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Economic and Statistical Modelling of Production Processes in the Regions of the Arctic Zone of the Russian Federation

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Abstract. The study of economic processes in the regions of the Arctic Zone of the Russian Federation (AZRF) using economic-statistical modelling methods is an important area of Arctic research due to the possibility of displaying statistically significant relationships of economic processes and phenomena and forecasting economic dynamics, but the potential of such modelling is limited by the specificity of the processes of a number of regional economies in the Arctic, distorted by the increased state presence and active management intervention in the Arctic. Therefore, economic and statistical studies of the Russian Arctic regions are rare in relation to the popularity of the Arctic topics in regional studies. The aim of the study is economic-statistical modelling of production processes in the regions of the AZRF using the production function (PF) toolkit. At the first stage, the analysis of correlations between GRP and factors of production was carried out, on the basis of which the AZRF regions were divided into three groups: 1) regions in which the mutual behavior of the main factors of production (labor and capital) fits into the generally accepted concepts (the Russian Federation as a whole, the Nenets Autonomous Okrug, the Yamalo-Nenets Autonomous Okrug, the Republic of Sakha (Yakutia)); 2) regions in which the mutual behavior of the main factors of production does not fit into the classical concepts: there is a sufficiently strong positive relationship with only one of the factors of production (the Arkhangelsk Oblast, the Krasnoyarsk Krai, the Komi Republic); 3) regions for which there is no sufficiently strong positive relationship between GRP and factors of production (the Murmansk Oblast, the Republic of Karelia, the Chukotka Autonomous Okrug). At the second stage, at least 4 PF models were built for the regions of group 1 (the best model was selected using the Akaike information criterion adjusted for small samples). For the regions of group 2, Cobb-Douglas PF models and single-factor models were built, in which a factor with a positive relationship with GRP was included. The construction of PF models for the regions of group 3 is impossible.

Keywords: *regions of the Russian Arctic, production processes, modelling, production functions, gross regional product, factors of production*

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Introduction

Economic and statistical modeling of phenomena and processes in regional systems is an important area of research within the framework of regional economics. Obviously, it is associated with the urgent need to study the quantitative side of regional phenomena and processes conditioned by their qualitative characteristics, to understand the patterns of social development, to quantitatively assess the interrelations of economic phenomena and processes, and to substantiate the forecast of the development of regional systems. The drawbacks and limitations of the application of modelling to real data, including at the regional level, are much less discussed. However, a number of researchers, including the authors of this article, have devoted a series of publications to discussion of this issue [1, pp. 9–14, 59–65; 2–7]. We believe that such publications were useful because, among other things, as V.N. Novoseltsev and Zh.A. Novoseltseva rightly point out, "besides errors of the modelling method itself, there are also errors related to the qualification of researchers. They are not inherent to models as such, but are, perhaps, a reflection of insufficient attention of researchers to the model being created" [8].

One of such shortcomings is underestimation of the specifics of real economic processes caused not so much by intraregional factors of the regional system functioning as by external control influences that distort the behavior of the system and its components so significantly that it complicates and/or makes impossible the application of typical economic and statistical models that work well in standard economic regional systems. For example, our previous studies have shown that the statistically confirmed specifics of the functioning of the economies of the Northern and Arctic regions [9; 10] can limit the possibilities of using production functions (PFs) due to the imbalance in the behavior of the main production factors [11; 12].

PFs, despite their known limitations, are traditionally widely used as a research tool not only in scientific studies, but also in domestic and foreign management practice, including in official forecasts of the development of countries and regions [13, pp. 119–134; 14]. This is due to the fact that they are a convenient tool for analysis and forecasting, displaying the relationship between the physical volume of production factors and the physical volume of output in the process of producing goods or services. It is also important that PFs, as a rule, "work" well on real data. In this regard, it is of interest to construct PFs for the regions of the Arctic Zone of the Russian Federation, taking into account possible limitations of their use in a number of regions of the Arctic Zone of the Russian Federation. Thus, the purpose of the study is economic and statistical modelling of production processes in the regions of the Arctic Zone of the Russian Federation using PF tools.

Initial data and assessment of the possibilities of constructing models of production functions for regions of the Arctic Zone of the Russian Federation

As noted, our previous studies have shown that the specifics of functioning of the economies of the North and Arctic regions can limit the possibilities of using PFs due to the unbalanced interaction of the main factors of production [11; 12]. Therefore, at the preliminary stage, a de-

tailed correlation and regression analysis was carried out, establishing the interrelations in the behavior of production factors in the regions of the Arctic Zone of the Russian Federation. In order to present the all-Russian situation, the Russian Federation as a whole was also considered.

The following data for 2000–2021 were used in the work: the index of physical volume of the GRP of the Russian Federation in constant prices as a % of the previous year, adjusted to the values of 2000; the index of physical volume of investments in fixed capital (IFC) in comparable prices as a % of the previous year, adjusted to the values of 2000; the fixed assets value (FAV) at the end of the year at full accounting value taking into account the degree of depreciation, adjusted to the values of 2000 using the GDP deflator index; the degree of depreciation of fixed assets (at the end of the year; in percent); GDP deflator indices; the average annual number of people employed in the economy of the Russian Federation, adjusted to the index form relative to 2000 (number of employees, NE).

The analysis of the dynamics of GRP, investment in fixed capital, the value of fixed assets and the number of people employed for 2000–2021 (Fig. 1, 2) showed that there are significant differences in the behavior of these indicators. In particular, in a number of regions (the Republic of Karelia, the Komi Republic, the Murmansk Oblast, the Krasnoyarsk Krai and the Chukotka Autonomous Okrug), the changes in GRP and the number of employed demonstrate opposite dynamics. In order to quantitatively characterize this feature, the Pearson correlation coefficients between GRP and production factors were calculated: GRP and investment in fixed assets, GRP and the value of fixed assets, GRP and the number of employed (Table 1). Based on the analysis of correlations, the studied regions were divided into 3 groups.

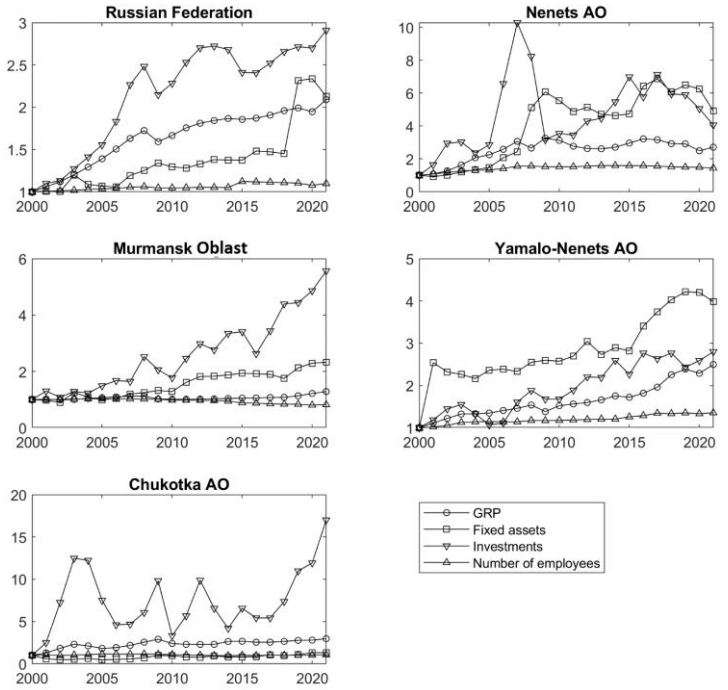

Fig. 1. Dynamics of GRP production factors for 2000–2021 for the entire Russian Federation and regions that are fully included in the Arctic Zone of the Russian Federation. The values of the indicators (GRP, value of fixed assets, investment in fixed capital, number of employees) were used in the indices of physical volume in comparable prices.

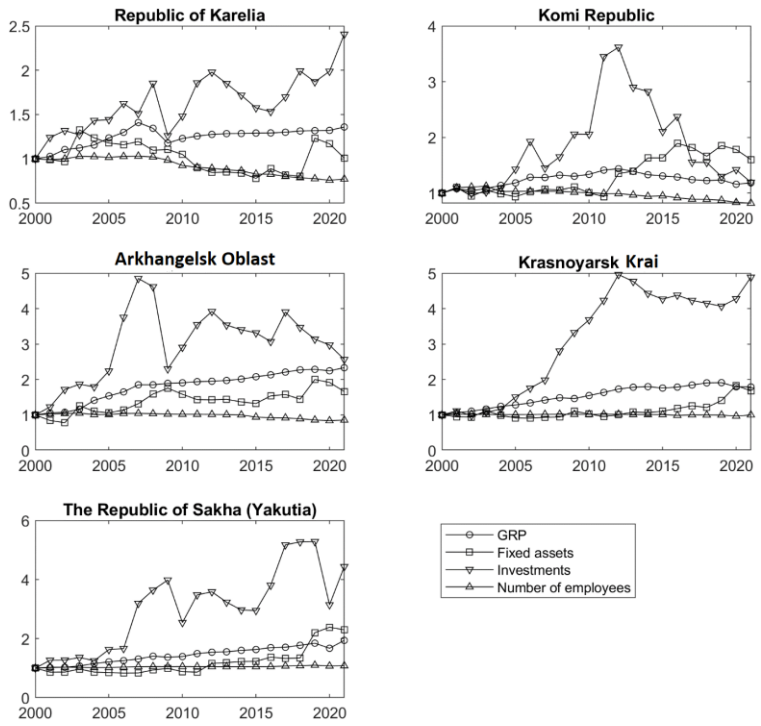

Fig. 2. Dynamics of GRP production factors for 2000–2021 for regions that are partially included in the Arctic Zone of the Russian Federation. The values of the indicators (GRP, value of fixed assets, investment in fixed capital, number of employees) were used in the indices of physical volume in comparable prices.

Table 1

Pearson correlation coefficients between GRP and production factors for 2000–2021. Between GRP and investment in fixed capital (IFC), GRP and fixed assets values (FAV) of economic sectors, GRP and number of people employed in the economy (NE) [1]

Region	GRP-IFC	GRP-FAV	GRP-NE	GRP-NE	IFC-NE
Russian Federation	0.98	0.73	0.86	0.64	0.77
Fully in the AZRF					
Murmansk Oblast	0.73	0.56	-0.59	-0.88	-0.90
Nenets AO	0.65	0.81	0.93	0.80	0.70
Chukotka AO	0.56	0.54	-0.08	-0.33	0.06
Yamalo-Nenets AO	0.88	0.94	0.95	0.92	0.89
Partly in the AZRF					
Arkhangelsk Oblast	0.67	0.84	-0.69	-0.62	-0.08
Krasnoyarsk Krai	0.94	0.56	-0.42	-0.81	-0.32
Republic of Karelia	0.77	-0.11	-0.49	0.49	-0.69
Komi Republic	0.87	0.18	-0.23	-0.84	-0.13
Republic of Sakha (Yakutia)	0.89	0.75	0.89	0.72	0.91

Group 1 includes entities in which the mutual behavior of the main production factors (labor and capital) fits into generally accepted concepts: there is a significant positive relationship between GRP and production factors. Group 1 includes: the Russian Federation as a whole, the Nenets Autonomous Okrug, the Yamalo-Nenets Autonomous Okrug, and the Sakha Republic (Yakutia). For these regions, it is possible to construct classical models of GRP production in the form of production functions.

[1] Values of indicators were used in physical volume indices in comparable prices.

Group 2 — entities in which the mutual behavior of the main production factors does not fit into classical concepts: there is a sufficiently strong positive relationship (the square of the correlation coefficient is not less than 0.6) with only one of the production factors. For example, the GRP of the Arkhangelsk Oblast (Table 1) has a sufficiently significant positive relationship with the value of fixed assets (GRP-FAV = 0.84) and a negative relationship with the number of employees (GRP-NE = -0.69). Group 2 includes: the Arkhangelsk Oblast, the Krasnoyarsk Krai, and the Komi Republic. For each region of this group, a single-factor model was additionally constructed, which included a factor with a positive relationship with GRP.

Group 3 — entities for which there is no sufficiently strong positive relationship (the square of the correlation coefficient is less than 0.6) between GRP and production factors. Group 3 includes the Murmansk Oblast, the Republic of Karelia, and the Chukotka Autonomous Okrug. For Murmansk Oblast, the maximum correlation coefficient is observed between GRP and fixed capital investment GRP-IFC = 0.77 (the square of this value is 0.59). It is impossible to construct a GRP production model for the regions of group 3 based on the available production factors that would explain at least 60% of the GRP variation. The use of a model that describes less than 60% of the variation is not justified from a practical point of view.

Methodology of model construction

At least 4 models in the form of PF were constructed for each region of group 1. The best model was selected using the Akaike information criterion, adjusted for small samples [15]: the lower the value of the criterion for a given region, the better the model. The exponential PF and the Cobb-Douglas PF were considered.

The exponential PF has the form:

$$Y = AC^p L^q, A, p, q > 0, \#(1)$$

where *Y* — GRP, *C* — capital, *L* — labor. *A*, *p*, *q* — estimated parameters. Parameters *p*, *q* — elasticities for capital and labor, respectively; *A* — total factor productivity, characterizing the influence of intangible factors, such as technology and knowledge features.

The Cobb-Douglas PF is a special case of the exponential PF, to which the constraint that the sum of elasticities is equal to 1 is added:

$$Y = AC^p L^q, A, p, q > 0, p + q = 1. \#(2)$$

For the regions from group 1, the PF parameters (1) and (2) were estimated, with both the value of fixed assets (FAV) and the investment in fixed capital (IFC) used as capital C. Thus, at least 4 models were estimated for each region from group 1. If a parameter in the model turned out to be insignificant, the model was additionally estimated without it.

The conformity of the model to the initial data was estimated by the value of the adjusted (by the number of model parameters) coefficient of determination Ra^2, which reflects the percentage of variation in the original data, explained by the model. If Ra^2 does not exceed 60%, the model was not used to characterize the economy of the studied region. It should be noted that since PFs (1) and (2) are non-linear, it is incorrect to select the best model using Ra^2 alone, so the Akaike information criterion was additionally used.

For each model, the F-statistic value was calculated to verify by means of the F-test the hypothesis that the analyzed model fits the initial data better than a constant value. The probability of erroneously accepting the model instead of the constant is characterized by the p-value, that is, the model is significant at the p-value level.

For each parameter of the models, the standard error ($\boldsymbol{\sigma}$) and the *t*-value statistic = estimate/σ were calculated to test the hypothesis that the corresponding parameter is 0. The level of insignificance of a parameter is specified by the value $Pr(>|t|)$, that is, if for some parameter $Pr(>|t|) > 0.05$, then it is insignificant at the 5% level. From a formal point of view, insignificant parameters should be excluded from the model, but in our case the parameters are productions, and it is impossible to exclude labor or capital from the model. For example, what kind of production can we talk about without labor or fixed assets?

The reasons for the insignificance of parameters in regression models can be different: for example, the lack of significant correlation between the independent and dependent variables. To avoid this, we calculated the correlation coefficients (Table 1) and selected regions with significant correlations between GRP and production factors. Another common reason is high multicollinearity (strong correlation of independent variables — production factors). According to the values of the correlation coefficients (Table 1), this problem occurs for a number of regions. For example, for the Nenets and Yamalo-Nenets Autonomous Okrugs, the Sakha Republic (Yakutia): there is a high correlation between the value of fixed assets and the number of employees (FAV-NE), as well as between investments in fixed capital and the number of employees (IFC-NE). In order to take into account the influence of these facts on the production of GRP, single-factor models were estimated where appropriate

$$Y \sim C^p,\ Y = L^q,\ p > 0,\ q > 0\ (\sim\text{denotes proportionality}) \quad (3)$$

The use of the estimated parameter as a measure of degree in the single-factor models (3) is due to the fact that this allows the parameters to be interpreted in the same way with models in the form of PF (1) and (2) as the elasticity of the corresponding production factor. The parameters of models (1)–(3) were estimated using the method of least squares after taking the logarithm.

Results

Let us consider the results of modelling for the regions of group 1. For the Russian Federation as a whole (Table 2) all models turned out to be statistically significant (p-value < 0.05). However, for PF (2) with C = FAV (the value of fixed assets is taken as capital), the value of R^2 = 0.48, which means that the model describes less than half of the initial data variation and should be excluded from the analysis. When estimating PF (2) with C = IFC (investments in fixed assets), parameter A turned out to be insignificant ($Pr(>|t|)$ = 0.14), so we estimated this model with A = 1 (log(A) = 0); the estimates are given in the last row of Table 2. For the Russian Federation as a whole, PF (1) with C = IFC turned out to be preferable to PF (1) with C = FAV, since it has a lower value of the Akaike criterion AICc (Table 2). In Table 2, the models preferable for the Russian Federation as a whole are highlighted in bold. These models explain more than 97% of the variation of the initial data.

Table 2

Estimates of the model parameters for the Russian Federation as a whole based on data for 2000–2021 using the value of fixed assets (C = FAV) and investments in fixed capital (C = IFC) as capital (C) [2]

Parameter	Estimation	σ	*t*-value	*Pr*(>|*t*|)	*F*	*p*-value	Ra^2	*AICc*
PF (1), *C* = FAV					35.7	3.7E-07	0.77	-32.1
log(*A*)	0.17	0.04	3.80	1.0E-03				
p	0.29	0.13	2.20	4.0E-02				
q	3.94	0.93	4.24	4.0E-04				
PF (1), *C* = IFC					1230.0	7.7E-21	0.99	-105.1
log(*A*)	0.02	0.01	2.04	5.0E-02				
p	0.52	0.02	25.24	4.5E-16				
q	1.40	0.20	6.95	1.3E-06				
PF (2), *C* = FAV					20.3	2.2E-04	0.48	-22.2
log(*A*)	0.27	0.04	6.33	3.5E-06				
p	0.60	0.13	4.50	2.2E-04				
PF (2), *C* = IFC					840.0	8.2E-18	0.98	-90.2
log(*A*)	0.02	0.01	1.53	1.4E-01				
p	0.60	0.02	28.99	8.2E-18				
PF (2), *A* = 1, *C* = IFC					867.5	1.5E-18	0.97	-89.5
p	0.62	0.01	69.39	2.7E-26				

The Russian Federation as a whole. According to the estimates of the PF parameters (1) with C = IFC, estimated for the Russian Federation as a whole (Table 2), the sum of elasticities for capital and labor (p + q =1.92) is greater than 1, which characterizes a growing economy, i.e. each unit of resources (labor and capital) is used with greater efficiency. The value of elasticity for IFC p

[2] The models that have only significant parameters and explain at least 60% of the initial data variation are highlighted in bold. Note: estimatation — estimated value of the model parameter; σ — standard error of parameter estimation; t-value — value of t-statistic; Pr(>|t|) — level of insignificance of the parameter; F — F-statistic; p-value — significance level of the model; Ra^2 — adjusted coefficient of determination; AICc — Akaike Information Criterion.

