 million people live in a very unfavorable climatic zone of the Russian Arctic, for which the optimal life span is 2-3 years. Even in the most favorable parts of

[11] Compiled by the author using the citypopulation.de, geonames.org and www.climate-data.org databases. The population of US cities - as of mid-2018, rural settlements of Russia - as of 2010. The population living outside the Arctic was not considered.

the Arctic "the probability of natural stress is high and additional investments are needed to maintain a normal life" [19, Vinogradova V.V., Zolotokrylin A.N., Krenke A.N., p. 115]. Another negative factor of residence is the fact that many of the cities of the Arctic, due to their specialization in the extractive industry, are leading in terms of environmental pollution and anthropogenic load: Zapolyarny, Norilsk, Bilibino, etc. [39, Bityukova V.R., p. 39]. At the same time, due to their spatial position, such cities are important for maintaining the support frame of settlement, which may be required for future generations of people in the development and settlement of the Arctic territories [38, Fauzer V.V., Smirnov A.V., Lytkina T.S., Fauzer G.N.].

More than half (9 out of 17) of the largest settlement centers in the Arctic are located in a small area, including the north of Fennoscandia and the Arkhangelsk Oblast (Fig. 3). The same area is characterized by a high population density. However, even the presence of one or three large settlement centers makes the population density of huge regions relatively high (for example, the urban district of Vorkuta, the Yamalo-Nenets Autonomous Okrug, and Alaska). In Canada and Greenland, as well as in the eastern part of the Russian Arctic, there are no large centers of settlement. There is a high proportion of the indigenous peoples of the North, which is reflected in demographic indicators.

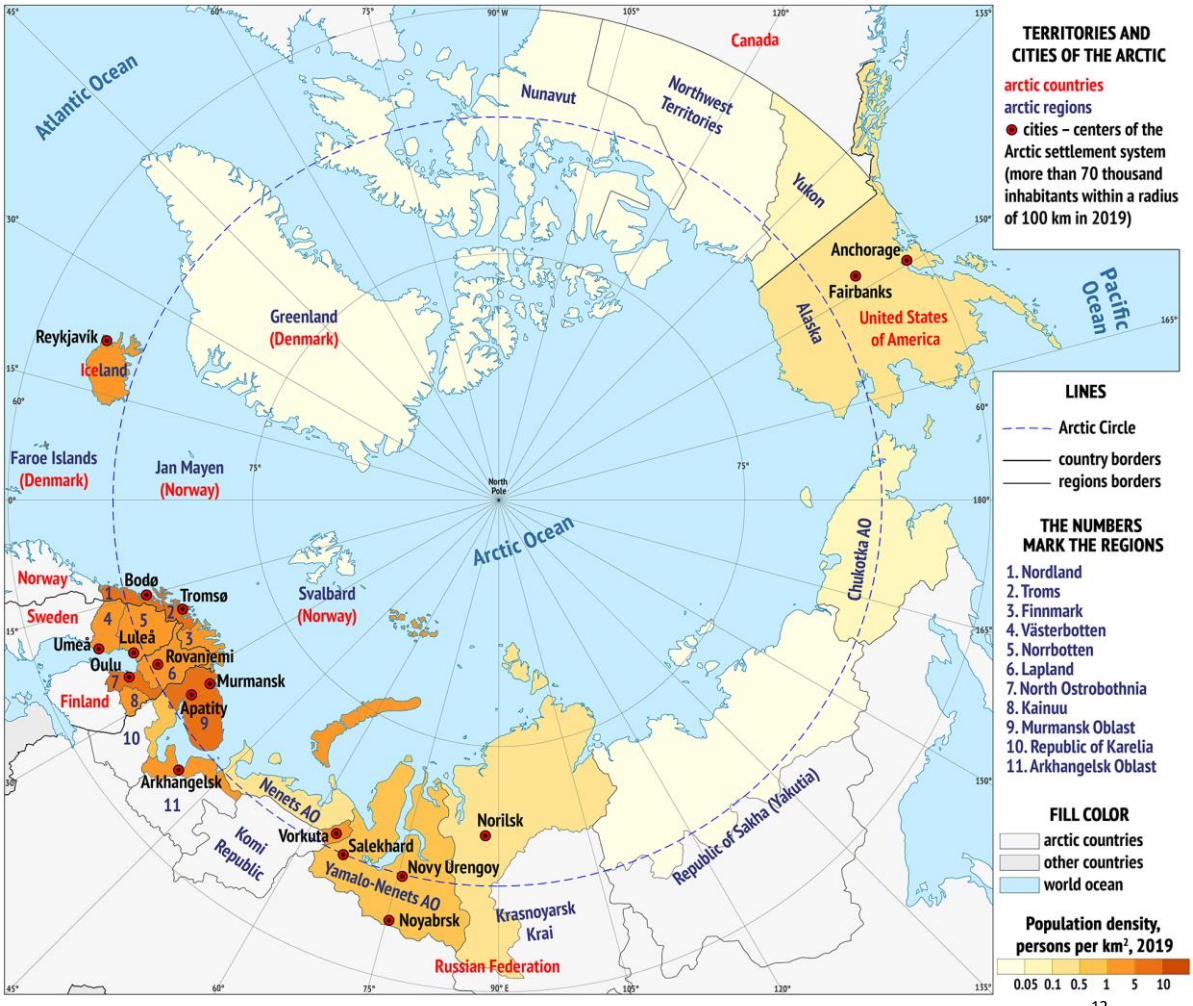

Fig. 3. Population density and centers of the Arctic settlement system at the beginning of 2019.[12]

[12] Compiled by the author.

In most centers of settlement during the 21st century, population growth is observed (tab. 4). This is especially true for the administrative centers of countries or large regions (Reykjavik, Anchorage, Salekhard) and university cities (Fairbanks, Umeå, Tromsø, Oulu). Their growth is mainly due to migration from other Arctic settlements. The extreme natural and climatic conditions at the present stage are not necessarily the cause of the migration outflow. Population growth is observed in Fairbanks, Salekhard and Novy Urengoy, although the climatic conditions are extremely unfavorable. The centers of settlement, where the greatest decline occurs, are characterized by late stages of the cycles of natural resource development (Vorkuta, Norilsk). Similar processes can be expected in the future and other cities of raw materials. In the Russian Arctic, the number of inhabitants is growing in only two out of eight settlement centers (Salekhard and Novy Urengoy), in the foreign - in all except the Finnish Rovaniemi.

Table 4

Change in the population of the largest centers of settlement in the Arctic (within a radius of up to 100 km from the centers), 2000-2019 [13]

Rang	Settlement centers	Country	Population, thousand people			Changes in 2000 (2002)–2019, %
			2000 (2002) r.	2010 r.	2019 r.	
1	Reykjavik	Iceland	195,9	233,0	268,1	36,8
2	Anchorage	USA	308,6	360,5	369,1	19,6
3	Fairbanks	USA	83,6	98,2	99,7	19,2
4	Salekhard	Russia	80,9	85,6	93,5	15,6
5	Umeå	Sweden	144,1	152,6	164,7	14,3
6	Tromsø	Norway	116,5	122,8	132,5	13,8
7	Oulu	Finland	315,1	342,4	357,6	13,5
8	Novy Urengoy	Russia	125,0	125,3	138,4	10,7
9	Bodø	Norway	89,5	91,7	96,6	8,0
10	Luleå	Sweden	182,3	181,3	185,3	1,7
11	Noyabrsk	Russia	143,5	148,7	142,5	-0,7
12	Rovaniemi	Finland	143,8	140,1	137,0	-3,0
13	Arkhangelsk	Russia	628,2	613,2	600,5	-4,4
14	Murmansk	Russia	558,7	509,5	488,3	-12,7
15	Apatity	Russia	254,8	231,7	213,7	-16,1
16	Norilsk	Russia	246,2	198,0	202,4	-17,8
17	Vorkuta	Russia	132,4	95,3	74,3	-43,9

In both the Russian and Western European Arctic, the concentration of the population continues in the largest settlement centers (Fig. 4). It is especially strong in the most urbanized Russian

[13] Calculated by the author. Data on Russia – 2002, 2010 and 2019, other countries – 2000, 2010 and 2019.