= 0.52 shows that if this factor of production grows by 1%, GRP will increase by 0.52%. Similarly, the value of the elasticity by the number of employees (NE) q = 1.4 shows that with an increase in this production factor by 1%, GRP will increase by 1.4%. The correspondence of this model, as having the lowest AICc value, to the initial data is shown in Fig. 3. Estimates of the PF (2) parameters for A = 1 and C = IFC (Table 2) show that the contribution of IFC to GRP production is 62% (p = 0.62), and NE is 38% (q = 1- p = 0.38).

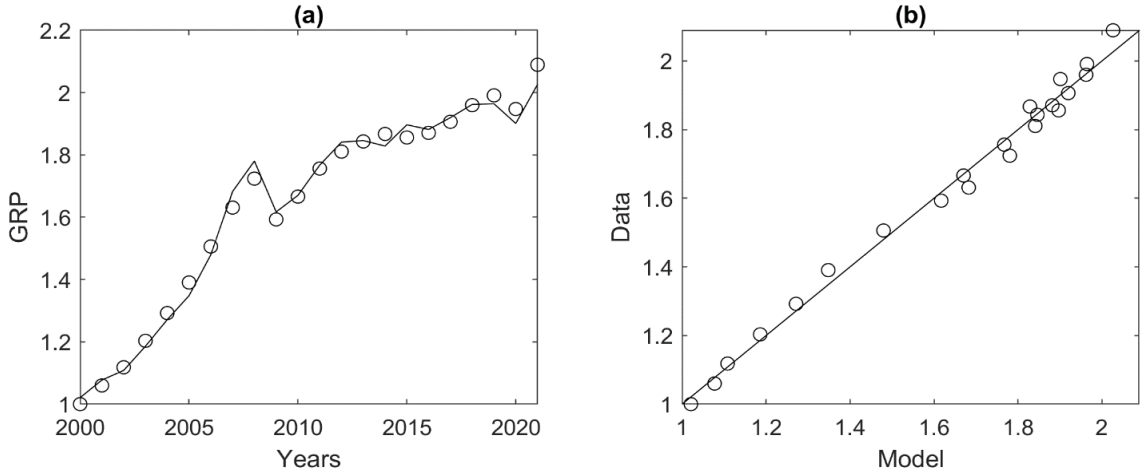

Fig. 3. Correspondence of PF (1) when using fixed capital investment as capital (C = IFC) to the initial data for 2000–2021. (a) circles — actual GRP data, black line — model values calculated using formula (1) for A = 1, p = 0.52, q = 1.4 (Table 2). (b) circles — actual GRP data, black line — best-fit line. Adjusted coefficient of determination Ra^2 = 0.99.

Nenets Autonomous Okrug. Estimates of the model parameters for the Nenets Autonomous Okrug (Table 3) show that PF (1) both with C = FAV and with C = IFC have insignificant parameters A and p, which should be excluded, i.e. log(A) = 0 (A =1), p = 0. The resulting model $Y = L^q$ was also studied and, according to the estimates of its parameters (Table 3), the GRP of the Nenets Autonomous Okrug is expected to increase by 2.44% in case of NE growth by 1%. This model fits the initial data for the Nenets Autonomous Okrug better than the others (it has the minimum AICc value at significant parameters). The corresponding illustration is given in Fig. 4.

Table 3

Estimates of the model parameters for the Nenets Autonomous Okrug based on data for 2000–2021 using the value of fixed assets (C = FAV) and investments in fixed assets (C = IFC) as capital (C) [3]

Parameter	Estimation	σ	t-value	Pr(>|t|)	F	p-value	R2	AICc
PF (1), C = FAV					98.3	9.5E-11	0.90	-30.9
log(A)	0.00	0.08	-0.04	9.7E-01				
p	0.05	0.07	0.78	4.4E-01				
q	2.26	0.37	6.06	7.9E-06				
PF (1), C = IFC					95.7	1.2E-10	0.90	-30.4
log(A)	-0.03	0.07	-0.35	7.3E-01				
p	-0.03	0.08	-0.37	7.1E-01				
q	2.62	0.33	7.83	2.3E-07				
PF (2), C = FAV					29.9	2.4E-05	0.58	-19.3

[3] Column designations are given in the note to Table 2. The models that have only significant parameters and explain at least 60% of the initial data variation are highlighted in bold.

log(*A*)	0.27	0.05	5.05	6.1E-05				
p	0.29	0.05	5.47	2.4E-05				
PF (2), *C* = IFC					13.0	1.8E-03	0.36	-10.2
log(*A*)	0.16	0.10	1.58	1.3E-01				
p	0.32	0.09	3.61	1.8E-03				
PF: $Y = L^q$					195.3	4.2E-12	0.90	-35.1
q	2.44	0.06	41.06	1.5E-21				
PF: $Y = AC^p$, C = FAV					57.3	2.7E-07	0.73	-9.9
log(*A*)	0.37	0.08	4.92	8.2E-05				
p	0.41	0.05	7.57	2.7E-07				
PF: $Y = C^p$, C = IFC					44.8	1.3E-06	0.68	-2.5
p	0.60	0.03	19.15	8.9E-15				

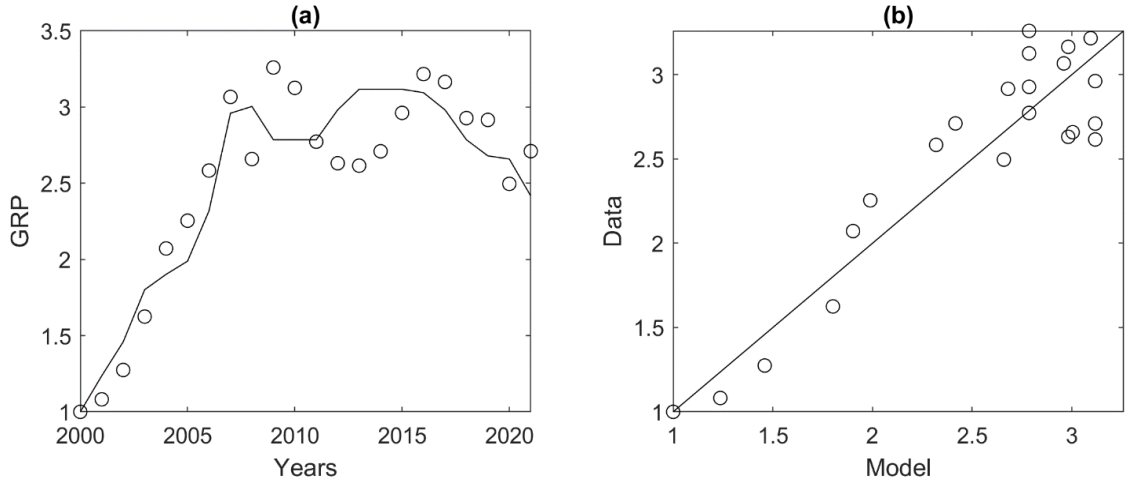

Fig. 4. Correspondence of PF $Y = L^q$ to the initial data of the Nenets Autonomous Okrug for 2000–2021. (a) circles — actual GRP data, black line — model values calculated using formula (1) with q = 2.44 (Table 2). (b) circles — actual GRP data, black line — best-fit line. Adjusted coefficient of determination Ra^2 = 0.9.

Although statistically significant (Table 3), the models in the form of PF (2) with C = FAV and C = IFC for the Nenets Autonomous Okrug) describe only 58% and 36% of the initial data variation ((Ra^2 = 0.58, Ra^2 = 0.36) respectively) and are therefore excluded from the analysis. In order to determine the influence of FAV on GRP, the PF model was estimated: $Y = AC^p$ with C = FAV, which turned out to be statistically significant and explains 73% of the initial data variation (Table 3). This model has elasticity by FAV p = 0.41, therefore, if this factor increases by 1%, the expected increase in GRP is 0.41%. The model $Y = C^p$ with C = IFC was also estimated (Table 3). This model is significant and explains 68% of the initial data variation (in the $Y = AC^p$ model, parameter A turned out to be insignificant); estimate p = 0.60, i.e. an increase in the IFC by 1% will give an increase in GRP by 60%.

Yamalo-Nenets Autonomous Okrug. Estimates of the models for the Yamalo-Nenets Autonomous Okrug (Table 4) show that the PF (1) both for C = FAV and for C = IFC have insignificant parameters A and p, which should be excluded, i.e. log(A) = 0 (A =1), p = 0. The resulting model $Y = L^q$ was also studied and, according to the estimates of its parameters, a 1% increase in the NE is ex-

pected to increase the GRP of the Nenets Autonomous Okrug by 2.65%. This model fits the initial data for the Yamalo-Nenets Autonomous Okrug better than others (it has the minimum AICc value with a significant parameter). The corresponding illustration is given in Fig. 5.

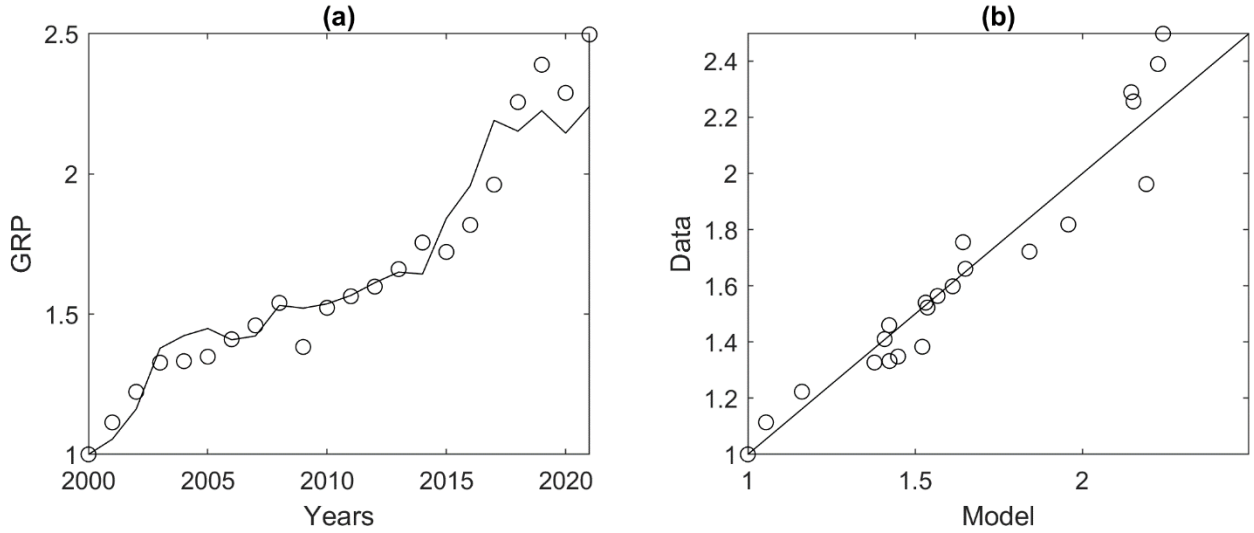

Fig. 5. Correspondence of PF $Y = L^q$ to the initial data of the Nenets Autonomous Okrug for 2000–2021. (a) circles — actual GRP data, black line — model values calculated using formula (1) with q = 2.65 (Table 2). (b) circles — actual GRP data, black line — best-fit line. Adjusted coefficient of determination $Ra^2 = 0.94$.

Table 4

Estimates of the model parameters for the Yamalo-Nenets Autonomous Okrug based on data for 2000–2021 using the value of fixed assets (C = FAV) and investments in fixed assets (C = IFC) as capital (C) [4]

Parameter	**Estimation**	***σ***	***t*-value**	**Pr(>|t|)**	***F***	***p*-value**	***Ra*²**	***AICc***
PF (1), *C* = FAV					169.0	7.9E-13	0.94	-57.9
log(*A*)	-0.07	0.05	-1.52	1.5E-01				
p	0.14	0.09	1.65	1.2E-01				
q	2.26	0.30	7.46	4.6E-07				
PF (1), *C* = IFC					160.0	1.3E-12	0.94	-56.7
log(*A*)	-0.01	0.03	-0.36	7.2E-01				
p	0.10	0.08	1.27	2.2E-01				
q	2.34	0.31	7.51	4.2E-07				
PF (2), *C* = FAV					35.7	7.7E-06	0.62	-37.0
log(*A*)	-0.16	0.08	-2.01	5.8E-02				
p	0.54	0.09	5.97	7.7E-06				
PF (2), *C* = IFC					34.1	1.0E-05	0.61	-36.4
log(*A*)	0.08	0.04	1.97	6.3E-02				
p	0.48	0.08	5.84	1.0E-05				
PF: *Y* = *L*^*q*					312.8	4.3E-14	0.94	-60.0
q	2.65	0.07	40.627	1.9E-21				
PF (2): *A* = 1, *C* = FAV					14.5	1.0E-03	0.57	-35.4

[4] Column designations are given in the note to Table 2. The models that have only significant parameters and explain at least 60% of the initial data variation are highlighted in bold.

p	0.36	0.03	13.978	4.2E-12				
PF (2): A = 1, *C* = IFC					50.8	5.0E-07	0.56	-34.9
p	0.62	0.05	13.81	5.3E-12	14.5	1.0E-03		
PF: $Y = AC^p$, C = FAV					75.6	3.1E-08	0.78	-30.5
log(*A*)	-0.23	0.08	-2.78	1.2E-02				
p	0.70	0.08	8.6975	3.1E-08				
PF: $Y = C^p$, C = IFC					89.0	5.3E-09	0.81	-29.2
p	0.74	0.04	19.80	4.6E-15				

Models in the form of PF (2) with C = FAV and C = IFC for the Yamalo-Nenets Autonomous Okrug, although statistically significant (Table 4), have an insignificant parameter *A* ($Pr(>|t|) > 0.05$), which should be excluded. The PF (2) estimates were made for A = 1 C = SOF and C = IFC, it turned out that they explain less than 60% of the initial data variation (Table 4), so they will not be used in further analysis.

The GRP-FAV and GRP-IFC correlation coefficients for the Yamalo-Nenets Autonomous Okrug are greater than 0.8 (Table 1), which gives us a reason to estimate separately the dependence of GRP on FAV and IFC without taking into account NE, i.e. to put q = 1 in PF (1). Then $Y = AC^p$, where capital C = FAV or C = IFC. The corresponding estimates are given in Table 4 in the last two lines (with C = IFC, parameter A turned out to be insignificant and was excluded). Both models turned out to be significant and describe 78 and 81% of the initial data variation, respectively. The obtained FAV elasticity value (IFC) $p = 0.7$ ($p = 0.74$) shows that with an increase in this factor by 1%, the GRP growth is expected to be 70% (74%). Despite the fact that it was not possible to build a model of GRP production in the Yamalo-Nenets Autonomous Okrug that would include both labor and capital, the value of the IFC-NE correlation coefficient of 0.89 (Table 1) makes it possible to estimate the dependence of NE on FAV and IFC, which is given below.

Republic of Sakha (Yakutia). Estimates of the models for the Sakha Republic (Yakutia) (Table 5) show that PF (1) both for C = FAV and for C = IFC have insignificant parameters A and p, which should be excluded to avoid bias in elasticity estimates, i.e. log(*A*) = 0 (*A* =1), $p = 0$. The resulting model $Y = L^q$ was also studied. According to estimates (Table 5), the model explains 74% of the initial data variation, and if NE grows by 1%, the GRP of Nenets AO is expected to increase by 7.49%.

Table 5

Estimates of the model parameters for the Sakha Republic (Yakutia) based on data for 2000–2021 using the value of fixed assets (C = FAV) and investments in fixed assets (C = IFC) as capital (C) [5]

Parameter	**Estimation**	***σ***	***t*-value**	***Pr*(>|*t*|)**	***F***	***p*-value**	Ra^2	***AICc***
PF (1), *C* = FAV					39.5	1.7E-07	0.79	-37.6
log(*A*)	0.01	0.06	0.21	8.4E-01				
p	0.14	0.09	1.52	1.4E-01				

[5] Column designations are given in the note to Table 2. The models that have only significant parameters and explain at least 60% of the initial data variation are highlighted in bold.

q	6.69	1.40	4.79	1.3E-04				
PF (1), *C* = IFC					58.1	5.8E+01	0.85	-44.6
log(*A*)	-0.03	0.04	-0.77	4.5E-01				
p	0.24	0.08	3.22	4.5E-03				
q	2.91	1.84	1.58	1.3E-01				
PF (2), *C* = FAV					22.2	1.4E-04	0.50	-24.9
log(*A*)	0.26	0.03	9.26	1.1E-08				
p	0.42	0.09	4.71	1.3E-04				
PF (2), *C* = IFC					88.5	8.8E-09	0.81	-45.7
log(*A*)	-0.01	0.04	-0.20	8.4E-01				
p	0.33	0.03	9.41	8.8E-09				
PF: $Y = L^q$					60.0	1.4E-07	0.74	-39.3
q	7.49	0.399	18.80	1.3E-14				
PF: $Y = C^p$, C = IFC					110.6	8.0E-10	0.84	-47.0
p	0.35	0.02	22.59	3.3E-16				
PF: $Y = AC^p$, C = FAV					26.7	4.7E-05	0.55	-22.8
log(*A*)	0.29	0.03	9.22	1.2E-08				
p	0.46	0.09	5.17	4.7E-05				
PF (2), A = 1, C = IFC					89.3	5.2E-09	0.82	-48.1
p	0.32	0.02	20.12	3.3E-15				

PF (2) at C = FAV, although significant, explains only 50% of the initial data variation and is therefore excluded from further analysis. PF (2) with C = IFC has an insignificant parameter A. The estimate of this model with A = 1 shows that the model is statistically significant, explains 82% of the initial data variation and has the lowest Akaike criterion value AICc = -48.1 (Table 5) and, therefore, is the most preferable for the Sakha Republic (Yakutia). Estimates of the parameters of this model show that the contribution to GRP production by IFC is 32% (p = 0.32), and NE — 68% (*q* = 1 — *p* = 0.68). The correspondence of this model to the initial data is shown in Fig. 6.

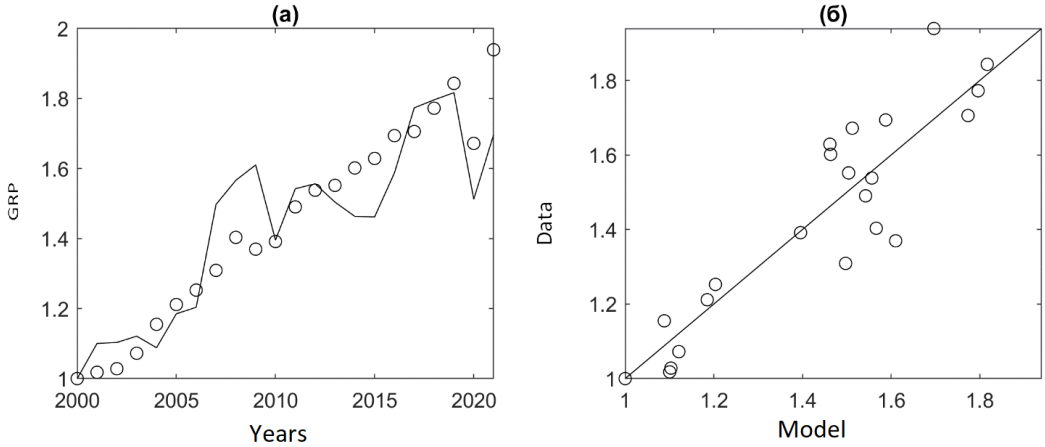

Fig. 6. Correspondence of PF (2) with C = IFC to the initial data of the Republic of Sakha (Yakutia) for 2000–2021. (a) circles — actual GRP data, black line — model values calculated using formula (2) with A = 1 and p = 0.32 (Table 2). (b) circles — actual GRP data, black line — best-fit line. Adjusted coefficient of determination Ra^2 = 0.82.

The influence of capital on the production of GRP of the Republic of Sakha (Yakutia) can be quantitatively characterized using the model $Y = C^p$, with C = FAV or with C = IFC (Table 5). At C =

FAV, it turned out that this model explains only 55% of the initial data and cannot be used for analysis. At C = IFC (the model is significant and explains 84% of the initial data variation), it is expected that an increase in IFC by 1% will be accompanied by an increase in GRP by 35% (p = 0.35).

Let us consider the modeling results for the regions of group 2. For these regions, constructing a model in the form of PF (1) does not make sense, since the elasticity of one of the production factors will be either statistically insignificant or even negative. The latter contradicts economic theory. Constructing a model in the form of PF (2), on the contrary, is justified and allows estimating the contribution of each factor to production. Indeed, PF (2) can be rewritten as $Y/L = A(C/L)^p$. Let GRP-FAV correlation be positive and GRP-NE correlation be negative (e.g., the Arkhangelsk Oblast). Then the correlation of the ratios Y/L (GRP per worker) and C/L (FAV per worker) may be positive. In this case, p characterizes the contribution of FAV to GRP production, and $q = 1-p$ is the contribution of NE to GRP production. The more NE decreases against the background of GRP growth, the higher is the Y/L ratio and the stronger is the contribution of this factor.

Arkhangelsk Oblast. Estimates of PF (2) parameters at C = FAV show (Table 6) that the model is statistically significant (p-value < 0.05) and explains 80% of the initial data variation (Ra^2 = 0.8). The contribution of FAV to GRP production is p = = 98%, and NE is q = 1 — p = 2%. In fact, the GRP of this region does not depend on the existing NE, since in 2000–2021 the NE was constantly decreasing against the background of constant growth of GRP (Fig. 2). Estimates of the PF parameters (2) with C = IFC and A = 1 (the estimate of the parameter A is statistically insignificant) show (Table 6) that the model is statistically significant and explains 66% of the initial data variation. In this two-factor model, the contribution of IFC to the production of GRP is p = = 57%, and NZ is q = 1 — p = 43%.

Table 6

Estimates of the model parameters for the Arkhangelsk Oblast based on data for 2000–2021 using the value of fixed assets (C = FAV) and investments in fixed assets (C = IFC) as capital (C) [6]

Parameter	Estimation	σ	*t*-value	*Pr*(>|*t*|)	*F*	*p*-value	Ra^2	*AICc*
PF (2), *C* = FAV					84.1	1.3E-08	0.80	-20.5
log(*A*)	0.27	0.05	5.75	1.3E-05				
p	0.98	0.11	9.17	1.3E-08				
PF (2), *A* = 1, *C* = IFC					35.8	6.1E-06	0.66	-10.2
p	0.57	0.04	15.98	3.2E-13				
PF: $Y = AC^p$, C = FAV					54.7	3.8E-07	0.72	-20.7
log(*A*)	0.28	0.05	5.62	1.7E-05				
p	0.95	0.128	7.40	3.8E-07				
PF: $Y = C^p$, *C* = IFC					41.8	2.1E-06	0.65	-16.9
p	0.55	0.03	17.57	4.9E-14				

In order to quantitatively characterize the dependence of GRP on FAV and IFC, one-factor models (3) were estimated. According to estimates (Table 6), when SOF changes by 1% of GRP, the

[6] Column designations are given in the note to Table 2. The models that have only significant parameters and explain at least 60% of the initial data variation are highlighted in bold.

expected change in GRP will be p = 0.95%, and the corresponding model ($Y \sim C^p$) is significant and explains 72% of the initial data variation, according to the value of the Akaike criterion AICc, the model is the best for the Arkhangelsk Oblast (Fig. 7). In case of a change in the IFC by 1%, the expected change in GRP will be p = 0.55%, the corresponding model ($Y \sim C^p$) is significant and explains 65% of the initial data variation. It is noteworthy that there is no correlation between FAV and IFC (Table 1) for the Arkhangelsk Oblast. This explains such different values of elasticities (p) for FAV and IFC.

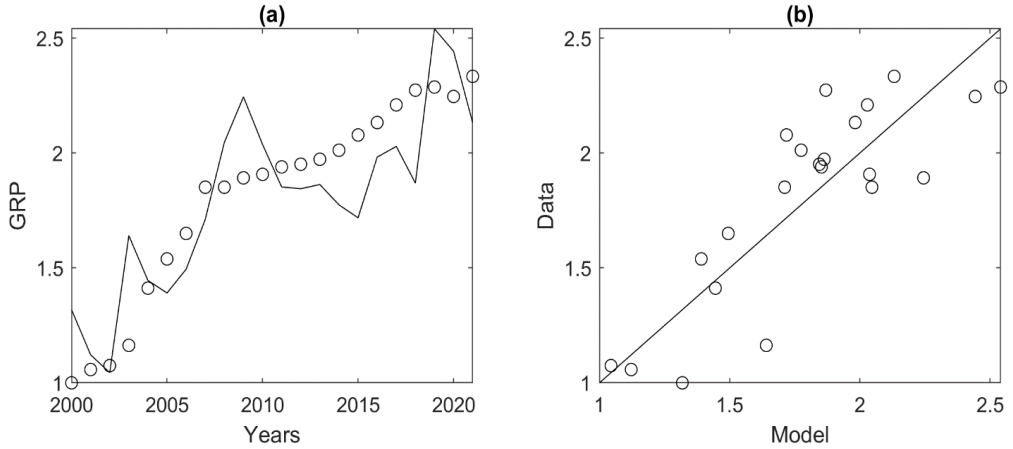

Fig. 7. Correspondence of the $Y \sim C^p$ model with C = FAV to the initial data of the Arkhangelsk Oblast for 2000–2021. (a) circles — actual GRP data, black line — model values calculated using formula (3) with A = 1.32 and p = 0.95 (Table 2). (b) circles — actual GRP data, black line — best-fit line. Adjusted coefficient of determination Ra^2 = 0.72.

Krasnoyarsk Krai. PF (2) at C = FAV describes only 34% of the initial data variation (Table 7) and is therefore excluded from the analysis. The PF (2) assessment with C = IFC showed that the model is significant and describes 91% of the initial data variation. The contribution of IFC to GRP production is p = 33%, the contribution of NE is q = 100 — p = 67%. In this region, GRP growth occurs against the background of almost constant NE: the ratio of the maximum and minimum values for 2000–2021 is 1.06, while GRP has almost doubled during this period, and the growth of IFC has increased 5 times compared to the base year of 2000 (Fig. 2). That is, the growth of the GRP occurs due to the growth of the IFC with an actual labor shortage, therefore the contribution of the labor force to GRP is greater than the contribution of IFC.

Table 7

Estimates of the model parameters for the Krasnoyarsk Krai based on data for 2000–2021 using the value of fixed assets (C = FAV) and investments in fixed assets (C = IFC) as capital (C) [7]

Parameter	**Estimation**	***σ***	***t*-value**	***Pr*(>|*t*|)**	***F***	***p*-value**	Ra^2	***AICc***
PF (2), *C* = FAV					11.6	2.8E-03	0.34	-12.6
log(*A*)	0.35	0.04	8.75	2.8E-08				
p	0.64	0.19	3.40	2.8E-03				
PF (2), *C* = IFC					211.0	4.3E-12	0.91	-56.4
log(*A*)	0.08	0.03	3.14	5.2E-03				
p	0.33	0.02	14.54	4.3E-12				

[7] Column designations are given in the note to Table 2. The models that have only significant parameters and explain at least 60% of the initial data variation are highlighted in bold.

PF: Y = AC^p, C = FAV					9.9	5.1E-03	0.30	-13.1
log(*A*)	0.35	0.04	8.61	3.7E-08				
p	0.62	0.198	3.14	5.1E-03				
PF: $Y = AC^p$, C = IFC					228.0	2.1E-12	0.92	-59.0
log(*A*)	0.09	0.02	3.72	1.4E-03				
p	0.32	0.02	15.10	2.1E-12				

Estimates of single-factor models (3) showed (Table 7) that at C = FAV, the $Y \sim C^p$ model explains only 30% of the initial data variation and, therefore, cannot be used in further analysis. The $Y \sim C^p$ model at *f* = IFC is significant and explains 92% of the initial data variation; with a 1% change in IFC, the expected increase in GRP will be 0.32%. According to the AICc criterion values, this model best fits the original data (Fig. 8).

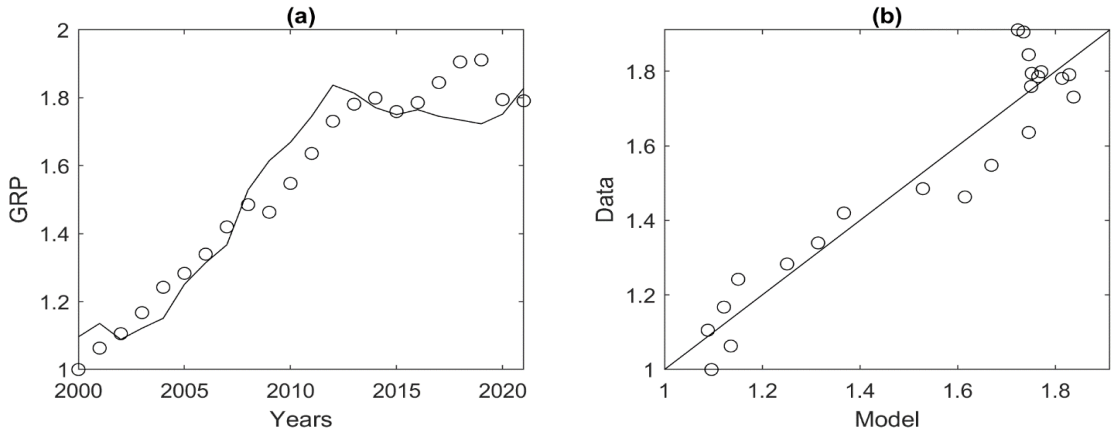

Fig. 8. Correspondence of the $Y \sim C^p$ model with C = IFC to the initial data of the Krasnoyarsk Krai for 2000–2021. (a) circles — actual GRP data, black line — model values calculated using formula (3) with A = 1.1 and p = 0.32 (Table 7). (b) circles — actual GRP data, black line — best-fit line. Adjusted coefficient of determination Ra^2 = 0.92.

Komi Republic. PF (2) at C = FAV for the Komi Republic has Ra^2 = 0.47 (Table 8), that is, the model explains 47% of the initial data variation and is excluded from the analysis. PF (2) at C = IFC is significant and explains 67% of the initial data variation; the contribution of IFC to the production of GRP *p* = 29%, and NE is *q* = 100 — *p* = 71%. At the same time, no significant correlation is observed between GRP and NE (GRP-NE = -0.23, GRP-IFC = 0.87, GRP-FAV = 0.18, Table 1), that is, the assessment of models of the type $Y = L^q$ and $Y = C^p$ at C = FAV is meaningless. The evaluation of the $Y = C^p$ model at C = IFC shows (Table 8) that the model is significant and explains 82% of the initial data variation; if IFC increases by 1%, the expected increase in GRP will be 0.22%. This model has the minimum AICc criterion value and is the most preferable for the Komi Republic; the correspondence of this model to the initial data is shown in Fig. 9.

Table 8

Estimates of the model parameters for the Komi Republic based on data for 2000–2021 using the value of fixed assets (C = FAV) and investments in fixed assets (C = IFC) as capital (C) [8]

Parameter	**Estimation**	***σ***	***t*-value**	***Pr*(>|*t*|)**	***F***	***p*-value**	**Ra^2**	***AICc***

[8] Column designations are given in the note to Table 2. The models that have only significant parameters and explain at least 60% of the initial data variation are highlighted in bold.

PF (2), *C* = FAV					19.3	2.8E-04	0.47	-33.4
log(*A*)	0.15	0.03	5.31	3.3E-05				
p	0.30	0.07	4.39	2.8E-04				
PF (2), *C* = IFC					44.0	1.9E-06	0.67	-44.2
log(*A*)	0.08	0.03	2.67	1.5E-02				
p	0.29	0.04	6.63	1.9E-06				
PF: *Y* = *AC*^p, *C* = IFC					97.6	3.9E-09	0.82	-74.7
log(*A*)	0.09	0.01	6.34	3.5E-06				
p	0.22	0.02	9.88	3.9E-09				

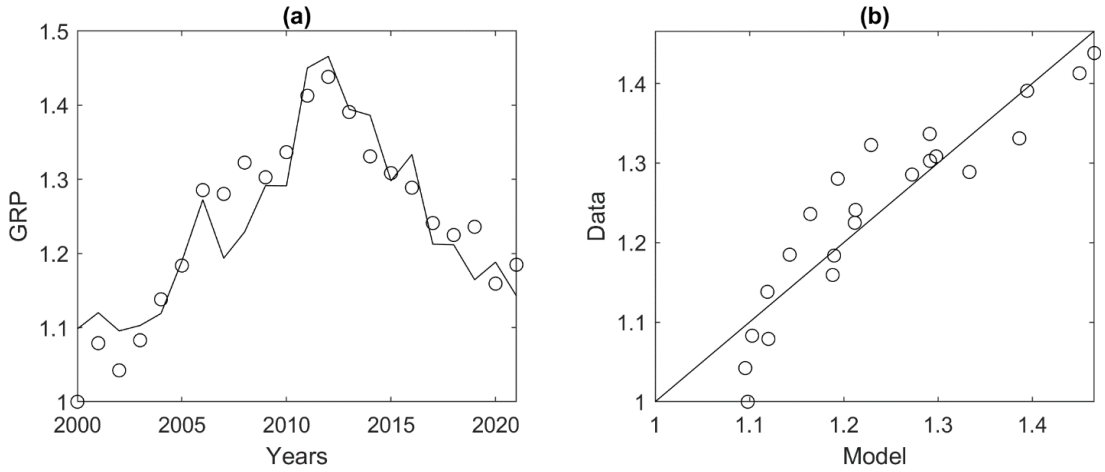

Fig. 9. Correspondence of the $Y \sim C^p$ model with C = IFC to the initial data of the Komi Republic for 2000–2021. (a) circles — actual GRP data, black line — model values calculated using formula (3) with A = 1.09 and p = 0.22 (Table 8). (b) circles — actual GRP data, black line — best-fit line. Adjusted coefficient of determination Ra^2 = 0.82.

For a number of regions (Yamalo-Nenets Autonomous Okrug, Sakha Republic, Yakutia) there is a significant correlation between IFC and NE. This allows estimating a model of the type $L \sim C^p$ with C = IFC and assessing the impact of the IFC on NE for these regions. The calculations show (Table 9) that for both regions the models are statistically significant and explain at least 72% of the initial data variation. For the Yamalo-Nenets Autonomous Okrug, the expected growth in NE is 0.28% with an increase in the IFC by 1%. For the Sakha Republic (Yakutia), the expected growth of the NE is 0.04% with an increase in the IFC by 1%.

Table 9

Estimates of the $L \sim C^p$ model parameters for a number of regions of the Arctic Zone of the Russian Federation based on data for 2000–2021 using investments in fixed assets as capital (C = IFC) [9]

Parameter	**Estimation**	***σ***	***t*-value**	***Pr*(>|*t*|)**	***F***	***p*-value**	***Ra*²**
Yamalo-Nenets AO, PF: *L* = *C*^{p}, *C* = IFC					85.8	7.3E-09	0.72
p	0.28	0.01	19.41	6.8E-15			
Sakha Republic (Yakutia), PF: *L* = *AC*^{p}, *C* = IFC					85.3	8.5E+01	0.80
log(*A*)	0.01	0.004	2.40	2.6E-02			
p	0.04	0.004	9.23	1.2E-08			

[9] Column designations are given in the note to Table 2, except for the column with the Akaike criterion value (AICc). The models that have only significant parameters and explain at least 60% of the initial data variation are highlighted in bold.

Conclusion

Clarification of the dynamics of GRP, investments in fixed assets, the value of fixed assets, and the number of employed in the regions of the Arctic Zone of the Russian Federation for 2000–2021 showed that there are significant differences in the production of GRP of these entities. The analysis of correlations between GRP and production factors (GRP and investments in fixed assets, GRP and the value of fixed assets, GRP and the number of employed) confirmed the initial hypothesis about the imbalance in the interaction of the main production factors in a number of regions of the Arctic Zone of the Russian Federation.

Based on the analysis of correlations, the regions of the Arctic Zone of the Russian Federation were divided into three groups: 1) regions in which the mutual behavior of the main production factors (labor and capital) fits into generally accepted concepts (the Russian Federation as a whole, the Nenets Autonomous Okrug, the Yamalo-Nenets Autonomous Okrug, the Sakha Republic (Yakutia)); 2) regions in which the mutual behavior of the main production factors does not fit into classical concepts: there is a sufficiently strong positive relationship (the square of the correlation coefficient is not less than 0.6) with only one of the production factors (Arkhangelsk Oblast, Krasnoyarsk Krai, the Komi Republic); 3) regions for which there is no sufficiently strong positive relationship (the square of the correlation coefficient is less than 0.6) between GRP and production factors (Murmansk Oblast, the Republic of Karelia, Chukotka Autonomous Okrug), which is only partially consistent with the previous results of modelling production processes in the regions of the Russian North and the Arctic, indicating their transformation [16, pp. 38–39].