Arctic, where they account for 78.9% of the population. In dynamics, the decline in the number of settlements that do not belong to these centers in Western Europe is even more intense. There, the share of settlement centers in the population increased in the 21st century from 59.0 to 63.0%. The population is being drawn to some of the most developed cities in the economic, social and cultural spheres. The situation is somewhat different in the North American Arctic. Since a significant part of the population growth there is provided by the territories in which representatives of indigenous peoples live, and there are only two large centers of settlement in the North American Arctic (Anchorage and Fairbanks), the share of settlement centers in the population increased slightly (from 50.5 to 51.1% for the period 2000–2019), and after 2010 it even decreased.

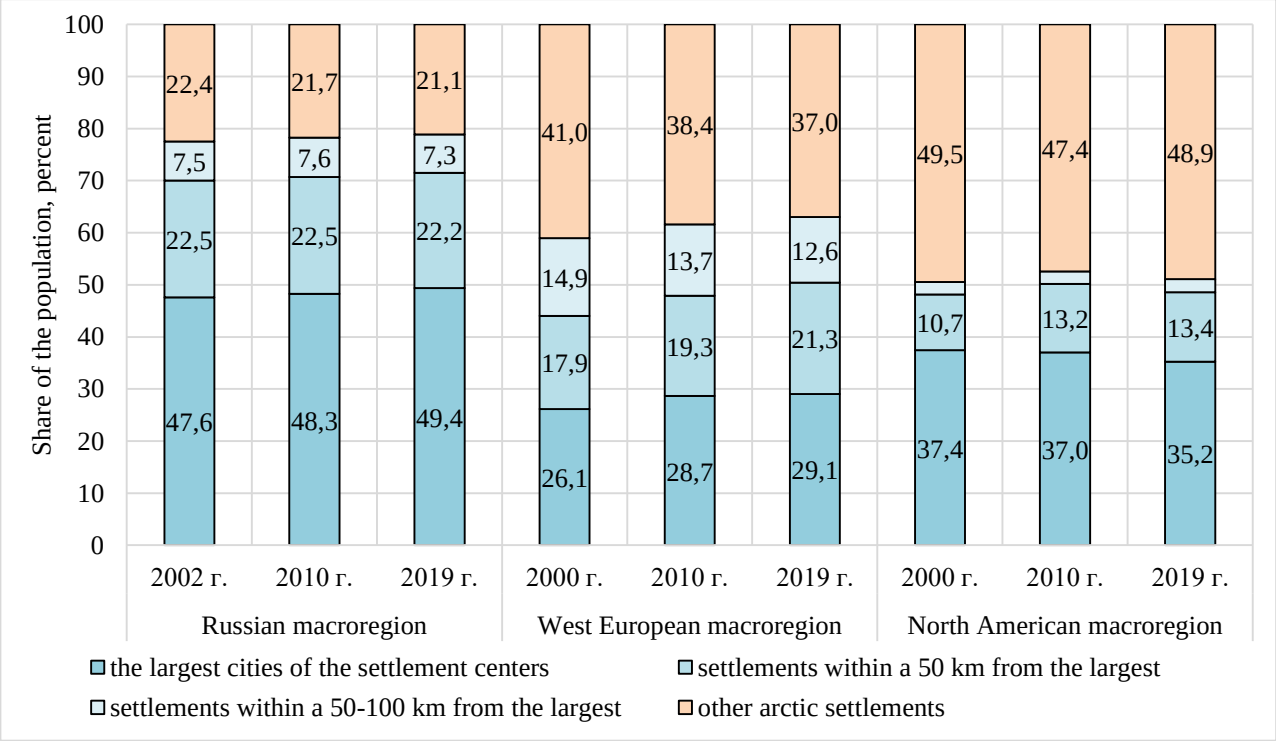

Fig. 4. Dynamics of the population size of the Arctic macroregions in terms of proximity to the largest settlement centers [14].

Demographic trends depend on the distance to the centers of settlement. So, the population of the centers themselves in the 21stI century increased in Russia and Western Europe, settlements within a radius of up to 50 km from the centers - in Western Europe and North America, settlements within a radius of 50-100 km from the centers - decreased in all three macro-regions of the Arctic. Thus, the processes of population concentration have different rates and manifestations in different parts of the Arctic, but in all macroregions the “forces of gravity” of settlement centers are not enough to maintain a stable demographic situation in a radius exceeding 50 km from the settlement centers.

The possibilities for further urbanization and population concentration are due to the prevailing forms of settlement, the differences between which are clearly visible on the night satellite im-

[14] Calculated by the author.

ages of the Arctic territories (Fig. 5). The location of light points correlates with the population size and economic activity of the places. In the most remote resource centers of settlement (Norilsk, Novy Urengoy, Noyabrsk, and Vorkuta) more than 70% of the population is in the central city. This is a focal form of settlement, in which the territory does not have a high potential for a further increase in population due to adjacent settlements. On the other hand, Apatity, Luleå, Tromsø and Fairbanks, although they are the centers of settlement systems, include no more than a third of the inhabitants since they are characterized by a belt or even continuous settlement. There are opportunities here for even greater growth in the degree of urbanization of territories in the future.

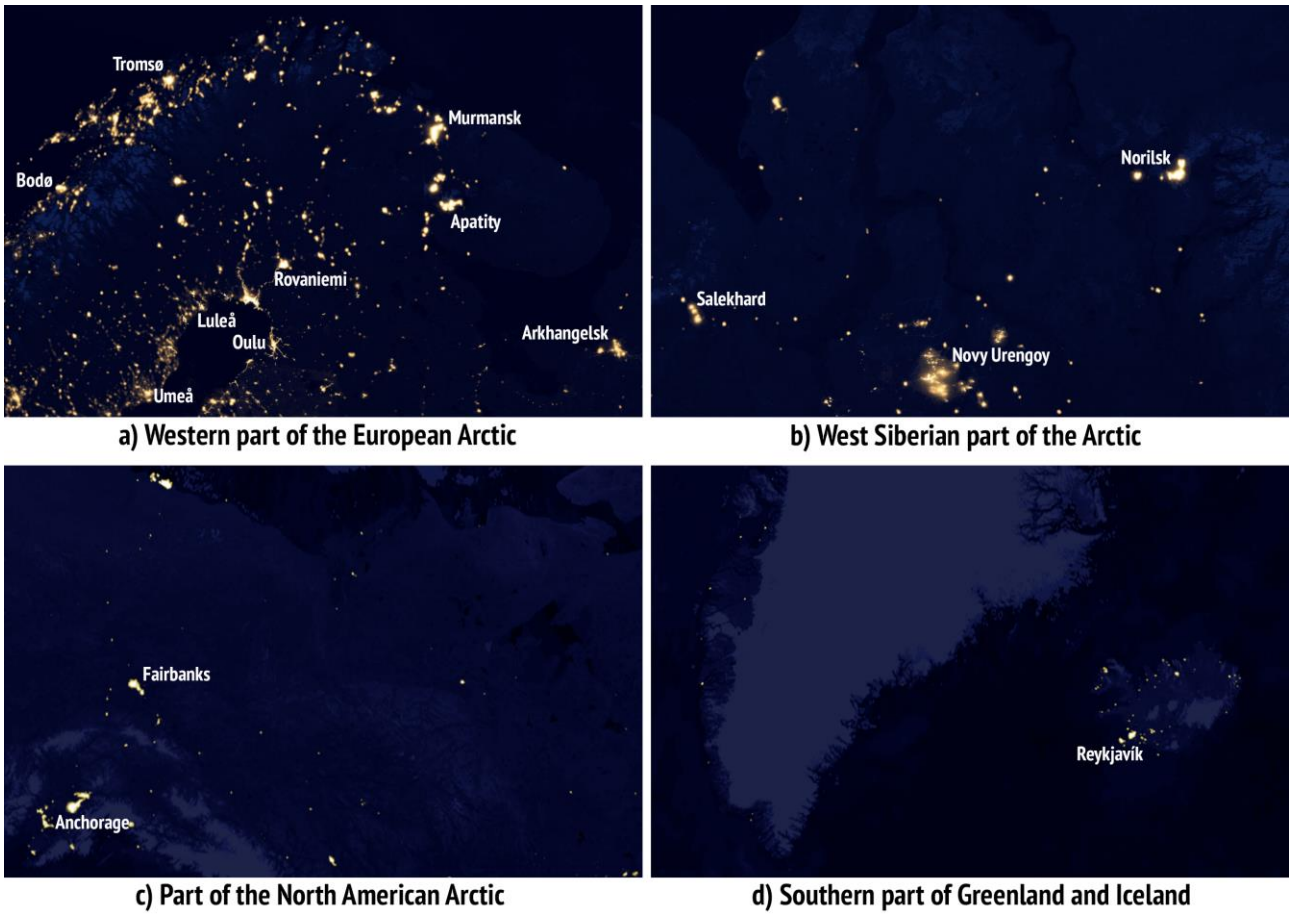

Fig. 5. Satellite night images of the Arctic settlements [15].