For each region of group 1, at least 4 models were constructed in the form of PF (exponential PF and Cobb-Douglas PF were used). The best model was selected using the Akaike information criterion, adjusted for small samples. For each region of group 2, Cobb-Douglas PF models and single-factor models were estimated, which included a factor that had a positive relationship with GRP. The construction of PF models for the regions of group 3 is impossible.

References

1. Baranov S.V., Skufina T.P. *Simulation of Regional Systems*. Apatity, KSC RAS Publ., 2014, 101 p. (In Russ.)
2. Baranov S., Skufina T. The Analysis of Interregional Differentiation and Constructing Ratings of Development of Russian Regions. *Voprosy Ekonomiki*, 2005, no. 8, pp. 54–75. DOI: https://doi.org/10.32609/0042-8736-2005-8-54-75
3. Skufina T., Baranov S. Socioeconomic Forecasting: Scientific and Teaching Problems. *Voprosy Ekonomiki*, 2005, no. 3, pp. 41–47. DOI: https://doi.org/10.32609/0042-8736-2005-3-41-47
4. Novoseltsev V.N. Mathematical Modeling in Biology: Systems Capable to Live and Die. *Automation and Remote Control*, 2006, no. 6, pp. 3–26.
5. Novoseltsev V.N. Gerontology in Silico - Health, Longevity and Nutrition Issues. *Kazan Medical Journal,* 2011, no. 5, pp. 752–763.
6. Suspitsyn S.A. Barometers of General Regional Provisions. *Studies on Russian Economic Development*, 2005, no. 2, pp. 97–111.

7. Evstigneev V. Russian Economic Thought Learns to Speak the Language of Science (On the "Economic-Mathematical Dictionary" by L. Lopatnikov). *Voprosy Ekonomiki*, 2004, no. 2, pp. 155–157. DOI: https://doi.org/10.32609/0042-8736-2004-2-155-157
8. Novoseltsev V.N., Novoseltseva Zh.A. Mathematical Modeling — Advantages and Disadvantages. In: *Proceedings of the XVI International Conference "Mathematics. Computer. Education"*. 2009, 2 p. (In Russ.)
9. Baranov S.V., Skufina T.P. Statistical Analysis of the Differentiation of the Regions of the North Zone in the All-Russian Context. *Voprosy Statistiki*, 2005, no. 11, pp. 35–45.
10. Baranov S.V. Statistical Evaluation of the Asymmetry of Economic Development of the North and Nonpolar Regions of Russia. *Voprosy Statistiki*, 2010, no. 4, pp. 44–48.
11. Skufina T.P., Baranov S.V. Mathematical and Statistical Modeling of the GRP Production Dynamics in the Regions of the North and the Arctic: In Search of a Better Model. *Voprosy Statistiki*, 2017, no. 7, pp. 52–64.
12. Skufina T.P., Baranov S.V., Korchak E.A. Impact Assessment of Investment Dynamics on the Growth of the Gross Regional Product in the Regions of the North and the Arctic Zone of the Russian Federation. *Voprosy Statistiki*, 2018, no. 6, pp. 25–35
13. Ivanter V.V., ed. *Applied Forecasting of the National Economy*. Moscow, Ekonomist Publ., 2007, 893 p. (In Russ.)
14. Anchishkin A.I. *Forecasting the Growth of Socialist Economy*. Moscow, Ekonomika Publ., 1973, 294 p. (In Russ.)
15. Sugiura N. Further Analyst of the Data by Akaike's Information Criterion and the Finite Corrections. *Communications in Statistics — Theory and Methods*, 1978, no. 7, pp. 13–26. DOI: http://dx.doi.org/10.1080/03610927808827599
16. Baranov S.V., Biev A.A., Emelyanova E.E., Serova N.A., Serova V.A., Skufina T.P., Shatalova T.A. *Regions of the North and the Arctic of the Russian Federation: Current Trends and Development Prospects*. Apatity, KSC RAS Publ., 2017, 171 p. (In Russ.)

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State Financial Support for NPOs as a Driver of Sustainable Development of the Arctic Regions of Russia

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Abstract. Interest in the Arctic zone has increased significantly in recent years. Russia, due to its geography and history, is an active, interested and direct subject involved in all the socio-economic processes taking place here. However, despite the significant efforts of the state, there are still certain difficulties in solving a number of social problems, which may hinder the development of the Arctic regions. In many respects, the successful solution of such problems depends on the cooperation of state institutions and the non-profit sector. The purpose of the study is to assess the impact of state financial support for socially oriented non-profit organizations (NPOs) on the sustainable development of the Russian Arctic. The main objective of the study is to analyze the impact of financial support for SONPOs in the Arctic zone of the Russian Federation on the sustainable development of the Arctic regions. The researchers put forward a hypothesis that financial support for the non-profit sector is an important driver of sustainable development of the Arctic regions of Russia. The main results of the study are the analysis of state financial support for NPOs in the Arctic region, as well as the author's classification of the goals of NPOs and the UN Sustainable Development Goals. The study presents the results of the all-Russian survey on the activities of SONPOs.
Keywords: *non-profit organizations, financial support, sustainable development, regional policy, the Arctic*

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Introduction

The Arctic is a unique region spanning the boundaries of Eurasia and North America. Its significant role in shaping the global climate and its rich natural resources make this region attractive, although this is only part of its economic potential. The importance of the Arctic for the Rus-

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sian Federation is confirmed by the adoption of two strategic documents on the development of the Russian Arctic in 2020 (Decree of the President of the Russian Federation of 26.10.2020 No. 645 “On the Strategy for Developing the Russian Arctic Zone and Ensuring National Security until 2035” and Decree of the President of the Russian Federation of 05.03.2020 No. 164 “On the Fundamentals of the State Policy of the Russian Federation in the Arctic for the Period until 2035”), which made it possible to determine the priorities for the consistent implementation of certain areas of state policy aimed at addressing the economic and social indicators recorded in the program documents. “The main emphasis in their implementation is placed on government structures and business, but the solution of part of the strategic long-term tasks (or subtasks) could be taken on by the third sector — non-profit organizations” [1, Volkov O.V., pp. 84-91]. At the same time, the Arctic regions traditionally face many problems: harsh climatic conditions, underdeveloped infrastructure, lack of qualified personnel, etc. The non-profit sector, which has always been a reliable partner of the state in the implementation of socially significant initiatives and projects, could play a significant role in solving some of them.

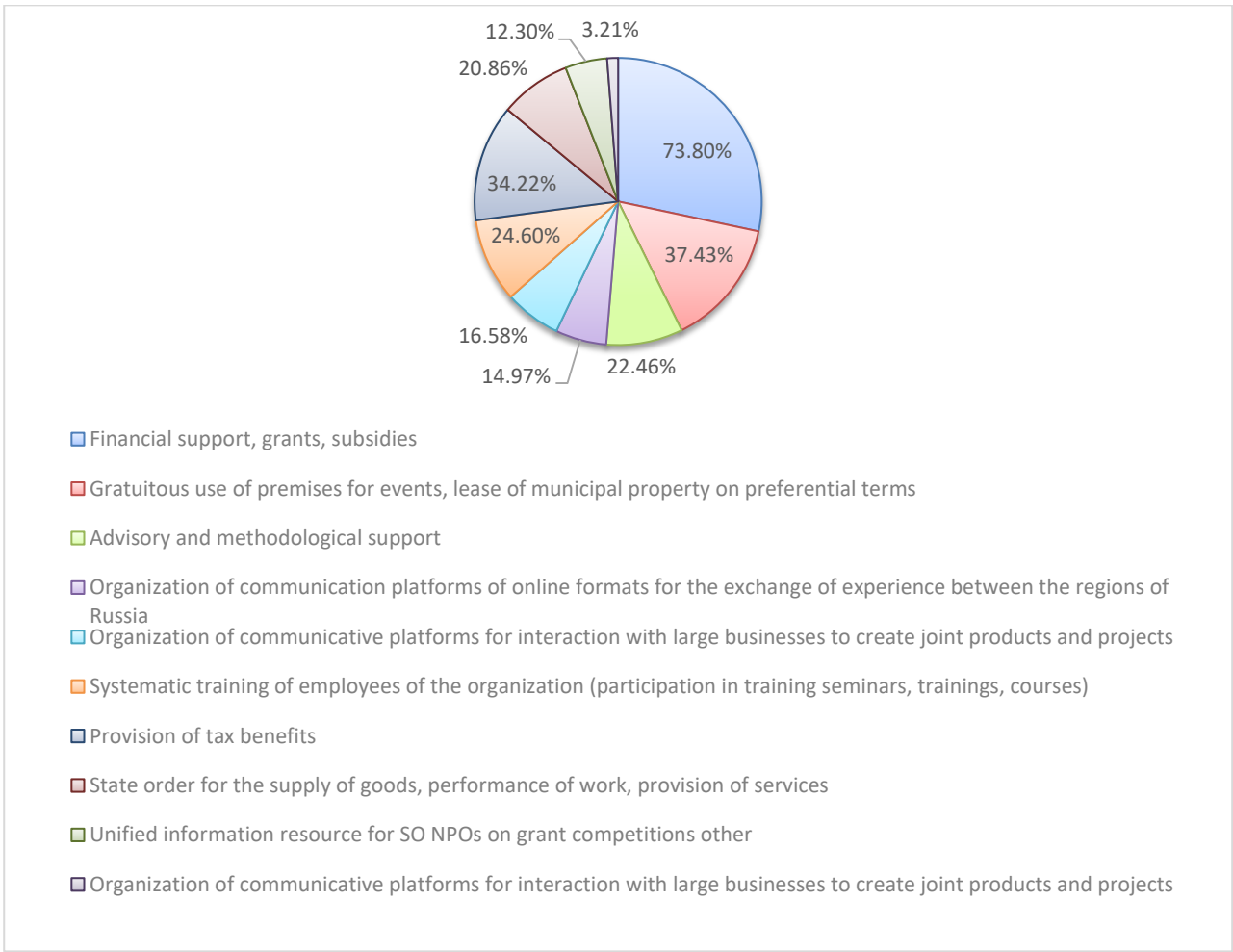


Fig. 1. Dynamics of the number of SONPOs [1].

However, the activities of non-profit organizations are largely determined by the position of the state, supported and stimulated by it. As shown by the results of the all-Russian survey con-

[1] Compiled by the authors on the basis of the results of the sociological survey conducted.

ducted in November–December 2023 by a team of authors from the State University of Management, the most popular support measures from non-profit organizations are: financial, property, information, advisory and methodological (Fig. 1) [2, Polyakov M.B.].

In this regard, the purpose of the study is to assess the impact of financial support for socially oriented non-profit organizations (hereinafter referred to as SONPO) from the state on the sustainable development of the Arctic. The main objective of the study is to directly analyze the impact of financial support for SONPO in the Arctic zone of the Russian Federation on the sustainable development of the Arctic regions.

The researchers put forward a hypothesis that financial support for the non-profit sector is an important driver of sustainable development in the Arctic regions of Russia. The object of the study is the non-profit sector of the regions of the Arctic zone of the Russian Federation.

The degree of development of the scientific problem under consideration is determined by the fact that more and more works by Russian and foreign authors are devoted to the study of non-profit organizations, the specifics of their activities, the role and directions in the development of the third sector of the economy. Among domestic researchers, the following authors can be distinguished: Volkova G.G., Dvoryadkina E.B., Krasnopolskaya I.I., Kulkova V.Yu., Polyakov M.B., Salyakhova E.M., Taradanov A.A., Chernyshov A.N. and others. The problems of sustainable development of the Arctic were studied by such Russian authors as Pilyasov A.N. and Kotov A.V., who devoted their research to forecasting the development of the Arctic territories of Russia at the zonal, regional and municipal levels on the basis of the concept of technical and economic dynamics [3, pp. 369–394], Zamyatina N.Yu. and Pilyasov A.N., who developed a system of basic projects aimed at solving the main modern problems of socio-economic development of the Arctic at the "grassroots level" — problems of life support of remote settlements, energy and food security, everyday life of people in the Arctic [4], Pitukhina M.A. and Belykh A.D., who conducted a comprehensive analysis of 18 Arctic single-industry towns and villages of Russia [5, pp. 189–200], Kazanin A.G., who noted in his work that the main factor of sustainable development of the Arctic is human capital and the efficiency of its use [6, pp. 44–57], Zvorykina Yu.V., pointing out that it is necessary to focus specifically on environmental projects and measures to preserve the climate of this region [7, pp. 133–146], as well as a team of authors consisting of Romasheva N.V., Babenko M.A. and Nikolaychuk L.A., who conducted a study on the sustainable development of the Arctic as a factor in the introduction of innovations into the production process, reducing the risks of ecosystem disruption [8, pp. 78–87].

A significant number of scientific studies abroad are devoted to the NPO activities as a subject of sustainable development of individual territories. Among the most significant, the authors identified the following. Harinder Rai Singh and Sarina Abdul Rahman studied the approaches of non-governmental organizations (NGOs) to environmental education in the field of biodiversity conservation [9, pp. 144–152]. Hwangbo Park, Hanbyul Lee, and Hye Seung Cho studied the experience of NPO implementation of educational projects and their participation in the development

of education [10, pp. 31–41]. In their article, Yi Lu, Yuhan Wang, and Liu Yue Zhang emphasize the contribution of NPOs to providing assistance after natural disasters in China [11, p. 89]. Eun Sung Park and D.K. Yoon examined the role of NPOs in the fight against natural disasters and in public administration in South Korea and Japan [12, p. 69]. Julia Morgan conducted a study on the impact of NPO services on youth in sub-Saharan Africa [13, pp. 175–182]. Kazuhiro Harada, Muhammad Habib, Yumi Sakata, and Ahmad Maryudi noted in their studies the specifics of sustainable maintenance of traditional forests in indigenous communities in Indonesia [14, p. 72]. Chen Jia-nan assessed the contribution of environmental NPOs to environmental education in the People's Republic of China [15, pp. 901–906]. Ghassan Elkahlout, Sansom Milton, Taha Yaseen, and Elham Raweh conducted a study on the high impact of NPOs in providing humanitarian aid to residents of Yemen during periods of armed conflict [16, p. 75]. French scholars Benita Pursch, Alexandra Tate, Helena Legido-Quigley, and Natasha Howard conducted a qualitative study of NGO support for migrants affected by structural violence in northern France [17, p. 248]. Divya Gupta, Sharachchandra Lele, and Gitanjoy Sahu emphasized the significant contribution of non-profit organizations to decentralized forest management in India [18, p. 111]. K. Foo studied the role of non-governmental organizations in urban environmental management [19, pp. 67–72]. Daniel Jordan Smith conducted a study of the impact of non-profit organizations on the fight against corruption and AIDS in Nigeria [20, pp. 475–480]. Gerhardt Kornatowski analyzed the impact of NPOs in Hong Kong on ensuring the well-being of the homeless [21, pp. 155–164].

The scientific novelty of the research includes the author's classification of the compliance of the sustainable development goals established by the United Nations, as well as the provisions of Russian legislation on the types of activities of socially oriented non-profit organizations and grant areas of competitions of federal and regional state funds aimed at financial support of the activities of SONPOs.

Materials and methods

The research is interdisciplinary in nature, including general scientific methods (data analysis and systematization of information, methods of statistical analysis), as well as quantitative methods of processing expert data and the results of sociological surveys (questionnaires). The information basis of the study is data from the Ministry of Justice of Russia, the Ministry of Economic Development, Rosstat, regional executive authorities and statistical indicators of funds providing financial support to the non-profit sector within the framework of competitive programs in the Arctic regions. In addition, for the purposes of the study, within the framework of a scientific grant for young scientists to carry out research work "State policy in the field of support and development of socially oriented non-profit organizations", sociological surveys were conducted on the issues of the activities of the non-profit sector and its state support (an all-Russian survey of 1,600 respondents, as well as a survey of 187 respondents — managers and employees of socially oriented non-profit organizations) [2, Polyakov M.B.]. The results of the conducted study can

serve as a basis for the formation of a methodological framework for supporting the implementation of state policy in the field of support and development of the non-profit sector to achieve the goals of sustainable development of the Arctic territories of the Russian Federation.

Research results and discussion

In order to assess the impact of the non-profit sector on the socio-economic development of individual territories, it is necessary to consider the general static indicators of a given region.

The dynamics of the number of the non-profit sector in Russia, as well as the number of socially oriented non-profit organizations in the Arctic regions, presented in Fig. 2, allows identifying the heterogeneity in the development of the third sector in different regions of the Arctic zone of Russia. The Krasnoyarsk Krai, the Chukotka Autonomous Okrug and the Yamalo-Nenets Autonomous Okrug are the most active in terms of the number of registrations of new SONPOs in the Arctic. In the period from 2015 to 2022, these regions demonstrated positive dynamics, increasing the number of non-profit organizations by 29%, 329% and 184%, respectively. Negative growth rates of the number of SONPOs in the specified period were recorded in the Arkhangelsk Oblast (-15.8%), the Murmansk Oblast (-33%), the Republic of Karelia (-16%) and the Komi Republic (-20%).

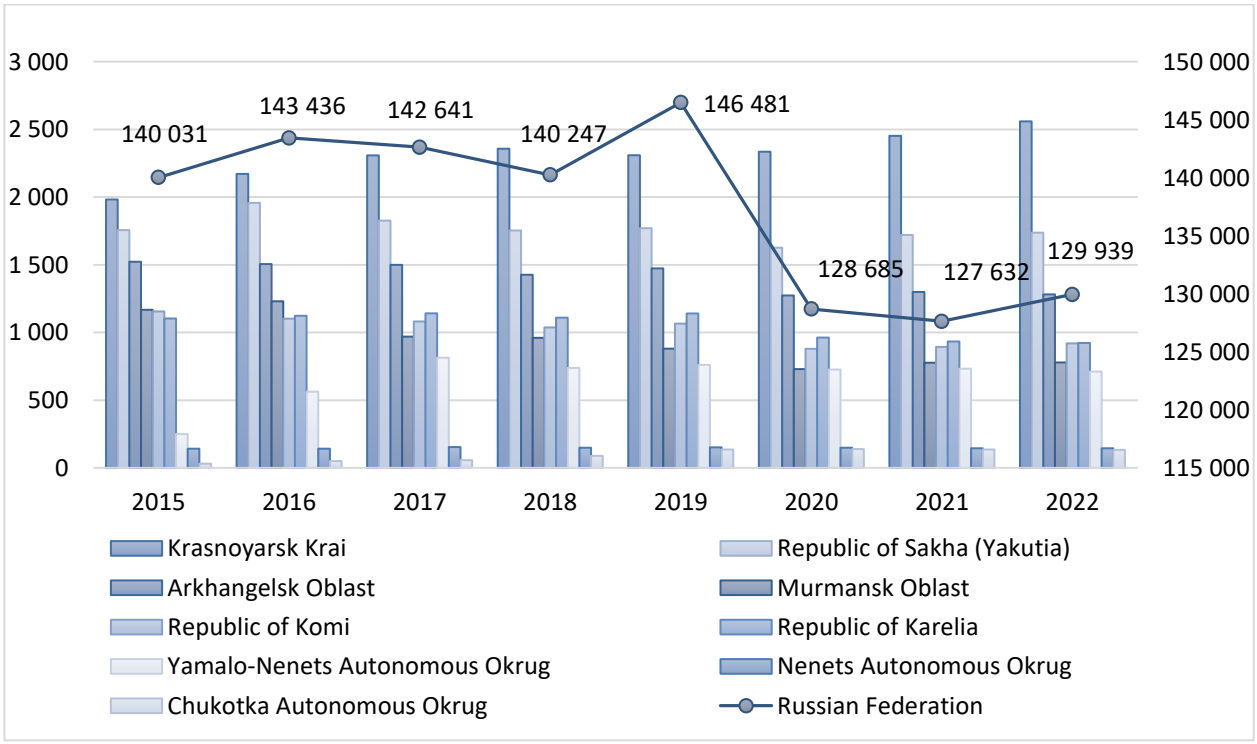


Fig. 2. Dynamics of the number of SONPOs [2].

It should be especially emphasized that the dynamics of changes in the number of SONPOs in individual regions can only serve as an indirect indicator of the development of the non-profit sector in a particular territory, since the Ministry of Justice of Russia and Rosstat record only the fact of state registration of a legal entity, and not the real socially significant activities of NPOs.

[2] Compiled by the authors on the basis of Rosstat data: Total number of socially oriented non-profit organizations by constituent entities of the Russian Federation in 2012–2022 URL: https://clck.ru/38sV68 (accessed 12 February 2024).

One of the more indicative criteria for the activity of non-profit organizations is their participation in grant competitions held by federal and regional funds to support SONPOs. Fig. 3 presents an analysis of the most popular thematic areas of grant competitions of the Presidential Grants Fund according to applications submitted in 2023 from NPOs-residents of the Arctic regions. The presented data allow drawing conclusions about the areas in which the majority of non-profit organizations apply for grant competitions in each individual territory.

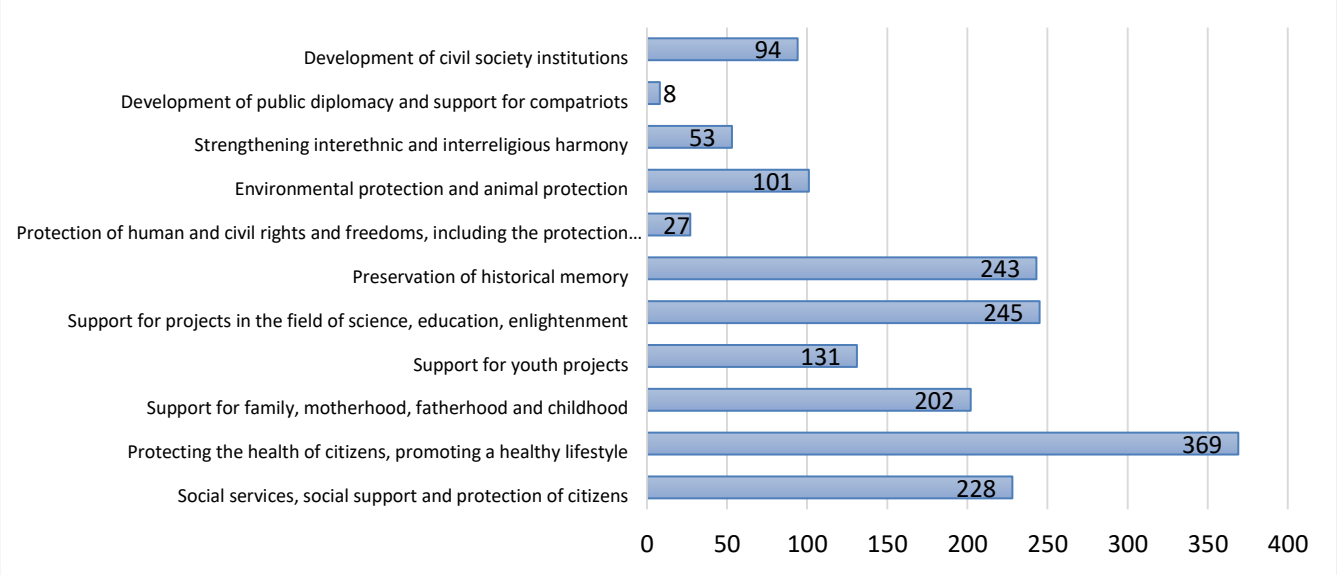


Fig. 3. Number of applications submitted for financial support for SONPOs, 2023 [3].

The statistical data in Fig. 3 show the most popular areas of social initiatives of NPOs, primarily the protection of public health and the promotion of a healthy lifestyle (a total of 369 projects or 21.7% of the total number of applications). Projects in the field of science, education and enlightenment (245 projects or 14.4%) and the preservation of historical memory (243 projects or 14.3%) are the second and third most popular areas for financial support for NPOs. These three categories account for 50.4% of the total number of applications for grant competitions.

The analysis of the number of applications submitted by individual regions can be considered as reference information for making management decisions on supporting SONPOs in individual territories, and not as analytical information aimed at comparing the activity of the non-profit sector in different subjects of Russia. This conclusion is based on the thesis about the heterogeneity of the socio-economic development of the Arctic regions. For example, the Chukotka Autonomous Okrug and the Nenets Autonomous Okrug are the least active in terms of the number of applications submitted by NPOs compared to other subjects of Russia, which is explained by the small number of NPOs operating in these territories. In addition, it should be noted that, for example, the indicators of Krasnoyarsk Krai, one of the largest Russian regions, do not reflect the picture of the activity of the non-profit sector, since the region is only partially included in the Arctic

[3] Compiled by the authors on the basis of the analysis of applications of the Presidential Grants Fund competition: Official Internet portal of the Presidential Grants Fund competition for socially oriented non-profit organizations. URL: https://президентскиегранты.рф/ (accessed 12 February 2024).

zone due to its length. If we visually divide this region into the northern (Arctic) and southern parts, we can see disproportions: the southern part is the most densely populated, so most SONPOs are based there, which makes it difficult to determine the range of activities in the northern part.

However, despite some difficulties in statistical accounting, we can conclude that the non-profit sector of the regions included in the Arctic zone takes a fairly active part in the state support programs being implemented. Given certain state priorities in the development of the Arctic, it can be assumed that interest in social projects will increase in the future. This factor should be taken into account when determining quotas for the allocated amounts of funds to support SONPOs, not only on the basis of the quality of applications for funding of socially significant initiatives, but also to control financial quotas for those areas that are most in demand in a particular territory. In addition, it is necessary to introduce zonal assignment of the territory for the implementation of socially significant SONPO initiatives for a more substantive analysis of the financial support of individual NPOs. Such an innovation will make it possible to analyze the real volumes of financial support for SONPO projects implemented in the Arctic.

It is worth noting that the state annually increases the pace and amount of funds allocated to support SONPOs. This is proven by reports from federal and regional government bodies, as well as the volumes of funding allocated by state funds. To analyze the financial support for the non-profit sector in the Arctic regions, we used data from state funds that provide grants on the basis of competitive programs [2, Polyakov M.B.]. At the federal level (Fig. 4), we reviewed the data on financial support for NPOs from the following organizations: the Presidential Grants Fund, the Presidential Fund for Cultural Initiatives, and the Russian Culture Fund.

Analyzing the data obtained, we can conclude that the amount of funds allocated to support SONPOs is growing, the positive difference between the initial and final years of the study period (2017–2023) was 166%. However, it should be noted that the growth of these indicators is estimated only in nominal amounts and does not take into account inflation indicators in the reporting period, as well as significant changes in individual price indicators for a number of goods and services necessary for the implementation of socially significant NPO projects, which occurred during the Covid-19 pandemic (2020–2021) and the international sanctions regime (2022–2023). In addition, it should be mentioned that the nominal indicators of grant funds allocated to support the non-profit sector of the Arctic region also do not currently take into account the difference in the levels of development and availability of infrastructure in individual territories, the heterogeneity of supply chains and special tax regimes.

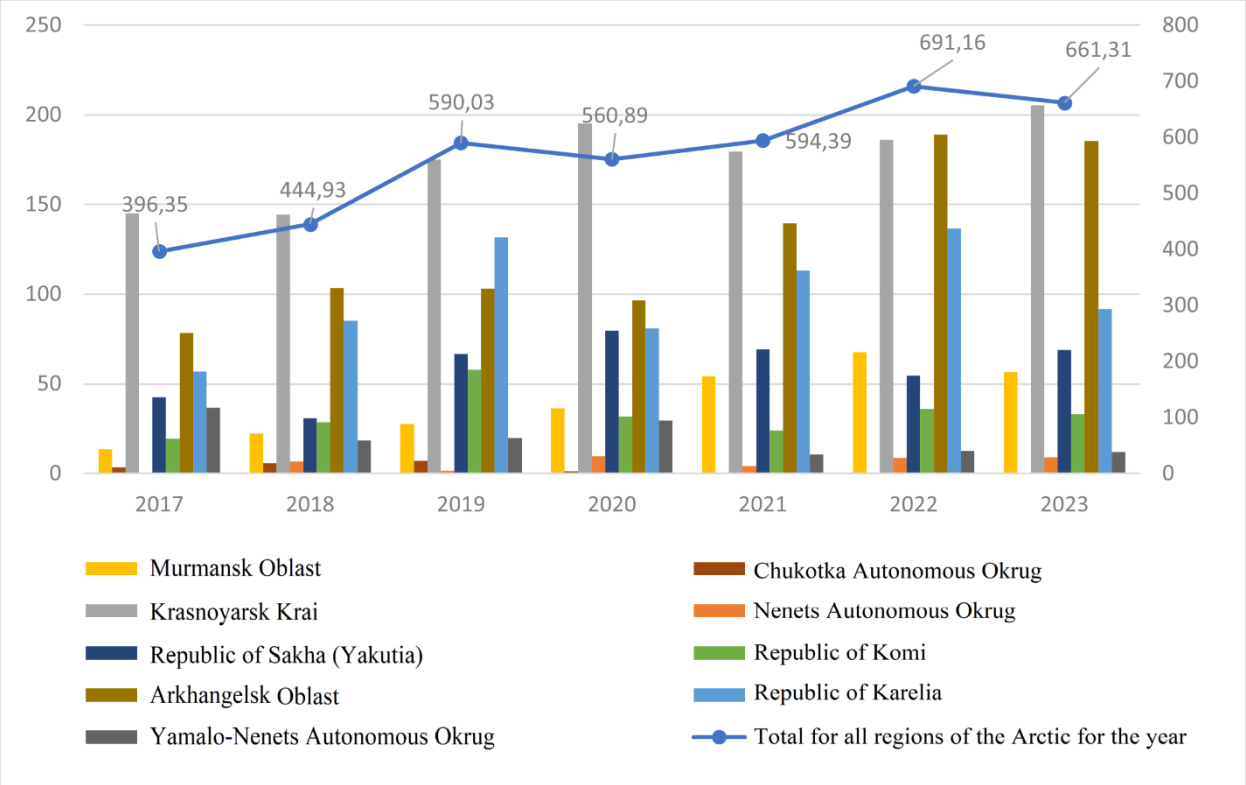


Fig. 4. Amount of funds allocated to SONPOs within the framework of federal competitive programs in the period 2017–2023, million rubles [4, 5, 6].

Having considered the dynamics of the allocated funding within the framework of federal competitive programs, the authors analyzed regional programs to support the non-profit sector (Fig. 5). Regional competitive programs and the amount of funding allocated to them can also serve as an indicator of the interest of regional authorities in the development of the non-profit sector and the level of possibility of such support (if funds are available in the regional or local budgets).

[4] Compiled by the authors on the basis of the analysis of applications of the winners of the competitions: “Presidential Grants Fund”: Official Internet portal of the competition of the Presidential Grants Fund for socially oriented non-profit organizations. URL: https://президентскиегранты.рф/ (accessed 12 February 2024).

[5] Compiled by the authors on the basis of the analysis of the applications of the winners of the competitions: “Presidential Fund for Cultural Initiatives”: Official Internet portal of the competition of the Presidential Fund for Cultural Initiatives for socially oriented non-profit organizations. URL: https://фондкультурныхинициатив.рф/ (accessed 12 February 2024).

[6] Compiled by the authors on the basis of the analysis of the applications of the winners of the competitions: “Russian Culture Fund”: The Official Internet Portal of the Russian Culture Fund competition for socially oriented non-profit organizations. URL: https://konkurs.rcfoundation.ru/ (accessed 12 February 2024).

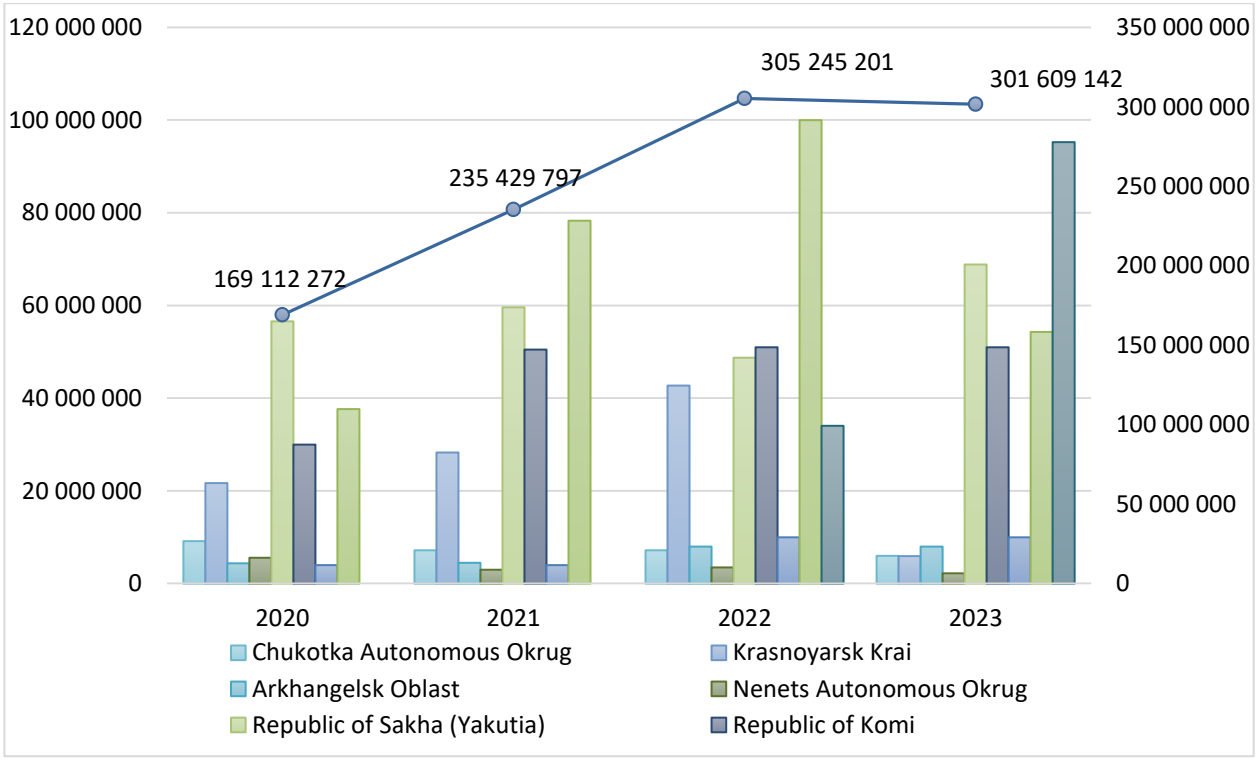


Fig. 5. Amount of funds allocated for the needs of SONPOs within the framework of regional competitive programs in the period 2020–2023, rubles [7]

The data presented in Fig. 5 allow drawing the following conclusions. The Republic of Karelia turned out to be the leader in terms of financial support, having allocated a total of 280 million rubles with a budget of 75 billion rubles. It is followed by the Republic of Sakha (Yakutia) and the Komi Republic (233.8 and 182.5 million rubles, respectively). These indicators demonstrate the high interest of regional governments in supporting SONPOs with financial resources. The most dynamically developing region in this direction is the Yamalo-Nenets Autonomous Okrug, which has significantly changed its support indicators over the past two years, providing SONPOs with a total of 129 million rubles (it should be noted that the support amount in 2023 was almost 4 times higher than in 2022). The lowest indicators of financial support for the non-profit sector were demonstrated by the Arkhangelsk Oblast with a budget of 150 billion rubles, and the Krasnoyarsk Krai (budget of 344 billion rubles). The Nenets Autonomous Okrug demonstrates a clear downward trend in the amount of funds provided to finance socially significant projects, despite the stable number of active SONPOs in the region. Such dynamics can be explained, among other things, by a decrease in the number of applications submitted for grant competitions from NPOs themselves.