The identification of the largest centers of settlement in order to study changes in their population has shown its applicability as a tool for analyzing demographic dynamics in the Arctic. In the Arctic zone of Russia, settlement centers, due to the positive balance of migration within the regions, in most cases demonstrate a low migration outflow or even an increase. The exception is highly specialized resource cities of early development, which are unable to resist the decline in resource cycles. In the foreign Arctic, settlement centers are growing at an outstripping pace due to the advantages of a high population concentration - the agglomeration effect.

[15]Compiled by the author from NASA 2012 images taken with the Suomi NPP satellite.URL: nightearth.com (accessed: 01 March 2020).

Conclusion

As shown, the population of the Arctic has specific characteristics and requires special approaches to the study. For the first time, based on the data of official statistics of the eight Arctic states, an estimate of the population of the Arctic in 1900–2019 is given in the context of all countries and macroregions (Russian, Western European and North American). It was found that the share of the Arctic in the world population reached its peak in the 1950s, after which it almost halved. The population of the global Arctic increased from 1.3 million in 1900 to 6.1 million in 1989, and then decreased to 5.4 million by 2019.The most large-scale reductions in the Arctic population are considered: in North America at the beginning of the 20th century, in Finland and Sweden in the 1960s and in Russia after 1989. Their reasons were the completion of the cycles of natural resource development and the insufficient quality of life in relation to the central and southern regions of the countries. It was revealed that throughout the entire period Russia was the leader in terms of population. Its specific gravity ranged from 22 to 58%. In the 20th - early 21st centuries interregional migration in the Arctic zone of Russia had a decisive influence on the dynamics of the population of the world Arctic.

Analysis of the population dynamics of the 17 largest centers of settlement in the Arctic, where about 68% of the population live, in 2000–2019, showed that urbanization and population concentration in the vicinity of the most attractive areas for life are still increasing in the global Arctic space. In this regard, a more detailed study of small towns and rural areas of the Arctic is necessary in order to determine the possibilities for them to achieve trajectories of sustainable demographic development in conditions when the largest cities and central regions serve as points of attraction for the population. The research results can be applied in the development of strategies and programs for the development of the northern and arctic territories. The estimates obtained can become the basis for constructing long-term forecasts of the demographic development of the Russian and world Arctic.

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The Observatory of Finno-Ugric Indigenous Peoples in the Republic of Karelia *

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Abstract. The article deals with the potential rights implementation assessment for the Karelians, the Vepsians, and the Finns — indigenous minorities and ethnic (national) minorities in the Republic of Karelia. The purpose of the article is to form an observational passport of the indigenous small-numbered peoples of the Republic of Karelia (i.e., the Vepsians, the Karelians, and the Finns), which would record the varying degrees of satisfaction of the indigenous small-numbered population of the Republic with the results of the policy pursued. The subject of this article is the peculiarities of the potential rights implementation Karelians, Vepsians, and Finns - indigenous peoples and ethnic (national) minorities of Karelia. As part of the study, a tool was developed to assess the potential rights implementation in the Republic of Karelia - an observational passport of indigenous peoples. The presented material is based on the results of a survey organized in the fall of 2017 in all municipalities of the Republic of Karelia. The authors substantiate the differentiation of potential rights implementation of the indigenous peoples of the Republic in 4 sectors (economic, social, cultural, and religious), according to 3 levels (low, medium, and high). It was found that the low potential rights implementation in almost every sector of the study is typical of the Vepsians, the Karelians, and the Finns are generally characterized by the potential rights implementation of the average level.

Keywords: *indigenous peoples, ethnic (national) minorities, observatory, Republic of Karelia, Vepsians, Karelians, Finns, ethnocultural development, national identity, implementation of rights.*

Introduction

A peculiar and rather accurate indicator of the development of democracy in a state is the degree to which the rights of indigenous peoples and ethnic minorities are realized in it. Indigenous small-numbered peoples are peoples living in the territories of traditional settlement of their ancestors, preserving their characteristic way of life, the specifics of economic management and crafts, and are aware of themselves as independent ethnic communities. At the same time, these characteristics are not constants: the intensively developing processes of globalization, acculturation, assimilation, urbanization, economic activity of organizations of all forms of ownership, as well as individuals, damage the original habitat of indigenous peoples and transform their traditional way of life.

In accordance with the Unified List of Indigenous Minorities of the Russian Federation, approved by the Government of the Russian Federation of March 24, 2000 No. 255 (as amended on

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August 25, 2015), the Vepsians are classified as representatives of such peoples in the Republic of Karelia [1]. Note here that in the Republic of Karelia itself, not only Vepsians are considered indigenous peoples. Thus, the State Program of the Republic of Karelia "Ethnosocial and ethnocultural development of territories of traditional residence of indigenous peoples", approved by the Resolution of the Government of the Republic of Karelia No. 22-P of January 24, 2018, states that "indigenous peoples live in Karelia: Karelians and Vepsians, as well as ethnolocal groups of the indigenous Russian population - Zaonezhans, Pudojans and Pomors "and notes that unfavorable socio-economic and demographic circumstances have developed for them in modern conditions [2].

Let's pay attention to the fact that the Program focuses only on "indigenous peoples", national minorities remain outside its field. The historical validity of classifying the Karelians as the indigenous peoples of the Republic stems from ancient times: it is known that Finno-Ugric tribes lived on the territory of Karelia: Lapps (Sami), Korela (Karelians) and all (Vepsians). At the beginning of the 2nd millennium A.D. here appeared the Slavs-Novgorodians, mastering the northern lands. The Russian population initially settled on the shores of the White Sea and Lake Onega (in Pomorie and Zaonezhie), and then spread throughout Karelia. The predominance of the Karelian population was also recorded in the 20th century - since the formation of the Karelian Labor Commune, the Karelian autonomy within the RSFSR (June 8, 1920). Its population was 147.3 thousand people, of which about 60% were Karelians and 37% were Russians. Finnish diaspora was formed at the expense of immigrants from Finland.

Let us remind you that the Constitution of the Republic of Karelia, adopted on February 7, 2001, declared that in the republic "measures are being taken to revive, preserve and develop the Karelians, Vepsians and Finns living on its territory[3]. It is obvious that the Finns are precisely such an ethnic (national) minority. However, the existing legal and categorical ambiguity allows today activists of opposition organizations in the republic to consider Finns as another "indigenous" people of Karelia.

The aim of the article is to form an observational passport of the indigenous small-numbered peoples of the Republic of Karelia (for Vepsians, Karelians, and Finns), which would record different degrees of satisfaction of the representatives of the indigenous small-numbered population of the Republic with the results of the policy pursued.

The subject of this article is the peculiarities of the potential for the realization of the rights of Karelians, Vepsians and Finns - representatives of indigenous peoples and ethnic (national) minorities of Karelia.

[1] Resolution of the Government of the Russian Federation of March 24, 2000 No. 255. URL: http //base.garant.ru/181870 / (accessed 23 March 2020).
[2] Resolution of the Government of the Republic of Karelia dated 24.01.2018 No. 22-P. URL: http://publication.pravo.gov.ru/Document/View/1000201801260004 (accessed 23 March 2020).
[3]Constitution of the Republic of Karelia, 2001. URL: http://docs.cntd.ru/document/919001576 (accessed 23 March 2020).