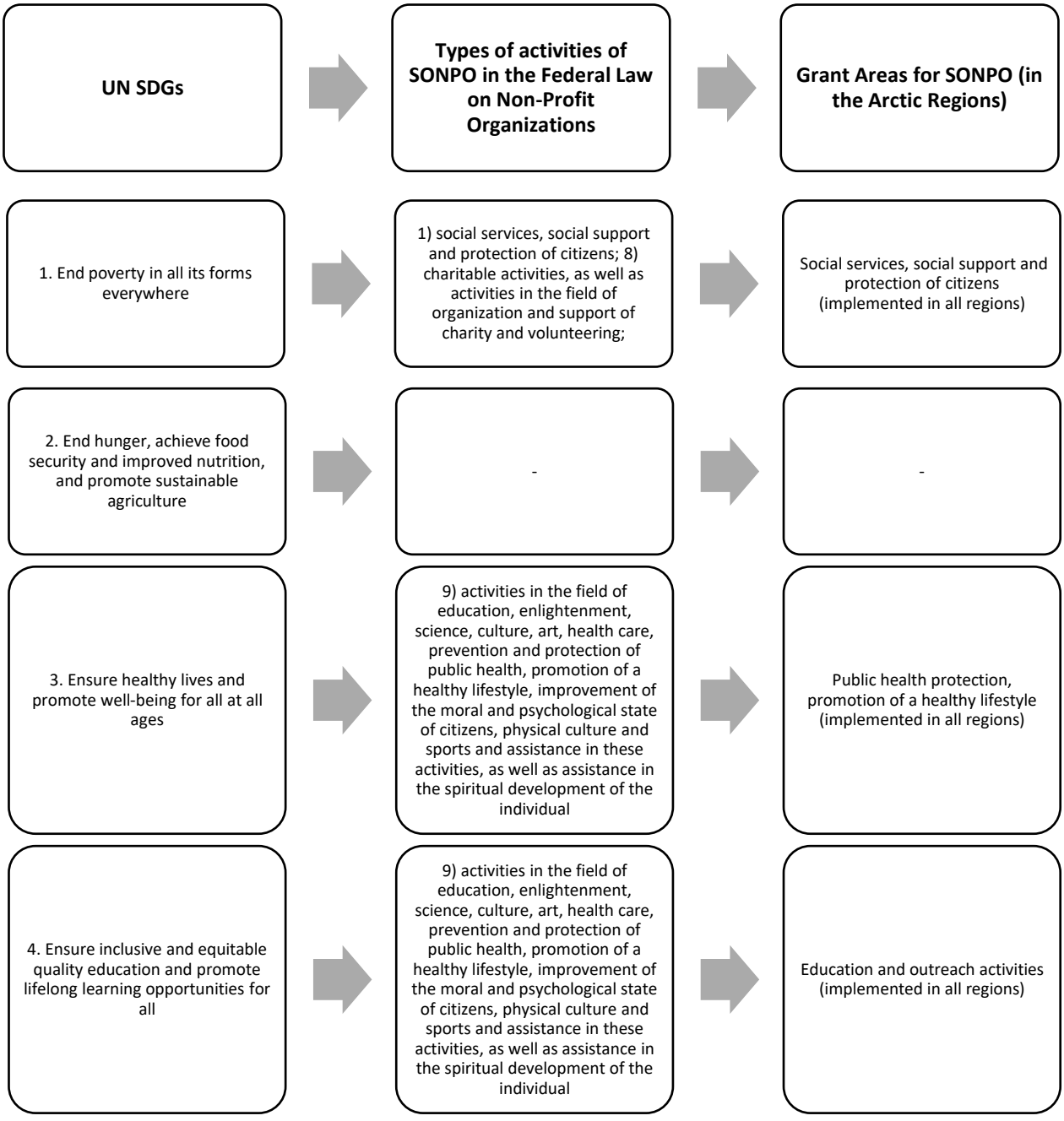
Analyzing the data presented, it should be noted that financial support for the non-profit sector is present at both the federal and regional levels in all regions of the Arctic. However, despite the positive dynamics of financing the activities of socially significant NPO initiatives, regional

[7] Compiled by the authors on the basis of regional competition programs of the Arkhangelsk Oblast, Krasnoyarsk Krai, Murmansk Oblast, Nenets Autonomous Okrug, Republic of Karelia, Komi Republic, Republic of Sakha (Yakutia), Chukotka Autonomous Okrug, Yamal-Nenets Autonomous Okrug.

authorities should pay special attention to providing information and consulting support to non-profit organizations for wider awareness of federal and regional programs and competitions for financial support.

The study of issues of support for the non-profit sector is of great scientific and applied interest, as it is important to study the degree of its possible impact on the sustainable development of specific territories of the Arctic.

For this purpose, the authors conducted a comparative analysis of the Sustainable Development Goals declared by the United Nations (UN SDGs) and the grant areas of regional competitions and the Presidential Grants Fund. This made it possible to determine the degree of coincidence of the thematic areas of grant competitions for NPOs with the UN SDGs (Fig. 6, Fig. 7, Fig. 8).



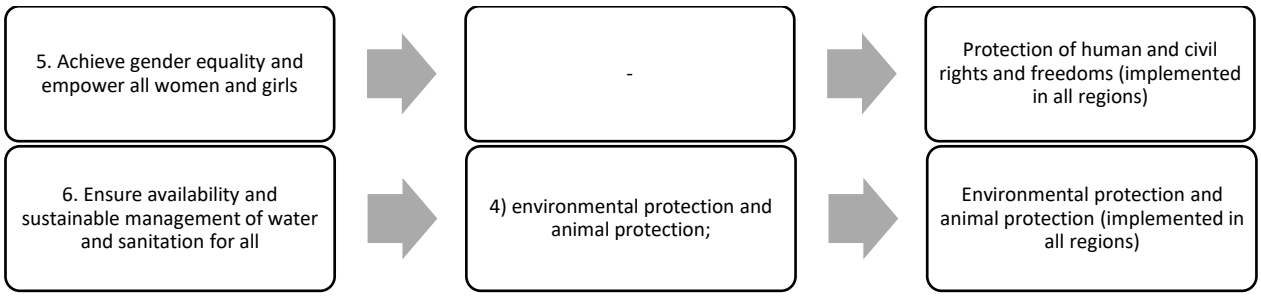


Fig. 6. The ratio of the UN SDGs and thematic areas of grant competitions [8].

UN SDGs	Types of activities of SONPO in the Federal Law on Non-Profit Organizations	Grant Areas for SONPO (in the Arctic Regions)
7. Ensure access to affordable, reliable, sustainable and modern energy for all	-	-
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	15) social and cultural adaptation and integration of migrants; 17) assistance in increasing the mobility of labor resources;	Activities in the field of formation and development of labor resources (Yamalo-Nenets Autonomous Okrug) Promoting the development of civil society institutions (Republic of Sakha (Yakutia))
9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	-	Support for projects aimed at the development of territorial public self-governments (Republic of Sakha (Yakutia))
10. Reducing inequalities within and between countries	1) social services, social support and protection of citizens; 8) charitable activities, as well as activities in the field of organization and support of charity and volunteering; 10) formation of intolerance to corrupt behavior in society;	Strengthening interethnic and interreligious harmony (implemented in all regions)

[8] The table was compiled by the authors on the basis of a comparative analysis between the sustainable development goals established by the United Nations and the provisions of Article 31.1 of the Federal Law of 12.01.1996 No. 7-FZ "On Non-Profit Organizations" and grant areas of competitive programs for socially oriented non-profit organizations within the framework of the conducted study (part 1).

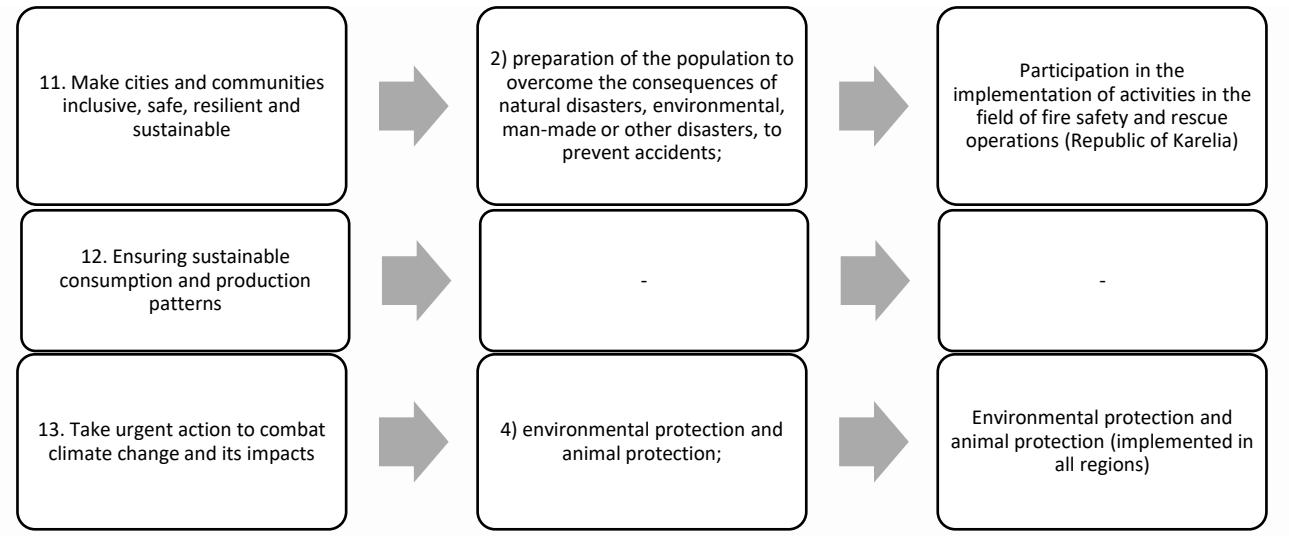


Fig. 7. The ratio of the UN SDGs and thematic areas of grant competitions (part 2).

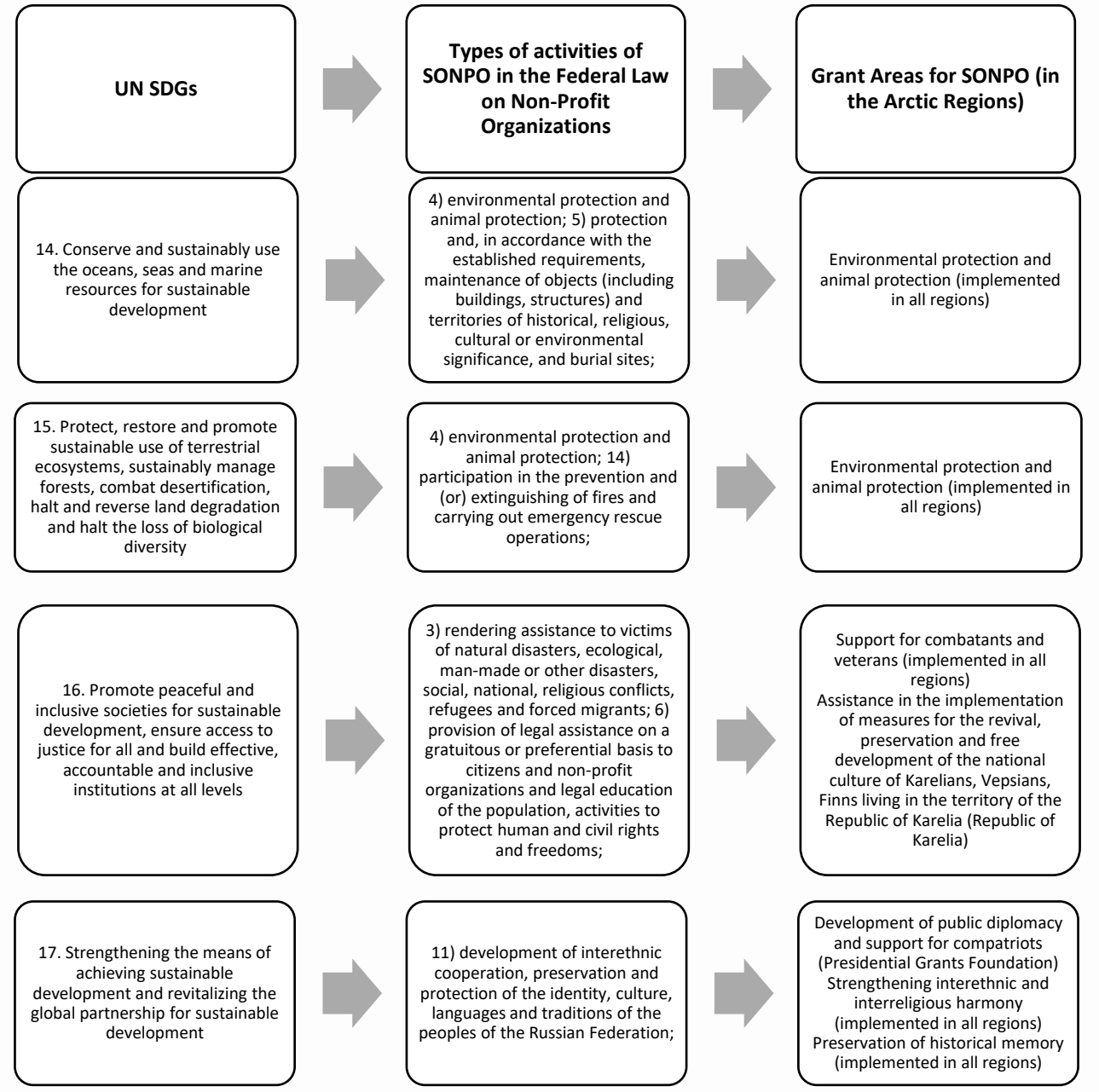


Fig. 8. The ratio of the UN SDGs and thematic areas of grant competitions (part 3).

According to the data presented in Fig. 6, 7, 8, most grant areas coincide with the UN SDGs, which confirms the hypothesis that financial support for the non-profit sector can be one of the essential conditions for supporting the sustainable development of the regions of the Arctic zone of the Russian Federation, and federal and regional government bodies, in turn, can influence the financing of socially significant NPO initiatives in accordance with the priority development areas of each specific territory. This once again emphasizes that at present the non-profit sector and public initiatives are an integral part of the sustainable development of both a separate region and the state as a whole, and financial support is a primary factor for the favorable work of SONPOs.

However, it should also be especially noted that it is necessary to develop and implement individual methodological approaches to assessing the results of SONPO activities in the Arctic zone of the Russian Federation based on the results of implemented grant initiatives. The methodology for independent assessment of the quality of conditions for the provision of services by state and municipal institutions can be introduced as a basis for assessing the quality of services provided by SONPOs [9]. Such an assessment is carried out both by independent experts and directly by consumers of services.

Conclusions

Summarizing the results of the conducted research, the following main conclusions can be made.

1. The dynamics of changes in the number of SONPOs in individual regions can serve only as an indirect indicator of the development of the non-profit sector in a specific territory, since the Rosstat and the Ministry of Justice of Russia record only the fact of state registration of a legal entity, and not the real socially significant activities of NPOs.

2. The analysis of the number of applications submitted from individual regions can be considered only as reference information for making management decisions on supporting SONPOs in individual territories, and not as analytical information aimed at comparing the activity of the non-profit sector. This conclusion is based on the thesis about the heterogeneity of the socio-economic development of the Arctic regions.

3. Despite some difficulties in statistical accounting, we can generally conclude that the non-profit sector in the Arctic regions is quite active in the state support programs being implemented. Considering certain state priorities in the field of Arctic development, interest in social projects will increase. This factor should be taken into account when determining quotas for the volume of funds to support SONPOs, not only based on the quality of applications submitted for funding socially significant initiatives, but also by monitoring financial quotas for those areas that are most in demand in a particular territory.

[9] Official website for posting information on state (municipal) institutions URL: https://bus.gov.ru/ (accessed 05 August 2024)

4. It is necessary to introduce zonal assignment of the territory for the implementation of socially significant initiatives for a more substantive analysis of financial support for individual NPOs. Such an innovation will allow analyzing the actual volumes of financial support for SONPO projects implemented specifically in the Arctic.

5. Despite the positive dynamics of funding for the activities of socially significant SONPO initiatives, regional authorities should pay special attention to providing information and consulting support to non-profit organizations for broader awareness of federal and regional programs and competitions for financial support.

6. Most grant areas coincide with the UN Sustainable Development Goals, which confirms the hypothesis that financial support for the non-profit sector is one of the necessary conditions for the sustainable development of the regions of the Arctic zone of the Russian Federation, and federal and regional government bodies can influence the financing of socially significant NPO initiatives in accordance with the priority development areas of each specific territory.

7. It is necessary to develop and implement separate methodological approaches to assessing the results of SONPO activities in the Arctic zone of the Russian Federation based on the results of implemented grant initiatives. The methodology for independent assessment of the quality of conditions for the provision of services by state and municipal institutions can be introduced as a basis for assessing the quality of services provided by SONPOs.

References

1. Volkov O.V., Lapenko M.V. The Significance of the Third Sectorfor the Development of the Arctic Region. *Arctic 2035: Current Issues, Problems, Solutions*, 2022, no. 2 (10), pp. 84–91. DOI: https://doi.org/10.51823/74670_2022_2_84
2. Polyakov M.B., Alekseeva I.I., Bikmanova A.K., et al. *State Policy in the Field of Support and Development of Socially Oriented Non-Profit Organizations*. Moscow, Znanie-M Publ., 2023, 178 p. (In Russ.)
3. Pilyasov A.N., Kotov A.V. Russian Arctic-2035: Multi-Scale Forecast. *Economy of Regions,* 2024, vol. 20, no. 2, pp. 369–394. DOI: https://doi.org/10.17059/ekon.reg.2024-2-3
4. Zamyatina N.Yu., Pilyasov A.N. *Regional Consulting: An Invitation to Creativity. Experience in the Development of Strategic Planning Documents at the Regional and Municipal Levels*. Saint Petersburg, Mamatov Publ., 2017, 196 p. (In Russ.)
5. Pitukhina M.A., Belykh A.D. Prospects for the Development of Single-Industry Towns in the Russian Arctic. *Population*, 2022, vol. 25, no. 4, pp. 189–200. DOI: https://doi.org/10.19181/population.2022.25.4.16
6. Kazanin A.G. Analysis of Human Resources and Productivity of the Russian Science on the Arctic and Science in the Arctic in the Light of Modern Challenges. *Intellect. Innovations. Investments*, 2019, no. 8. DOI: https://doi.org/10.25198/2077-7175-2019-8-44
7. Zvorykina Yu.V., Pavlova O.A. Research Projects for the Arctic Sustainable Development. *Scientific Works of the Free Economic Society of Russia,* 2022, no. 1, pp. 133–146. DOI: https://doi.org/10.38197/2072-2060-2022-233-1-133-146
8. Romasheva N.V., Babenko M.A., Nikolaichuk L.A. Sustainable Development of the Russian Arctic Region: Environmental Problems and Ways to Solve Them. *Mining Informational and Analytical Bulletin,* 2022, no. 10–2, pp. 78–87. DOI: https://doi.org/10.25018/0236_1493_2022_102_0_78
9. Singh H.R., Rahman S.A. An Approach for Environmental Education by Non-Governmental Organizations (NGOs) in Biodiversity Conservation. *Procedia — Social and Behavioral Sciences*, 2012, vol. 42, pp. 144–152. DOI: https://doi.org/10.1016/j.sbspro.2012.04.175