Fundamental foundations of the potential for the realization of the rights of indigenous peoples

The Constitution is a guarantee for the realization of the rights of indigenous peoples in Russia. The Constitution of the Russian Federation (Art. 69) establishes that "the Russian Federation guarantees the rights of indigenous peoples in accordance with the generally recognized principles and norms of international law and international treaties of the Russian Federation". Complementing this provision with the norms that enshrine the population's right to self-government, to participate in the management of local affairs, the Constitution forms the primary, highest level of protection of the rights of small peoples.

At the same time, real opportunities for the implementation of the declared rights of indigenous peoples are created by a number of specific circumstances: the degree of development of national legislation related to the regulation of life and the protection of the rights of indigenous peoples at the federal, regional and local levels; the complexity of solving problems of the social, political, economic and cultural plan not only in the territories of traditional residence of small peoples, but also throughout the territory of Russia; the effectiveness of the activities of local self-government bodies, Commissioners for Human Rights in the regions to create conditions for the realization of the rights of these peoples, to protect the original habitat, traditional way of life, management and fishing of small peoples. These circumstances are set by the policy of the state in relation to small peoples. The Russian state in relations with small peoples has evolved from imperative methods, a policy of protectionism to a policy of partnership.

The specificity of the legal status of the indigenous small-numbered peoples of the Russian Federation lies in the fact that along with the fullness of their rights and freedoms as citizens of the Russian Federation, they are additionally endowed with collective individual rights: in the economic sphere - preferential conditions for the development of traditional economic activities; in the socio-cultural sphere - support in the development of the native language and literature, ethnic media, benefits for admission to educational institutions, the right to replace military service with alternative civilian service; in the political sphere - by granting the right of legislative initiative to ethnic associations, some preferences regarding the formation of electoral districts in places of compact residence of small indigenous peoples. If, as a general rule, when forming electoral districts, approximate equality in the number of voters should be observed and a deviation of no more than 10% is considered permissible, then in places of compact residence of indigenous minorities, a deviation of no more than 40% is considered permissible (Part 4, Art. 18) [4]. The practice of allocating quotas to government bodies for small peoples in Russia did not take root.

For almost a quarter of a century, since the proclamation of the International Decade of Indigenous Peoples by the UN General Assembly on December 21, 1993, the problem of the rights and freedoms of indigenous peoples and ethnic (national) minorities has been actualized. The most comprehensive international reference document for the rights of indigenous peoples is to-

[4] Federal Law of 12.06.2002 No. 67-FZ. URL: http://www.consultant.ru/document/cons_doc_LAW_37119/ (accessed 23 March 2020).

day the Declaration on the Rights of Indigenous Peoples, adopted by the UN General Assembly on 13 September 2007.The 45 articles of the Declaration define minimum standards for the survival, dignity and well-being of the world's indigenous peoples, including rights on identity, language, health care, education, preservation of the way of life of indigenous peoples, their traditions, culture [5].

Over the decade since the adoption of the Declaration, the international community and many states have made a significant step forward in the formation of legal and institutional mechanisms to ensure the rights of indigenous peoples.

So, within the framework of the UN Human Rights Council in 2007, it was created and successfully operates "UN Expert Mechanism on the Rights of Indigenous Peoples", consisting of seven independent experts appointed on a three-year term. The Expert Mechanism provides the Human Rights Council with expertise and advice on the rights of indigenous peoples, and assists Member States, upon request, in achieving the goals of the Declaration. At the epicenter of the Expert Mechanism are the implementation of the right of indigenous peoples to participate in the decision-making process, the role of languages and culture in promoting and protecting the rights and identity of indigenous peoples. At the eighth session of the Expert Mechanism, the representative of the Republic of Karelia A.V. Tsykarev became its Chairman.

The Permanent Forum on Indigenous Issues, created in 2002, continued its work. It is a subsidiary organ of the Economic and Social Council. Its mandate is to discuss indigenous issues related to economic and social development, culture, environmental protection, education, health, and human rights. Among the 16 independent experts of the Permanent Forum, acting in their personal capacity, there are two representatives of Russia: D. Harakka-Zaitsev and A. Mukabenova.

The First World Conference on Indigenous Peoples was held from 22 to 23 September 2014, where participants exchanged best practices on the implementation of the rights of indigenous peoples. The conference reaffirmed the significant role that indigenous peoples can play in socio-economic development and environmental protection by practicing traditional sustainable agricultural practices, including traditional seed supply systems, and having access to credit and other financial services, and legally protected markets. land tenure, health care, social services, education, training, knowledge, and related low-cost technologies, including irrigation technology, and water harvesting and storage [6] [4, UN Resolution].

We also note the First World Games of Indigenous Peoples, held in Brazil, where about 2,200 athletes were represented, representatives of the oldest and most endangered peoples in the world.

[5]2007 UN Declaration of Indigenous Peoples. URL: http://www.un.org/ru/documents/decl_conv/declarations/indigenous_rights (accessed 23 March 2020).

[6] Final Resolution of the UN World Conference on Indigenous Issues of 22 September 2014. URL: https://www.un.org/ru/ga/69/meetings/indigenous/documents.shtml (accessed 23 March 2020).

Finally, we point out that the UN General Assembly declared 2019 the International Year of Indigenous Languages. This decision is not accidental. There are about 7 thousand languages in the world today, one of them dies every two weeks. 96% of linguistic diversity is indigenous languages, spoken by only 4% of the world's population. According to the Atlas of the World's Languages, 90% of the languages of these peoples are endangered.

This problem is also relevant in Russia. Currently, there are 28 regions in the country where indigenous peoples live. According to the 2010 census, it was recorded that Russians lived on the territory of the Republic of Karelia - 82.2% (507 654 people), Karelians - 7.4% (45 570 people), Belarusians - 3.8% (23 345 people), Ukrainians - 2% (12,677 people), Finns - 1.4% (8,577 people), Vepsians - 0.5% (3,423 people), representatives of other nationalities - 2.7% (16 422 people)[7] [2, VPN]. At present, in the Republic of Karelia, there are 3 municipalities with a high concentration of Karelians - Olonetsky MR (Livviks 58%), Pryazhinsky MR (people 37%) and Kalevala MR (36%).

Based on the documents adopted by the UN in order to implement the Declaration on the Rights of Indigenous Peoples, a set of measures has been carried out in Russia over the past decade. At the federal level, the Unified List of Indigenous Minorities of the North, Siberia and the Far East of the Russian Federation was approved; The concept of sustainable development of the indigenous peoples of the North, Siberia and the Far East of the Russian Federation; Rules for the distribution and provision of subsidies from the federal budget to the budgets of the constituent entities of the Russian Federation to support the economic and social development of the indigenous peoples of the North, Siberia and the Far East of the Russian Federation; List of places of traditional residence and traditional economic activity of the indigenous peoples of the Russian Federation. It is planned to create a Register of Indigenous Minorities. Its adoption should make it easier for representatives of the indigenous minorities to receive preferences related to land use and fishing. The register will include all citizens who live in places of traditional residence, carry out traditional economic activities and lead a traditional way of life. The pilot region for compiling such a register will be the Republic of Karelia.

An extensive program has been implemented in the regions where indigenous peoples live. For example, in the Republic of Karelia regional target programs have been developed and implemented: “State support of the Karelian, Vepsian and Finnish languages in the Republic of Karelia for 2006–2010”; "Harmonization of national and confessional relations, formation of civil accord in the Republic of Karelia for 2007–2011." ("Karelia is the territory of consent"); "Preservation of the unity of peoples and ethnic communities of Karelia for 2012–2016” (“Karjala is our home”); “Development of education in the Republic of Karelia in 2011–2015”; “Development of the sphere of culture of the Republic of Karelia for the period up to 2013”; "Youth of Karelia" for 2012–2015 Let us especially note the importance of holding the Year of Vepsian culture in 2012, and the Year of the Karelian language and national culture in 2013.

[7] All-Russian Population Census 2010. URL: http://www.gks.ru/free_doc/new_site/perepis2010/croc/perepis_itogi1612.htm (accessed 23 March 2020).

During this period, special works were published devoted to the problem of realizing the rights of small peoples. Among the authors in Russia we will name A.N. Averin, A.F. Maly, N.A. Novikova; Kryazhkova V.A.; Strogalshchikov Z.I. [1, pp. 70-75; 2, pp. 44-55; 3, pp. 5-15; 5; 7, pp. 54–55]. The monograph of NArFU in 2017, entitled "Ethnonational Processes in the Arctic: Trends, Problems and Prospects", prepared within the framework of the RSF project "The Russian Arctic: From Conceptualization to an Effective Model of State Ethnonational Policy in the Conditions of Stable Development of Regions". A significant part of the monograph is devoted to the analysis of a potential conflict between peoples on the territory of various regions that are part of the AZRF, which is extremely important in the conditions of both the multinational composition of Russia, and the remoteness of the Arctic itself, and social tension generated by the work of enterprises in the studied macroregion [8, Ethnic processes in Arctic]. It is in connection with the above-mentioned problems that polls of the inhabitants of Russia from among the indigenous minorities acquire particular importance; it becomes apparent that such surveys are rare. In this regard, the appearance of the "Observational passport of the indigenous small-numbered peoples of the Republic of Karelia" was due to the conduct of a pilot survey simultaneously of three Finno-Ugric peoples living on the territory of the Republic of Karelia on the eve of the 100th anniversary of the region.

Among foreign authors, we note the work of the anthropologist P. Schweitzer from the University of Vienna on the impact of large infrastructure projects in the Arctic on the life of indigenous peoples; T. Koivurova from the University of Lapland with the idea of "transnational indigenous peoples" – the Sami who live on the Kola Peninsula in Russia, Finland, Norway. With regard to the Republic of Karelia in this "transnational indigenous people" are the Finns and Karelians living in Finland and Russia [9, Koivurova T., 10, Schweitzer P., Povoroznyuk O.].

Information about the implementation of the rights of indigenous peoples living in Karelia, in particular, to education, is provided by the data of the Ministry of Education of the Republic of Karelia (Table 1), which provides information on the teaching of the Karelian, Vepsian and Finnish languages in schools of Karelia[8].

Table 1

Data on the teaching of the Karelian, Vepsian and Finnish languages in schools of Karelia, 2014–2015

School year	Karelian language		Veps language		Finish language	
	Number of schools	Number of students	Number of schools	Number of students	Number of schools	Number of students
2014/15	25	2311	4	235	31	4433
2015/16	26	2128	4	256	32	4393
2016/17	25	2243	4	267	28	4330

From table 1 the conclusions follow:

[8] Ministry of Education of the Republic of Karelia, statistical data on schools in Karelia. URL: http://minedu.karelia.pro/structure (accessed 23 March 2020).

- The number of schools in Karelia that teach Finnish and Karelian is gradually decreasing.
- The number of schools teaching the Karelian language (25 schools) and the Veps language (4 schools) is negligible, and is not able to effectively ensure the task of preserving and protecting the identity, culture, languages and traditions of the indigenous peoples inhabiting the Republic. This is confirmed by quantitative data in comparison with another region of the Arctic Zone of the Russian Federation, where small indigenous peoples also live, for example, with the Chukotka Autonomous Okrug (Table 2). Data on Chukotka are presented in the Report of the Department of Education of the Chukotka Autonomous Okrug [9].

Table 2

Data on the teaching of the Chukchi, Even and Eskimo languages in schools in Chukotka, 2014–2015

School year	Chukchi language		Evenk language		Escimos language	
	Number of schools	Number of students	Number of schools	Number of students	Number of schools	Number of students
2014/15	28	1 602	2	107	3	98

So, in 2015 in schools of Karelia, according to Rosstat data [10], 65,243 schoolchildren studied, in the Chukotka Autonomous Okrug - 7,258 schoolchildren. Accordingly, the percentage of children in Chukotka studying the languages of the indigenous minorities of the North is 25%, and in the Republic of Karelia - 10.7%, which is an extremely small number.

It is also noted that in Karelia the method of "language nests" is used in relation to the Karelian and Vepsian languages [6, Russian Arctic: indigenous peoples and industrial development, p. 222]. A child who has learned to speak only the language of the national majority in the family comes to the kindergarten group, where the staff from the very beginning and in all situations speaks to him only in the language of the national minority. The child begins to understand a new language very quickly. Despite the effectiveness of the methodology, the Ministry of Regional Development of the Russian Federation opposed its introduction in Russia, noting that the method is not suitable for Russia, since it "leads to ethnic segregation".

What is the potential for the realization of the rights of indigenous peoples in the Republic of Karelia?

Based on fundamental principles, let us analyze how the constitutional declaration on the implementation of measures for the revival, preservation, and free development of Karelians, Vepsians and Finns living in its territory is being implemented in the Republic of Karelia.

[9] Department of Education of the Chukotka Autonomous Okrug, statistical data on schools of the ChAO. URL: https://www.edu87.ru/index.php/departament/otchety (accessed: 23 March 2020).

[10] Form FSN No. 76-RIK "With reference to institutions implementing general education programs". URL: https://www.gks.ru/ (accessed: 23 March 2020).

The methodology of this analysis involves monitoring the indigenous minorities in four sectors, conducting a survey of representatives of these peoples, creating an infographic tool "Observational passport of indigenous minorities of the Republic of Karelia."

Observational passport of the indigenous peoples of the Republic of Karelia is an infographic toolkit that presents the results of monitoring and analysis to assess the potential for realizing the rights of indigenous peoples living in the Republic of Karelia.

The monitoring area includes 4 information sectors: social, economic, cultural, and religious. Within the sectors, various indicators are determined (at least two for each sector and aggregating).

The technology for the development of the Observational Passport of the Indigenous Peoples of the Republic of Karelia includes three stages:

1) a preliminary stage, including an analysis of the regional context in 4 sectors of study - social, economic, cultural, religious; collection of data from open sources of information; identification of factors and measures to develop the capacity of indigenous peoples.

2) a theoretical stage, involving the substantive development of a methodology for the formation of the "Observational passport of the indigenous peoples of the Republic of Karelia", compilation of a list of 5 qualitative indicators, including:

1. national identity of indigenous peoples;
2. small indigenous peoples in the labor market;
3. cross-cultural communication of small indigenous peoples,
4. immersion in religious practices,
5. morbidity of small indigenous peoples.

More detailed 5 indicators are presented in table. 3 in relation to the sectors of study - social, economic, cultural, religious.

Table 3

Sectors for studying the indigenous peoples of Karelia and the corresponding indicators

Social sector	**Economic sector**	**Cultural sector**	**Religious sector**
a list of indigenous diseases, access to medicine,	indigenous unemployment rate	assessment of the right to ethnocultural development (everyday use of language, presence of traditions	creed
benefits of indigenous peoples in the field of education (upon admission to educational institutions)	what profession do they work in	national identity of indigenous peoples (costumes, cuisine)	participation in religious rites
indigenous legal literacy		cross-cultural communication (interaction with other peoples)	
the level of education		development of traditional trade (kyukkä, fishing, reindeer husbandry)	

3) the main stage, covering conducting a survey of indigenous peoples in the Republic of Karelia, processing the data obtained on 5 declared indicators and creating an infographic tool "Observational passport of indigenous peoples of the Republic of Karelia", presenting the results of monitoring and analysis to assess the implementation of the rights of indigenous Finno-Ugric peoples.

Results of the survey of indigenous peoples of Karelia

As of December 1, 2017, 250 respondents from all municipalities of the Republic of Karelia took part in the survey. Among them, 67.2% are Karelians, 23.7% are Vepsians, 8.3% are Finns. The respondent's profile is a man with a higher education. The age of the respondents taking part in the survey is average - 16.2% - 36–40 years old; 14.2% - 31–35 years old; 10.7% - 41–45 years old; 9.5% - 46-50 years old. Half of the respondents live in Petrozavodsk, 14.6% in the Olonetsky district, 10.3% in the Prionezhsky district.

The total population of the Republic of Karelia as of January 1, 2017 is 627.1 thousand people. The core of the population of the territory of the Republic of Karelia is made up of peoples - Karelians (7.4%), Vepsians (0.7%), Finns (1.4%) (according to the 2010 All-Russian Population Census.) [11].

Table 4 shows the number of Karelians, Vepsians and Finns as a general population for the study.