10. Park H., Lee H., Cho H.S. Perceptions of Korean NGOs for Education and Educational Development Projects. *International Journal of Educational Development*, 2015, vol. 45, pp. 31–41. DOI: https://doi.org/10.1016/j.ijedudev.2015.07.007
11. Lu Y., Wang Y., Zhang L. System Dynamic Modeling of the NGO Post-Disaster Relief Contribution in the 2021 Henan Flood in China. *International Journal of Disaster Risk Reduction*, 2023, vol. 89, art. 103626. DOI: https://doi.org/10.1016/j.ijdrr.2023.103626
12. Park E.-S., Yoon D.K. The Value of NGOs in Disaster Management and Governance in South Korea and Japan. *International Journal of Disaster Risk Reduction*, 2022, vol. 69, art. 102739. DOI: https://doi.org/10.1016/j.ijdrr.2021.102739
13. Morgan J. Participation, Empowerment and Capacity Building: Exploring Young People's Perspectives on the Services Provided to Them by a Grassroots NGO in Sub-Saharan Africa. *Children and Youth Services Review*, 2016, vol. 65, pp. 175–182. DOI: https://doi.org/10.1016/j.childyouth.2016.04.012
14. Harada K., Habib M., Sakata Y., Maryudi A. The Role of NGOs in Recognition and Sustainable Maintenance of Customary Forests within Indigenous Communities: The Case of Kerinci, Indonesia. *Land Use Policy*, 2022, vol. 113, art. 105865. DOI: https://doi.org/10.1016/j.landusepol.2021.105865
15. Jia-nan C. Contributions of Environmental NGO to Environmental Education in China. *IERI Procedia*, 2012, vol. 2, pp. 901–906. DOI: https://doi.org/10.1016/j.ieri.2012.06.189
16. Elkahlout G., Milton S., Yaseen T., Raweh E. Localisation of Humanitarian Action in War-Torn Countries: The Experience of Local NGOs in Yemen. *International Journal of Disaster Risk Reduction,* 2022, vol. 75, art. 102921. DOI: https://doi.org/10.1016/j.ijdrr.2022.102921
17. Pursch B., Tate A., Legido-Quigley H., Howard N. Health for All? A Qualitative Study of NGO Support to Migrants Affected by Structural Violence in Northern France. *Social Science & Medicine*, 2020, vol. 248, Art. 112838. DOI: https://doi.org/10.1016/j.socscimed.2020.112838
18. Gupta D., Lele S., Sahu G. Promoting a Responsive State: The Role of NGOs in Decentralized Forest Governance in India. *Forest Policy and Economics*, 2020, vol. 111, art. 102066. DOI: https://doi.org/10.1016/j.forpol.2019.102066
19. Foo K. Examining the Role of NGOs in Urban Environmental Governance. *Cities*, 2018, vol. 77, pp. 67–72. DOI: https://doi.org/10.1016/j.cities.2018.01.002
20. Smith D.J. AIDS NGOS and Corruption in Nigeria. *Health & Place*, 2012, vol. 18, iss. 3, pp. 475–480. DOI: https://doi.org/10.1016/j.healthplace.2011.11.002
21. Kornatowski G. Partnerships and Governance: Struggle, Cooperation, and the Role of NGOs in Welfare Delivery for the Homeless in Hong Kong. *City, Culture and Society*, 2010, vol. 1, iss. 3, pp. 155–164. DOI: https://doi.org/10.1016/j.ccs.2010.10.006

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Planning the Development of Arctic Maritime Communications in the Era of Hybrid Warfare

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Abstract. Russia's regional presence in the Arctic is the dominant goal of the country's national maritime policy and is ensured by the level of development of the Arctic communications system, while the primary significance from the standpoint of national security belongs to the maritime component of this system, including the Northern Sea Route (NSR), which has the status of a national transport artery. The importance of the Arctic among the national interests of the country is confirmed by the current Maritime Doctrine of Russia 2022 and other strategic planning documents of recent years. The development of Arctic maritime communications is planned within the current horizons up to 2030 and 2036, both in terms of ensuring cargo turnover of the NSR (as the axial framework of Arctic maritime communications) and in the context of approving capital construction activities and facilities. Besides, the subject of planning is the development of the fleet, including icebreakers and reinforced ice-class vessels, which are rightfully a symbol of Russia's Arctic maritime potential. The presence of these vessels together with military ships on the NSR and sea communications of the Arctic Ocean (AO) and the Arctic seas ensure the connectivity and integrity (both maritime and territorial) of the Arctic regional space. Therefore, the replenishment of the Arctic ice fleet in accordance with the needs of large oil and gas projects is of critical importance, especially in the era of hybrid confrontation between Russia and the countries of the "collective West", which has already acquired obvious features of a full-fledged war.
Keywords: *Arctic, sea communications, hybrid warfare, energy projects, Arctic maritime potential, nuclear icebreakers, reinforced ice-class vessels, planning*

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Introduction

The philosopher's stone of world development — a kind of "elixir of life" for everything on Earth — is the "unity and confrontation of the lords of the sea and the lords of the land" [1], which is realized by the formula "continent-vis-ocean", shown by the authors in [2, pp. 272–273]. This

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formula is based on maritime and continental geopolitical traditions [1]. At the turn of the 18th and 19th centuries, the formula "continent-vis-ocean" reflected the confrontation between the two great powers of that time — the Russian and British Empires. The rivalry between them for the possession of the island of Malta (1800) in the center of the Mediterranean Sea marked the beginning of a grand geopolitical epic known as the "Great Game".

The "Great Game" has been going on for over two hundred years — the participants in this geopolitical epic have qualitatively transformed: the Russian Empire through the Soviet Union into modern Russia, "an original state-civilization, vast Eurasian and Euro-Pacific power" [2]. The British Empire — into the so-called "collective West", the basis of which are the countries included in the collective concept of "Anglo-Saxons" [3]. These are primarily the USA and Great Britain [4].

The "ocean-vis-continent" concept is based on the unconditional survivability of both sides: both the lords of the sea and the lords of the land, which is the red line of the "Great Game" — the violation of this order by both military and non-military (hybrid) means will inevitably lead to a general collapse of the universe. On a global scale, both civilizations coexist, constantly weakening and counteracting each other's strengthening. And there is no force that can change the established order of things.

The maritime space as an object of dominance is determined by the concentration of maritime communications, mainly by the localization of logistics chains for the supply of goods.

If in the 18th century, and especially (after the opening of the Suez Canal in 1869) in the 19th century, world trade was concentrated in the Mediterranean Sea, then at the beginning and middle of the 20th century, the focus of the struggle for maritime communications for the same reason shifted to the North Atlantic [5], and then to the Indian Ocean. Thus, at the beginning of the 21st century, a world logistics highway was formed in the northern waters of the Indian Ocean, called the Southern Silk Road according to the Chinese tradition.

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[1] The maritime geopolitical tradition is based on the ideas of marinism, concentrated in the theory of Sea Power by A.-T. Mahan [3; 4] and the concept of absolute possession of the sea by F. Colomb [5]. The universal maxim of these views is the formula "power at sea decides the fate of history" and "who controls the sea, controls everything". The geopolitical tradition of the formation of continental civilization is based on the allocation of the "Heartland" (core land), that is, the continental space that is critical from the standpoint of achieving world domination. Hence the maxim (according to H. Mackinder [6-8]): "who controls the Heartland (Eurasia, as a continent), controls the world island (the continent of Eurasia), and who controls the world island, controls everything". Thus, when characterizing the position of a state on the geopolitical atlas of the modern world, the dominance of either sea power or land mass is determining factor.

[2] Concept of Foreign Policy of the Russian Federation. Decree of the President of the Russian Federation of 31.03.2023, No. 229, Art. 4. URL: http://www.kremlin.ru/events/president/news/copy/70811 (accessed 15 December 2024).

[3] Russia has been actively interacting with the Anglo-Saxons for over 300 years, since the time of Peter the Great [9, pp. 41–118].

[4] It should be emphasized that the dominance of Russia and the Anglo-Americans in the dynamics of world development was predicted long before our days, back in the mid-19th century by A. de Tocqueville, the Minister of Foreign Affairs of France [10].

[5] During this period, a new trend in maritime geopolitics emerged and developed — "Atlanticism", the maxim of which was the formula "who owns the space (who dominates) in the North Atlantic — owns the world", therefore the Battle of the Atlantic was one of the key battles of the Second World War.

Due to the existing tensions in the Red Sea and the Bab-el-Mandeb Strait, as well as, very likely, projection of these tensions to the Strait of Hormuz as Iran's response to the Syrian events of December 2024, a new hybrid confrontation has emerged in the maritime communications from the Suez Canal along the entire route of the Southern Silk Road.

Therefore, in the first half of 2025, the Polar Silk Road zone, which runs through the waters of the Arctic Ocean (AO) and the Arctic seas, seems to be the safest.

The Polar Silk Road is a wider (covering the Central Fairway of the AO) and longer (extending from the Bering Strait to the Atlantic) maritime communication route than the well-known Northern Sea Route (NSR). The unexpected growth of the geopolitical and economic situation of the NSR has led to the growing activity of the United States in the Arctic in the direction of giving international status to Arctic communications, including the NSR, while Russia adheres to the internal status of the NSR as a national transport route [11, pp. 59–67].

The importance of the Arctic in the modern world is determined by the current Maritime Doctrine of Russia [6]: recognizing our country as a great maritime power, it should be emphasized that this status is confirmed precisely in the Arctic, since the Northern Fleet with ships of the oceanic sea zone is based in this maritime region and it is there that Russia's national interests in the World Ocean are focused today.

In general, the organization of year-round commercial shipping along the NSR is complicated by a number of significant circumstances. First of all, this is the difficult ice situation during the winter navigation period, especially on the eastern shoulder from the Vilkitskiy Strait to Cape Dezhnev.

In addition, cold weather is expected starting from 2027/2028 [for more details, see 12, pp. 151–155], which will require an increase in the number of icebreakers and ice-strengthened vessels up to Arc7 class to ensure the planned increase in cargo turnover. However, the main thing is that there is essentially no transit cargo base: there is nothing and nowhere to transport.

Transit in itself is not essential for Russia. The important matter is the provision of this transit, i.e. the presence of Russian ships and vessels on the Arctic communications. Russian ships, including icebreakers and military ships, ensure the connectivity (and, consequently, the territorial integrity) of the regional Arctic space by their presence on the NSR routes. The use of the Chinese model — the transportation of Chinese cargo along the NSR is carried out by Chinese ships and crews, accompanied by Chinese icebreakers and polar pilots — presupposes at least China's interest in ensuring the safety of this route; in this case, Russia should regulate the "critical mass" of ships on the NSR routes at entry points both from the west through the Novaya Zemlya Straits or in the area of Cape Zhelaniya, and from the east through the Bering Strait.

[6] Maritime Doctrine of the Russian Federation. "On Approval of the Maritime Doctrine of the Russian Federation". Decree of the President of the Russian Federation of July 31, 2022 No. 512. URL: https://base.garant.ru/405077499/?ysclid=lmt5iq45yo296296627 (accessed 15 December 2024).

The functional dominant of Arctic communications is the provision of inter-fleet crossings, northern delivery, supply of coastal cargo and transportation of cargo for large energy, especially oil and gas, projects, which form the revenue side of the federal budget of the Russian Federation. The degree of implementation of these functions determines the level of geopolitical, economic and/or other (energy, technological, etc.) — in general, versatile (hybrid) presence of Russia within the regional space of the Arctic and is an indicator of the integrity (both territorial and maritime) and coherence (unity) of the latter.

The desire for such a hybrid presence is realized through the imperative of possession of space, in the limit — achieving positioning of world domination or global superiority not only by military, but also by other, hybrid, means.

With the decline of globalization, the geopolitical tradition of achieving global superiority, which had developed by the end of the 20th century, increasingly incorporates elements of the concept “Make America (Russia, China) Great Again” (national power) and/or regional advantage, the latter corresponds to Russia’s policy in the Arctic in relations with other Arctic countries.

In order to achieve global dominance, the United States uses any possible and accessible tools. The world hegemony of the United States has three points of support.

The first is ensuring the leading position of the dollar in global economic combinations (a tool of geo-economics), and as the current dollar since the 1970s is also a petrodollar, oil is turning into the fourth point of support of the hegemony of the United States according to the principle “who owns the oil — owns the world” (a tool of geo-energetics).

The second is the toolkit of geopolitics, ensuring a permanent presence and control over strategic sea communications and centers of localization of the main world trade routes. This is achieved through the US Navy’s aircraft carrier strike groups, which explicitly or implicitly (hybrid) ensure the global balance of power in favor of the United States, often without even using weapons, but only through a demonstration of force and flag in critical waters, accompanied by qualified information campaigns.

The third is the selection and placement of pro-American elites in critical countries and control over them by means of naval force and the petrodollar.

The phenomenon of ownership of space in the realities of the 21st century means not so much the right to buy or sell objects of ownership, as to have guaranteed access, that is, to possess the latter and have a certain priority (dominate) in the disposal, use and enjoyment of the wealth of these objects.

The confrontation in the struggle for resources and communications that provide guaranteed (to one degree or another) access to these resources and centers of localization of world trade gives rise to wars and military conflicts of varying intensity at the local, regional, continental and even global levels.

Wars coexist in a parallel reality. Politics is the art of the possible, or the "art of compromise" [7]. Somewhere, hot wars, known since time immemorial, arise, which, with reference to [15; 16], are understood as "war is a continuation of politics by other means". The peculiarities of geopolitics in the second half of the 20th century brought new constructs of "cold" and "non-cold" war. The history of the confrontation between the USA and the USSR, and then Russia in the 20th–21st centuries (from Korea in 1950–1953 to Syria today) is full of drama in creating "casus belli" in the era of "cold" and "non-cold" war. This ghost of the battles of the 20th century is the forerunner of the hybrid war, which has been manifested everywhere since the beginning of the 21st century as a new type of confrontation. This is how the main contours of hybrid warfare are formed: the opposition of the parties in the "ocean-vis-continent" formula covers not only military, but also non-military (civilian) sphere.

At the same time, the goal of a hybrid war is achieved, "when destruction of a military nature and scale is achieved using non-military (hybrid) instruments" [13, p. 40] — inflicting great damage to a probable or obvious enemy [14, pp. 506–507] from the standpoint of ensuring national security.

Today, energy, including maritime transportation of energy resources, along with technology and finance, climate and trade, culture and healthcare, as well as other instruments, is becoming an attribute of hybrid warfare.

This article is devoted to the impact of hybrid warfare elements (sanctions) on the dynamics of development of the Arctic ice fleet, consisting of icebreakers and ice-strengthened vessels, i.e. vessels of reinforced ice class.

Formation and development of the Arctic ice fleet

Along with the Polar Bear, the nuclear-powered icebreaker, capable of crossing the Arctic ice and maneuvering anywhere in the Arctic, including the North Pole, is rightly considered the symbol of the Arctic.

The first nuclear icebreaker, which marked the beginning of the modern stage of large-scale development of the Arctic, was the Lenin, built in December 1959 at the Leningrad Admiralty Association.

The creation of this icebreaker allowed developing technical and technological base for laying down in 1972 and creation for 35 years [8] of a series of six newest for that time icebreakers of the project 10520/10521 at the shipyards of the current JSC Baltiyskiy Zavod (Baltic Shipyard), which today has all the licenses required for nuclear and military shipbuilding.

The icebreakers of this project contributed to a qualitatively new format for the development of Arctic sea communications in the context of ensuring Russia's diverse presence in the Arc-

[7] Results of the year with Vladimir Putin, 19 December 2024. URL: http://www.kremlin.ru/events/president/transcripts/75909 (accessed 19 December 2024)

[8] The last (sixth) icebreaker of this series, "50 Let Pobedy", was commissioned on March 23, 2007. As of January 1, 2025, two icebreakers of Project 10521 are in operation: "50 Let Pobedy" and "Yamal" (since October 1989).

tic; thus, in August 1977, the nuclear icebreaker Arktika (in operation since 1974) became the first among surface ships to reach the North Pole in active navigation, and later other such vessels repeated this achievement, as a result of which sailing to the North Pole became a common practice for Russian icebreakers. It should be emphasized that almost all nuclear icebreakers, including the new generation vessels of Project 22220 (seven vessels to be commissioned within the current planning horizons in 2020–2030) and 10510 Lider, are Russian-built vessels. However, two nuclear-powered shallow-draft icebreakers of project 10580, Taimyr and Vaigach, stand out from this series of Russian-built nuclear-powered icebreakers. They were built in Finland at the Holström Histalahti shipyard in Helsinki, and the NPU was assembled at JSC Baltic Shipyard, with delivery to the customer in 1989 and 1990, respectively.

In the new geopolitical conditions of hybrid warfare, it is problematic for the manufacturer to carry out routine maintenance work on these vessels. For now, the service life of the propulsion machinery of these icebreakers has been extended (in 2017) until 2027 to overcome the “ice pause” when changing the generation of icebreakers from 10520 to 22220.

It should be noted that due to the delay in commissioning the last vessels of Project 22220, the operational readiness of the Taimyr and Vaigach icebreakers to overcome the ice pause will have to be ensured until 2030. There are no problems with NPU, this is JSC Baltic Shipyard.

For detailed information on the prospects of the nuclear icebreaker fleet development in the Arctic see the author’s article [2, pp. 267–284].

As for non-nuclear (steam coal and diesel-electric) icebreakers, a dangerous tendency has developed in Russian shipbuilding to build such vessels, with rare exceptions [9], abroad [10]. In the conditions of hybrid warfare, this leads to certain difficulties in the maintenance of ships by manufacturers.

[9] These are non-nuclear icebreakers "Viktor Chernomyrdin" (Project 22600 - LK-25) built by JSC "Baltic Shipyard" with completion at JSC "Admiralty Shipyards" (commissioned in November 2020). In addition, in 2008–2009, two icebreakers of Project 21900 LK-16 were commissioned at JSC "Baltic Shipyard", and three icebreakers of Project 21900M LK-16 — in 2015–2016 at Vyborg Shipyard, as well as two icebreakers of Project 21900M2 in December 2024.
However, the capacity of these icebreakers is not enough to operate all year round even in the relatively easy ice conditions of the southwest of the Kara Sea. To support the work of the Arctic Gate project in the waters of the Gulf of Ob, the Vyborg Shipyard built two icebreaking support vessels, the Aleksandr Sannikov and the Andrey Vilkitskiy, the Aker ARC 130Ar project, in June and December 2018. In addition, back in 1938–1941, four icebreakers of the I. Stalin series (since 1961 — Sibir) were built at the Leningrad and Nikolaev shipyards according to the Yermak/Krasin project (i.e. steam-powered). Later (1958), the icebreakers I. Stalin and Krasin were converted to liquid fuel, and the series of "Russian type" icebreakers ended.

[10] The first two icebreakers of the "Russian type" (steam-coal) "Ermak" and "Svyatogor" (later "Krasin") were built at the English shipyard Armstrong, Newcastle, the first one — through the efforts of Admiral S.O. Makarov in 1899, the second — in 1917, following the adoption of the first icebreaker shipbuilding program in Russia. According to the calculations of S.O. Makarov [17], to reach the North Pole, the icebreaker should have a shaft power of about 38 MW (52 thousand hp). Neither "Ermak" nor "Lenin" reached this level. The indicators of these icebreakers were 8.82 MW (12 thousand hp) and 32.4 MW (44 thousand hp), respectively. But the first conqueror of the North Pole in August 1977, the Soviet-built nuclear icebreaker Arktika, had a shaft power of 49 MW (66.2 thousand hp). Then, starting in the 1960s, several dozen non-nuclear icebreakers were built in Finland by order of the USSR, including a series of five “Moskva” type icebreakers (1960–1969) and of three more — Yermak, Admiral Makarov and Krasin (1974–1976), which are still operating in the Arctic.