Table 4

The number of Karelians, Vepsians and Finns as a general population for the study

Name of nationalities	Share of nationality in the total population of the Republic,%	Population size, people	Specific gravity	Sample structure
Karels	7,4%	55 570	79,5%	168
Veps	0,4%	3 423	5,8%	61
Finns	1,4%	8 577	14,7%	21
Total	9,2%	67 570	100%	250

The objectives of this study do not imply the distribution of the sample by municipalities, gender and age of respondents. The main feature of interest for the general population is nationality. The selection criterion is permanent residence on the territory of the Republic of Karelia. This research is conceptual and refers to the pilot type of sociological research, which involves obtaining primary indicative information about the object under study. The size of the sample population in accordance with the theory of the sampling method is calculated depending on the requirements of the reliability and accuracy of the survey.

With a poll reliability of 95%, the minimum required number of ethnic groups (Karelians, Vepsians and Finns) is 250 people when polled with an error (0.5%).

[11] Main Results of the 2010 All-Russian Population Census for the Republic of Karelia, Volume 3. Kareliastat. Petrozavodsk, 2012, 175p. URL: http://krl.old.gks.ru/wps/wcm/connect/rosstat_ts/krl/ru/census_and_researching/census/national_census_2010/score_2010/ (accessed 23 March 2020).

The sample size of the survey of indigenous peoples of the Republic of Karelia was calculated using the formula:

$$n = \frac{z^2 * 0{,}25}{\Delta^2}$$

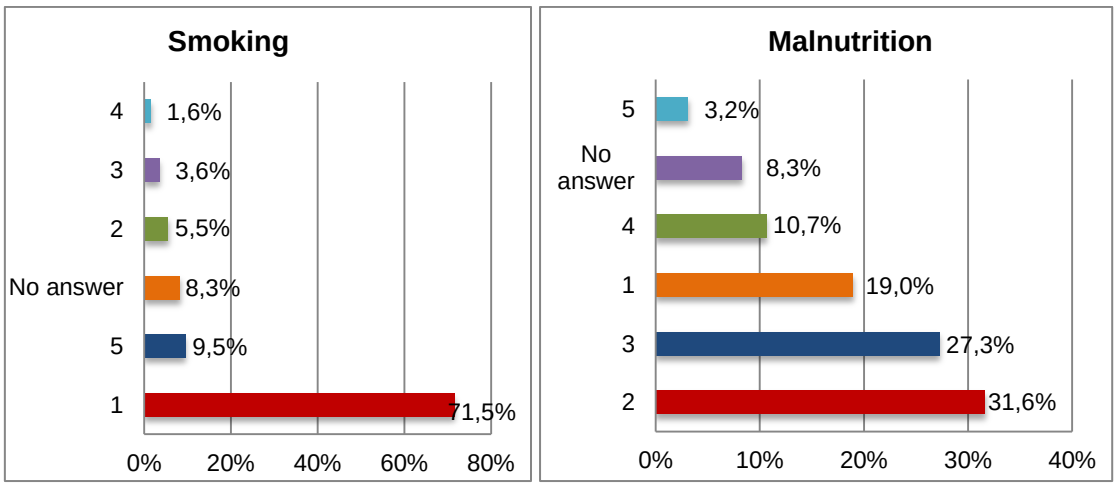
here n is the sample size, Δ is the confidence interval, z is the value of the normal distribution function for a given probability of deviation (for a probability of 5%, this value is 1.96).

The total number of nationalities is distributed according to their types in accordance with their structure of the general population (Table 4).

The survey results were grouped into the following blocks - social, economic, cultural, and religious.

Social block of the survey. It was found that the respondents know practically nothing about the benefits for small indigenous peoples; of all the respondents, only 4.3% enjoyed benefits in the field of education.

Half of the respondents (41.5%) assess their health as satisfactory, 41% as good. Perhaps this is due to the fact that not only young respondents took part in the survey (the majority of respondents are over 35 years old). Most of the interviewed respondents lead an unhealthy lifestyle: 71.5% smoke, 52.6% take alcohol; 80.6% cannot tolerate protein, 74.3% cannot tolerate milk and dairy products, 33.2% have chronic diseases (Fig. 1).



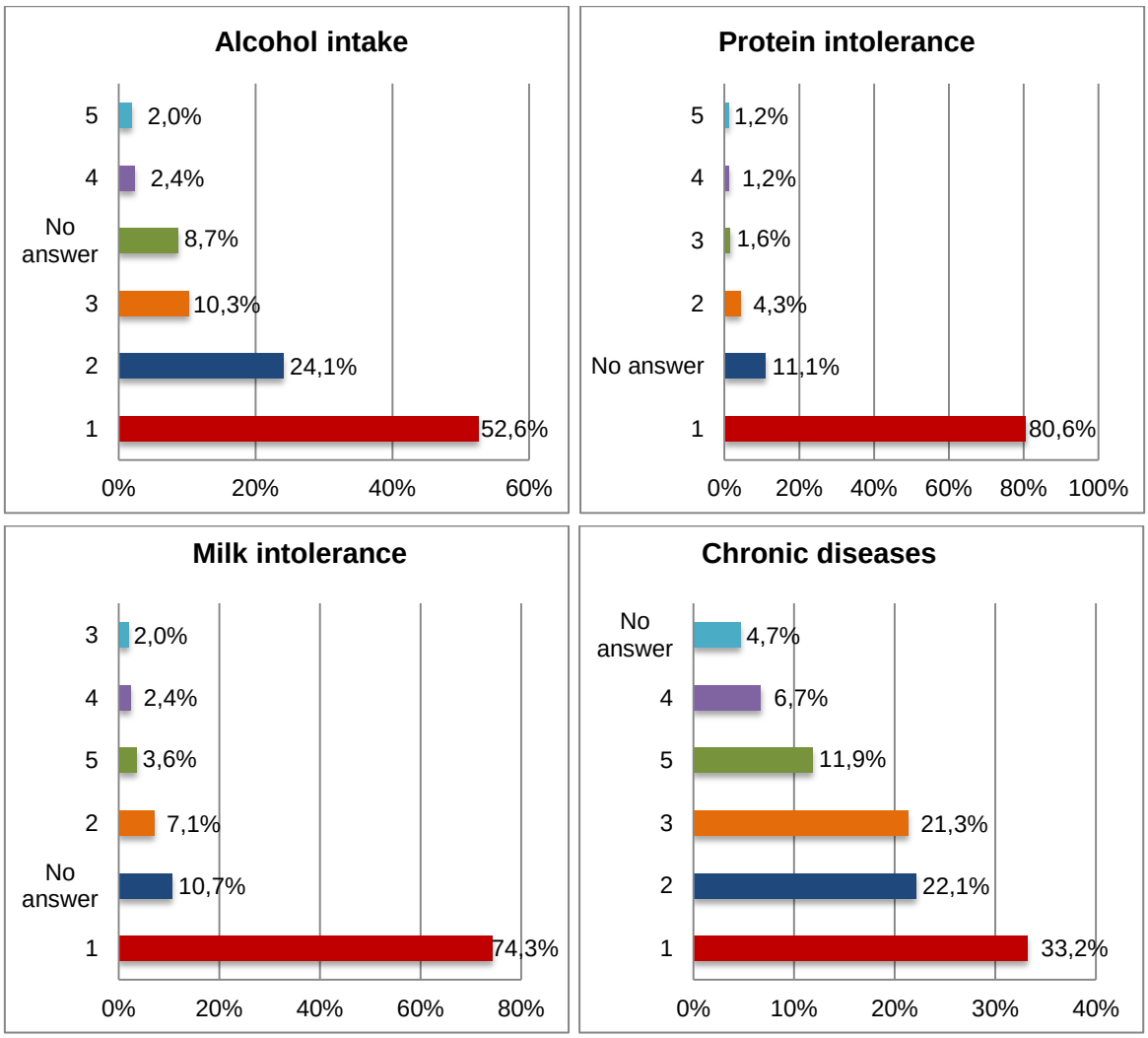


Fig. 1. Health risk factors for indigenous people of Karelia.

The economic block of the survey. In the economic block, data were obtained on the economic situation of the indigenous peoples of the Republic of Karelia. It was revealed that 38.7% of respondents are employed in a budgetary organization, 17% are employed in a private company, 13.8% are retired. 65.3% of respondents are absolutely dissatisfied with wages and only 22.5% expressed their satisfaction with it. The respondents characterize the financial situation of the family as minimal ("there is enough money for food and utilities" (46.6%), acceptable ("enough for everything except expensive things" (42.3%) (Fig. 2).

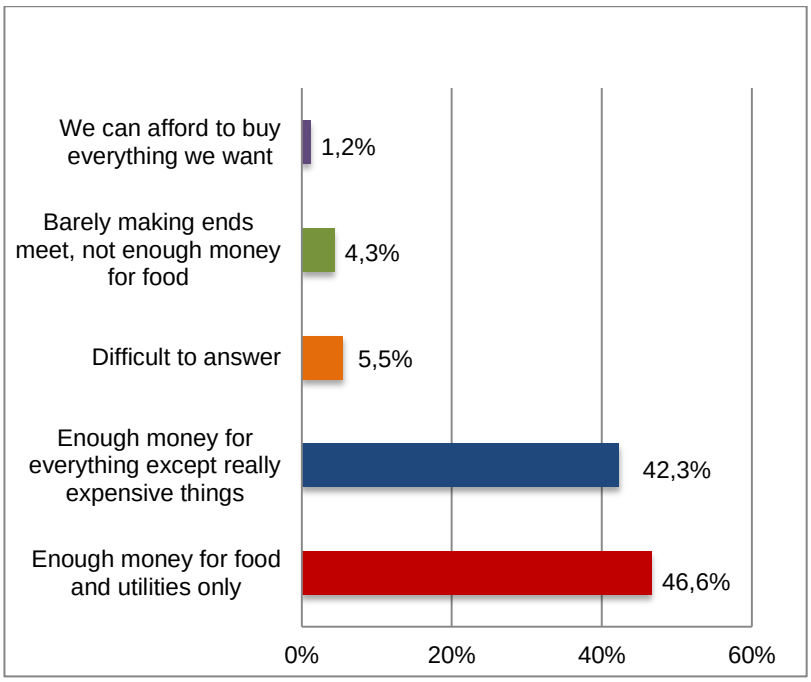


Fig. 2. Financial situation of the respondent.

A survey of indigenous minorities showed that, despite the difficult economic situation, 64.8% would not want to leave the Republic of Karelia in search of a better life. Among those who expressed a desire to leave the region - 31.6% - would like to leave for another country (not Finland) or another region of Russia, 3.2% - are ready to move to another region of the Republic of Karelia.

Cultural block of the survey. As a result of the survey in this block, the following picture was formed: the indigenous minorities living in Karelia, for the most part, consider Russian as their native language (66%), Karelian as their native language was noted by 30.8%, and 2.4% of respondents noted, that their native language is Finnish, and 0.8% is Vepsian. 48.2% speak their native language on a daily basis, 15.8% speak several times a week, 6.7% speak once a month. Basically, most respondents (44.7%) communicate in their native language at home, 17.8% at work, and 19% at cultural events (Fig. 3).

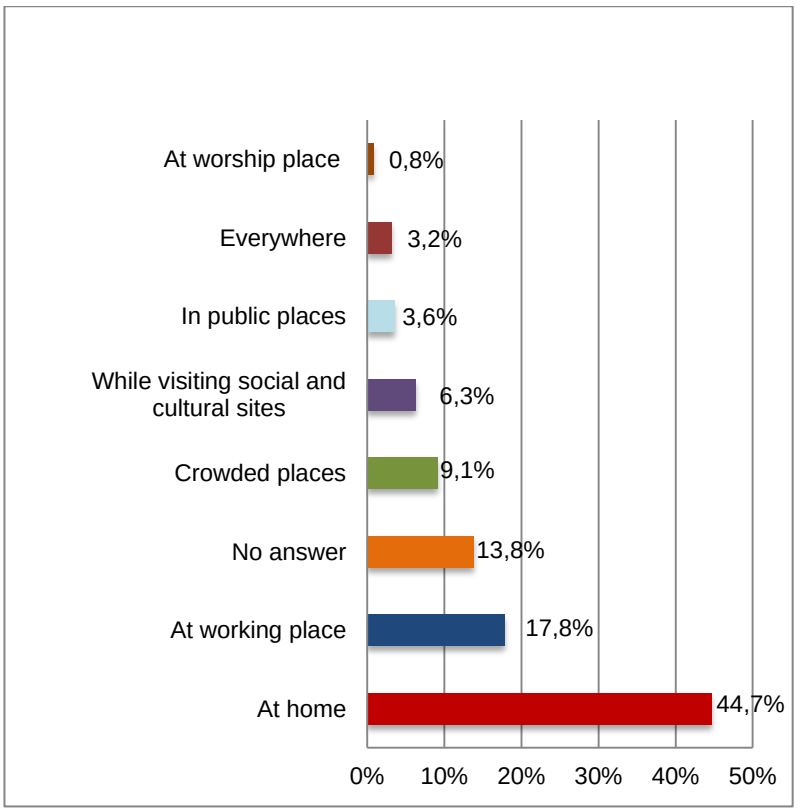


Fig. 3. Frequency of use of the native language by the respondent.

An important attribute of national identity is the specificity of the preparation of national dishes. The results of the poll showed that the opinions of the indigenous small-numbered peoples living in Karelia on the peculiarities of the national diet were divided. Thus, about half of the respondents regularly prepare national dishes (36% several times a month, 15.8% several times a week). At the same time, the other half of the respondents - 33.6% cook less than once a month, and 8.3% - never (Fig. 4).

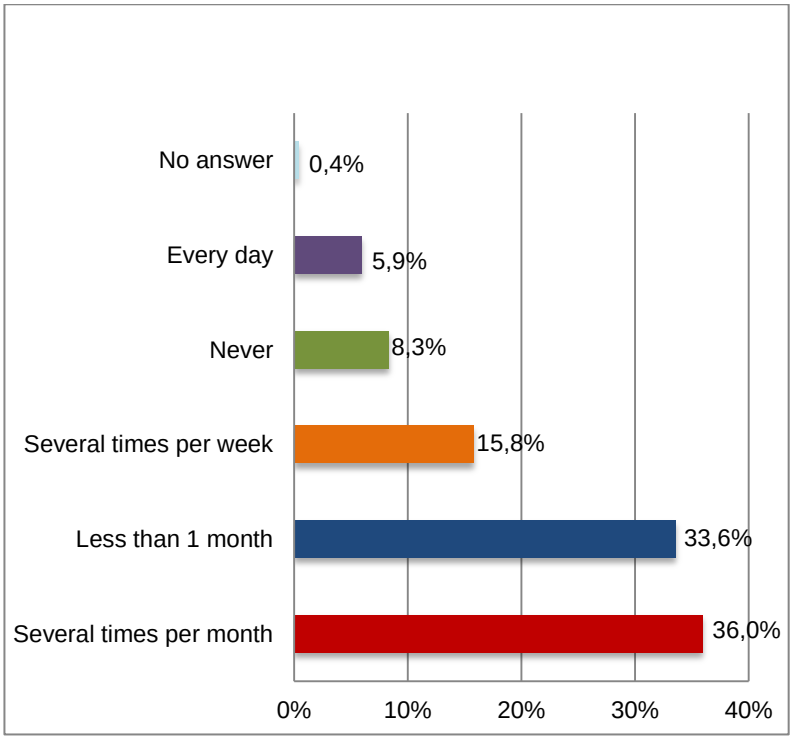


Fig. 4. Cooking of national cuisine by the respondent.

It is recorded that the majority of the indigenous small peoples of Karelia have a wide assortment of traditional household items - 35.2% have costumes, almost 50% have kept kitchen utensils, 53.4% have decorative items (Fig. 5).

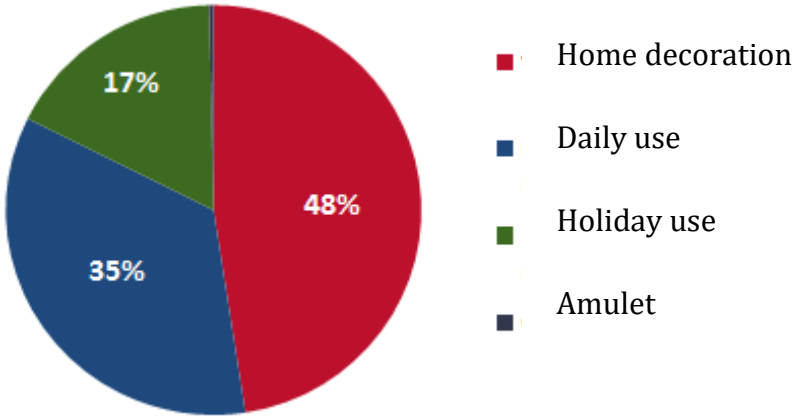


Fig. 5. The role of traditional household items in the life of the indigenous peoples of Karelia.

Religious survey block. The majority of the indigenous small-numbered peoples of Karelia who took part in the survey (70.8%) consider themselves Orthodox. 20.2% do not profess any religion, 4.3% are Lutherans, 1.2% are pagans. At the same time, 35% of the respondents take part in the religious rituals of their ethnic groups, in particular, at weddings.

Observational passport of the indigenous peoples of Karelia

All the data obtained for four sectors of the study were ranged using points from 1 to 3, where 1 point would correspond to a low potential for the realization of the rights of indigenous peoples, 2 points - an average potential, 3 points - a high potential. The ranking was based on the answers of Karelians, Vepsians, Finns to all questions.

Due to the point ranking, it is possible to identify low / medium / high potential for the implementation of the rights of indigenous peoples in the Republic of Karelia in four blocks (cultural, social, economic, religious).

Table 5

Ball ranking of the assessment of the potential for the realization of the rights of indigenous peoples in the Republic of Karelia

Question in the questionnaire	Karelians / points		Vepsians / points		Finns / points	
№1	-	-	-	-	-	-
No. 2 (social block)	56.5%	**2**	41.7%	**1**	81%	**3**
No. 3 (social block)	55.4%	**2**	64.8	**3**	35.5%	**2**
No. 4 (social block)	1.8	**1**	0%	**0**	0%	**0**
No. 5 (social block)	5.9%	**3**	1.7%	**2**	0%	**0**
No. 6 (cultural block)	35.9%	**2**	38.3%	**3**	33.3%	**1**
No. 7 (cultural block)	44.1%	**3**	3.3%	**1**	nineteen%	**2**
No. 8 (cultural block)	69.4	**2**	45%	**1**	71.4%	**3**
No. 9 (cultural block)	46.5%	**2**	39.7%	**1**	47.6%	**3**
No. 10 (cultural block)	25.9%	**3**	ten%	**1**	nineteen%	**2**
No. 11 (cultural block)	26,%	**1**	29.7%	**2**	33.3%	**3**
No. 12 (cultural block)	42.9%	**3**	36.1%	**2**	42.9%	**3**

No. 13 (cultural block)	58.2%	**3**	56.7%	**2**	42.9%	**1**
No. 14 (cultural block)	22.4%	**3**	16.7%	**1**	nineteen%	**2**
No. 15	-	**-**	-		-	**-**
No. 16 (religious block)	36.5%	**2**	28.3%	**1**	52.4%	**3**
No. 17 (economic block)	20%	**1**	23.3%	**2**	38.1%	**3**
No. 18 (economic block)	57.6%	**2**	56.7%	**1**	66.7%	**3**
No. 19 (economic block)	1.8%	**3**	0%	**0**	0%	**0**
No. 20 (economic block)	60%	**1**	68.3%	**3**	66.7%	**2**
Total points		**39**		**27**		**35**

As a result of the ball ranking, it became obvious that in the Republic of Karelia the rights of Karelians and Finns are realized more fully, these nationalities in total scored 39 and 35 points, respectively. Vepsians scored only 27 points in the ranking. Based on the answers of the Veps to the questions, it became obvious that they are not very satisfied with the implemented policy of the Republic of Karelia towards indigenous peoples.

As a result, Table 6 was formed, demonstrating low / medium / high potential for the implementation of the rights of indigenous peoples (Veps, Karels, Finns) in the Republic of Karelia separately by research sector.

Table 6

Assessment of the implementation potential of indigenous small-numbered peoples in the Republic of Karelia by sector

Indigenous people	Economic sector	Social sector	Religious sector	Cultural sector
Karels	moderate	high	moderate	high
Veps	low	moderate	low	low
Finns	high	low	high	moderate

It is obvious that the Veps demonstrate a low potential for the realization of their rights in almost every sector of the study, the Karels and Finns are generally characterized by the potential for the realization of an average level.

As a result of the study, a summarizing diagram of monitoring and analysis of the potential for the realization of the rights of indigenous peoples in the Republic of Karelia was formed (Fig. 6).

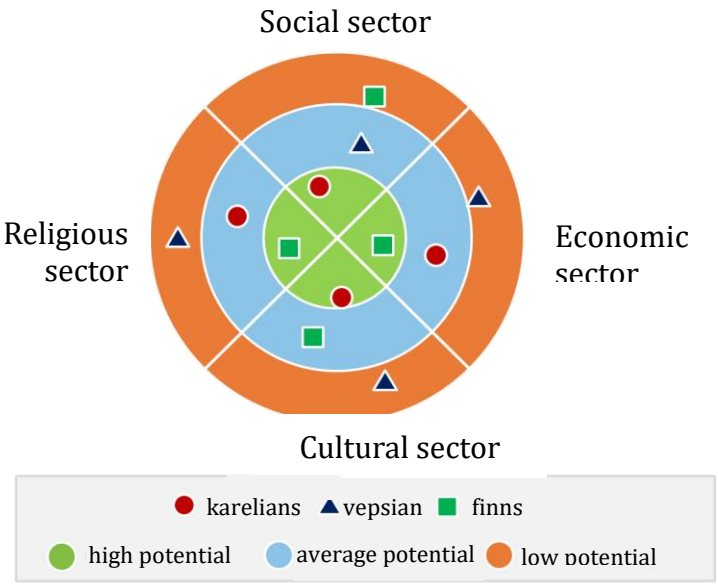


Fig. 6. Observational passport of the indigenous peoples of the Republic of Karelia.

It seems reasonable to differentiate the potential for the realization of the rights of indigenous peoples (Karelians, Vepsians, Finns) in the context of 4 sectors at 3 levels – low/moderate/high.

Conclusion

1. June 8, 2020 will mark the 100th anniversary of the Republic of Karelia. The small peoples inhabiting Karelia, like most of the small peoples of Russia, have experienced different state policies during this century. The Russian state in relations with small peoples has evolved from imperative methods, a policy of protectionism to a policy of partnership.

2. The post-Soviet period of development of the Republic of Karelia is characterized by a noticeable improvement in opportunities for the implementation of the rights of indigenous peoples. Regional target programs aimed at the development of these peoples are being successfully implemented in the Republic. Substantial funds are allocated from the federal budget to support economic and social development, including the activities of non-profit organizations. A program to promote the traditional economic activities of the indigenous minorities is being implemented. However, the educational policy towards these peoples is by no means improved.

3. At the same time, intensively developing, including in the Republic of Karelia, processes of globalization, acculturation, assimilation, urbanization, economic activities of organizations of all forms of ownership, as well as individuals, damage the original habitat of indigenous small peoples, transform their traditional way of life. These objective and subjective circumstances hinder the possibility of realizing the rights of small peoples guaranteed by the Constitution.

4. The conducted research allowed forming the Observational passport of the indigenous peoples of the Republic of Karelia, which recorded different degrees of satisfaction of the representatives of the indigenous population of the Republic with the results of the policy pursued. In particular, as a result of the scoring of the survey results, it was revealed that the low potential for the realization of their rights in almost every sector of the study is characteristic of the Veps, the Karelians and Finns are generally characterized by the potential for the implementation of the average level.

5. The low degree of satisfaction of Veps with the current policy established as a result of the study (taking into account the targeted federal budget funds allocated over the past decade to support their economic and social development, as well as with co-financing from the budget of the Republic of Karelia and the Prionezhsky municipal district) requires improvement of regional policy local authorities.

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