At the beginning of the 21st century, this practice was also applied to ice reinforced vessels, which were built as part of the implementation of major Arctic energy projects.

In general, the practice of ordering non-nuclear vessels for Russia in the centers of world shipbuilding (especially in South Korea, Germany and Finland) in the era of globalization (from the 1990s up to the present time) was justified by the fact that during this period we had an illusion that Russia was an integral part of the global world and the global market. Therefore, ordering ships from the world's leading shipbuilders, whose competencies are confirmed by leading insurance companies, is more profitable, faster and more reliable than developing our own technologies and competencies.

This is the case not only in shipbuilding, but also in many other branches of the Russian industry; however, due to state orders and state defense orders, it was possible to maintain competencies in two basic areas of critical macro-technologies [11].

Critical technologies include such world-class technologies (macro-technologies), which a priori provide competitive advantages to the owner of the latter in the world markets and contribute to the dominance of the owner on the aggregate (geopolitical and other) atlas of the modern world.

This is nuclear energy, as well as hydro- and aerodynamics, that is, the field of underwater and aircraft. In addition to the development of nuclear icebreakers, this is nuclear-powered surface and submarine shipbuilding, including sea-based strategic nuclear forces, as well as non-nuclear carriers of maritime hypersonic weapons.

This period includes the replenishment of the Arctic ice fleet with ice-strengthened vessels of medium classes Arc6 and Arc7 (Table 1) [12]. Arc7 vessels can independently navigate in the summer-autumn navigation period in all seas of the NSR, and in the southwestern part of the Kara Sea, as well as the Barents and Pechora Seas; vessels with ice reinforcements Arc4–Arc7 — all year round. In the eastern seas of the NSR from the Vilkitskiy Strait to Cape Dezhnev, navigation of Arc7 vessels during the winter-spring navigation period is permitted only behind an icebreaker in a channel or in a convoy [19, p. 40].

[11] In the early 1990s, there were about 52 critical macro-technologies known in the world, of which about 90% were in the developed countries of the so-called G-7 group and the Soviet Union, which controlled about 6-7 such technologies. By the end of the 1990s (and still today), Russia controlled only 2 technologies in the above-mentioned areas, while the United States had 20-22, Germany — 10-12, Japan — 6-7, China already controlled 4 technologies, and Great Britain and France — only 3 each. Next was Russia (2), Italy, Norway, Sweden and Switzerland — 1 each. The remaining countries in total accounted for only 3-4 critical macro-technologies. It is clear that in that era of increasing globalization, no country had monopolistic control over any technology. [18].

[12] The modern (since 2007) Russian Maritime Register of Shipping (RMRS) distinguishes nine ice classes of vessels for navigation in non-Arctic (Ice1–Ice3) and Arctic (Arc4–Arc9) seas. The maximum ice class of the modern operating Arctic fleet is Arc7; there is no experience in building Arc8 and Arc9 vessels (high ice classes) yet. The main criterion for classifying a vessel into a certain ice class is the presence of the necessary structural reinforcements for navigation in Arctic seas independently or in a channel behind an icebreaker in ice of a certain thickness and type. Source: Russian Maritime Register of Shipping. URL: https://rs-class.org/?ysclid=lteaaz10ab528729011 (accessed 26 December 2024).

Table 1

Arctic Ice Fleet of Russia (01.01.2025)

Nuclear icebreakers pr.22220 LK-60Ya — JSC Baltic Shipyard, operator AF[1], flag of Russia — 7 units		
Denomination	In service	Arktika (X–2020); Sibir (I–2022); Ural (XI–2022); Yakutia (XII–2024)
W[2](thousand tons) — 32.7		Chukotka (plan: XII–2026); Leningrad (plan: XII–2028); Stalingrad (plan: XII–2030)
Nuclear icebreakers pr.10521 LK-55YA — JSC Baltic Shipyard, operator AF[1], flag of Russia — 2 units		
Denomination	In service	Yamal (X–1992); 50 Let Pobedy (III–2007)
W (thousand tons) — 21.0 and 22.5		
Nuclear icebreakers pr.10580 "Vyartsilya", Finland, operator AF[1], flag of Russia — 2 units		
Denomination	In service	Taimyr (VI–1989); Vaygach (VI–1990)
W (thousand tons) — 20.0 and 20.8		
Nuclear icebreaker pr.10510 "Lider" LK-120YA — SBC "Zvezda", operator AF[1], flag of Russia — 1 unit		
Denomination	In service	Rossia — laying — XI–2020; commissioning (plan) — XI–2030
W (thousand tons) — 68.6		
Shuttle tankers pr. 42K Arctic Shuttle Tanker, Arc7, SHI[5], operators SCF[3] and GNSH[4], Russian flag — 7 units		
Denomination	In service	Shturman Albanov[3], Shturman Malygin[3], Shturman Ovtsyn[3] — 2016; Mikhail Lazarev[3] — 2019
Arctic Gateway, D[6] — 42 thous.tons		Shturman Skuratov[4], Shturman Shcherbinin[4], Shturman Koshelev[4] — 2017
Non-nuclear icebreaking support vessels pr. AKER ARC 130A, VSBC[7], operator GNSh, Russian flag — 2 units		
Denomination	In service	Alexander Sannikov (VI—2018); Andrey Vilkitskiy (XII—2018)
Arctic Gateway, W — 3.4 thous.tons		
Shuttle tankers pr. P–70046, Arc6, SHI[5], operator SCF[3], flag of Russia — 3 units		
Denomination	In service	Vasiliy Dinkov (2008); Captain Gotskiy (2008); Vasiliy Guzhenko (2009)
Varandey, D[6] — 71.3 thous.tons		
Shuttle tankers pr. P-70046, Arc6, JSC Admiralty Shipyards, operator SCF[3], flag of Russia — 2 units		
Denomination	In service	Mikhail Ulyanov (2010); Kirill Lavrov (2010)
Prirazlomnoe, D[6] — 70.0 thous.tons		
LNG tanker (gas carrier), pr.Yamalmax, Arc7, DSME[8], operator SCF[3], flag of Cyprus — 1 unit		
Denomination	In service	Christophe de Margerie (I–2017)
Yamal LNG; G[9] — 172.6 thous. m[3]		
LNG tanker (gas carrier), pr.Yamalmax, Arc7, DSME[8], operator Teekay[9] (Canada), flag of BI[10] — 6 units		
Denomination	In service	Eduard Toll (XII–2017); Rudolf Samoilovich (XII–2017); Nikolay Evgenov (VI–2019)
Yamal LNG; G[9] — 172.6 thous. m[3]		Vladimir Voronin (VIII–2019); Georgiy Ushakov (X–2019); Yakov Gakkel (XI–2019)
LNG tanker (gas carrier), pr.Yamalmax, Arc7, DSME[8], operator Dynagas Ltd [11](Greece), flag of Cyprus — 4 units		
Denomination	In service	Fedor Litke (XI–2017); Georgiy Brusilov (XI–2018); Nikolay Zubov (XII–2018)
Yamal LNG; G[9] — 172.6 thous. m[3]		Boris Davydov (I–2019)
LNG tanker (gas carrier), pr.Yamalmax, Arc7, DSME[8], operator MOL (Japan), flag of Hong Kong — 3 units		
Denomination	In service	Vladimir Rusanov (III–2018); Vladimir Vize (X–2018)
Yamal LNG; G[9] — 172.6 thous. m[3]		Nikolay Urvantsev (VII–2019)
Container carriers, pr.Aker ACS 650, Arc7, AY[13] and NY[14], operator NN MMC[15], flag of Russia — 5 units		
Denomination	In service	AY: Norilskiy Nickel (II–2006); NY: Monchegorsk (VII–2008); Zapolyarny (XI–2008)
NN MMC[15], D[6] — 13.3 thous. t		Talnakh (XII–2008); Nadezhda (I–2009)
Tanker, Arc7, NY[14], operator NN MMC[15], flag of Russia — 1 unit		
Denomination	In service	Yenisei
NN MMC[15], D[6] — 13.9 thous. t		

[1] Atomflot; [2] W–displacement; [3] PJSC Sovcomflot; [4] LLC Gazprom Neft Shipping; [5] Samsung Heavy Industries, Busan, South Korea; [6] deadweight; [7] Vyborg Shipyard; [8] Daewoo Shipbuilding & Marine Engineering Company (DSME), Seoul, South Korea (since May 2023 Hanhwa Ocean); [9] Teekay with its subsidiary China LNG Shipping (Holdings) Limited (China LNG); [10] The Bahamas; [11] Dynagas Ltd with leading Chinese shipping companies Sinotrans and China LNG Shipping; [12] MOL (Mitsui O.S.K. Lines Ltd) with the participation of China Shipping Development.; [13] Aker Yards (Helsinki, Finland); [14] Wadan Shipyards MTW / Nordic Yards (Wismar, Germany); [15] Norilsk Nickel Mining and Metallurgical Company.

The Arctic ice fleet is the basis for building the Arctic communication system, connecting individual points of the regional space in order to ensure the unity and integrity of the latter. This

is a basic condition of Russia's national security from the standpoint of ensuring the country's diverse presence in the Arctic.

Features of navigation on the Northern Sea Route

Ensuring the development of the largest Arctic investment projects located on the coast of the Arctic seas contributes to the development of sea communications or commercial supply lines and transportation of finished products of these projects. This is how the maritime transport system is formed (Table 2), which is based on the axis of the NSR as a national transport highway.

Table 2

Investment projects and sea communications of the Russian Arctic

Region	Project	Marine communication
Pechora Sea	Varandey	Varandey — Kola Bay, RTC Kola
Pechora Sea	Prirazlomnoe	Prirazlomnaya platform — Kola Bay, RTC Nord
Ob Bay	Yamal LNG	Sabetta — Ura-Guba (transshipment complex)
Ob Bay	Yamal LNG	Sabetta — Bechevinskaya Bay (transshipment complex)
Ob Bay	Arctic LNG 2	Utrenny Terminal — Ura-Guba (transshipment complex)
Ob Bay	Arctic LNG 2	Utrenny Terminal — Bechevinskaya Bay (transshipment complex)
Ob Bay	Arctic Gate	Kamenny — Kola Bay, RTC Nord
Ob Bay	Norilsk Nickel	Dudinka — Murmansk — Dudinka
Yenisei Gulf	Vostok Oil	Dikson — Kola Bay, roadstead transshipment complex
Yenisei Gulf	Norilsk Nickel	Dudinka — Arkhangelsk — Dudinka
Yenisei Gulf	Severnaya Zvezda	Sever Bay — towns and villages of the Arctic coast

The Arctic marine communications, including the southern and northern routes of the NSR, pass through the waters of the Arctic Ocean and the Arctic seas of the zone of Russia's national jurisdiction in the following latitudinal intervals (Table 3).

Table 3

Latitudinal intervals and boundaries of communications (routes) of the Russian Arctic

Communications (routes)	Latitudinal intervals	Boundaries
Southern	70^0–78^0N	Bounded from the north by the parallels of the Vilkitsky Strait (780N) and Cape Karlsen (770N), the northernmost point of the Novaya Zemlya archipelago
Northern	78^0N–82^0N	Bounded from the north by the parallel above the Arctic Cape of the Severnaya Zemlya archipelago, 81^0 20'+
Pole	82^0N–85^0N	North of Rudolf Island in the Franz Josef Land archipelago, about 82^0N

Sea communications in the waters of the Russian Arctic seas are built on the basis of a set of routes (standard routes) developed taking into account the distribution and variability of the total ice area configuration. At the same time, the features of the ice cover distribution in the western and eastern parts of the NSR differ: the configurations of sea communications in the southwestern part of the Kara Sea in terms of ice coverage do not differ during the entire navigation period, therefore it is sufficient for vessels to have the minimum Arc4 ice class for navigation in the Arctic seas. In the seas of the Siberian shelf, during the winter-spring (from November 15 to May 15) navigation period, powerful fast ice is formed with backwater polynyas — oases of clean water, to which the routes of sea communications are transferred. In general, in these seas (in the

southeastern part of the Kara Sea, in the waters of the Laptev, East Siberian and Chukchi Seas) ice is present almost all year round. Therefore, only ice-strengthened vessels of Arc7 class are allowed to navigate in these waters [13].

In general, the natural conditions of the NSR seas are characterized by significant spatial and temporal variability. The most typical (standard) routes and lines of sea communications have been developed and recommended to mariners in the Guidelines [14] on the basis of the theory and practice of organizing sea ice operations and generalizing the long-term experience of ice captains and pilots. The detailed geographical, natural and ice conditions of navigation along the NSR are presented in [20, pp. 106–150].

The main sea communications (Table 1) are located in the waters of the Kara Sea. For the organization of annual navigation in the Kara Sea, the navigation periods are divided into traditional (June–October) and extended (November–May) seasons, the latter having three stages: autumn (November–December), winter (January–February) and spring (March–May).

On the test communication routes Dudinka — Murmansk — Dudinka (container transportation of converter matte of MMC Norilsk Nickel for JSC Severonikel in the forward direction and empty containers — in the direction back), navigation is carried out all year round with a pause for the spring flood of the Yenisei River.

At the same time, the extended navigation stages are performed practically by Arc7 vessels (in favorable ice conditions, as an exception — by Arc4 vessels) with obligatory icebreaker support.

In some years in summer (June–October), under favorable ice conditions, navigation of all vessels of the Arctic ice classes is carried out independently, that is, without icebreaker support. The same applies to the sea communications Gulf of Ob — Murmansk — Gulf of Ob.

In the waters of the Arctic seas, the location of standard routes, and therefore sea communications in the summer-autumn navigation period, is determined by the location of ice fields, rarefaction zones and clear water.

In the winter-spring period, the coast and islands are blocked by fast ice, so the location of standard routes is determined by the stability of fast ice polynyas for navigation and the ability of icebreakers to overcome fast ice by raids in critically important sections of the NSR.

Maps of standard routes of NSR sea communications in the summer-autumn and winter-spring navigation periods and a table of the length of these routes depending on the navigation period are presented in [20, pp. 125–126].

Planning for the Arctic ice fleet replenishment in hybrid warfare conditions

The importance, composition and scale of economic maritime activity in the Arctic of ice-strengthened vessels are determined by the prospects for the development of large energy pro-

[13] Ice class Arc7 vessels have design features that ensure independent navigation in compact first-year ice up to 1.4 m thick in winter and up to 1.7 m thick in summer. In first-year ice up to 2.0 m thick in winter and 3.2 m thick in summer, navigation of vessels of class not lower than Arc7 is permitted only in the channel behind an icebreaker.
[14] Guidelines for through navigation of vessels along the NSR. St. Petersburg, GUNIO MO RF Publ., 1995, 416 p.

jects, especially in the field of oil and gas production, since the main subject and goal of modern hybrid warfare is the dominance of corporations, countries and continents in the world markets of these most effective energy resources. Thus, energy, through the so-called “green agenda” [15] becomes an instrument of hybrid confrontation according to the formula “continent-vis-ocean”, and sanctions — the achievement of competitive superiority.

Sanctions restrictions on the oil and gas segment of Russia in the global energy market, especially since mid-2022, as well as sanctions against the tanker fleet transporting Russian oil, have indirectly affected the fulfilment of orders for ice-strengthened vessels for large Russian Arctic projects by leading South Korean companies.

In this context, it is necessary to emphasize, first of all, the technological, as well as technical and financial-economic advantages of South Korean shipbuilding; these are the “Big Three” shipbuilders of South Korea: Hyundai Heavy Industries, Ulsan, Hanwha Ocean (until May 2023 — Daewoo Shipbuilding & Marine Engineering Company), Seoul and Samsung Heavy Industries, Busan.

All Project 42K Arctic Shuttle Tankers of the Shturman Albanov series, Arc7, as well as three of the five Project R-70046 tankers of the Vasiliy Dinkov series, Arc6, were built at the Samsung Heavy Industries shipyards. Two Project R-70046 vessels, Mikhail Ulyanov and Kirill Lavrov, were built at Admiralty Shipyards using the block assembly method with the transfer of competencies, necessary equipment and tooling to Samsung Heavy Industries (Table 1).

The same applies to the gas tankers, Arc7 (Table 1), which were built at the South Korean shipyard DSME (since May 2023 — Hanhwa Ocean) in 2017–2019.

In 2008, one of the leading South Korean companies, STX Business Group, created a special European wing — STX Europe, formed on the basis of the Finnish shipyard Aker Yards [16] the largest foreign shipbuilding company in Europe.

In 2010, STX Europe and the Russian United Shipbuilding Corporation (USC) [17] bought the Finnish shipyard Hietalahti (Helsinki). On the basis of this shipyard, a joint venture, Arctech Helsinki Shipyard (AHS) [18], was created, which in 2015 completed the Aker ARC 130A project of non-

[15] The meaning of the "green agenda" is a scientifically ungrounded, but politically biased energy transition from traditional to so-called renewable (clean) energy sources — sun, wind, water. As part of this transition, it is proposed that all countries, except the "collective West", switch to low-calorie energy fuel. The benefits of such a transition are doubtful, and the harm is obvious — total deindustrialization.

[16] In November 2008, STX Business Group acquired a controlling stake in the Finnish shipyard Aker Yards, which was then renamed STX Europe. This company is headquartered in Oslo (Norway) and has about twenty subsidiaries in various countries, including 30% of Wadan Shipyards MTW/Nordic Yards (Wismar, Germany), and also has shares in Ukrainian shipbuilding companies — Chernomorsk and Nikolaevsk (former No. 200 named after 61 Communards) shipyards. So, the technology and expertise in building container ships of the Norilsk Nickel project and the Yenisei tanker (Table 1) have obvious South Korean roots.

[17] Established by the Decree of the President of the Russian Federation dated 21.03.2007 No. 394 “On the open joint-stock company “United Shipbuilding Corporation””. URL: http://www.kremlin.ru/acts/bank/25217 (accessed 09 January 2025).

[18] In the new geopolitical conditions, AHS was sanctioned in the summer of 2014, and OCK bought out STX Europe's stake in December of that year. AHS was then sold to a Cypriot company, and then (2023) — to the Canadian shipbuilding company Davie. Thus, Russia lost its most important shipbuilding asset.

nuclear icebreaking supply vessels, Arc7, according to which the company's shipyard planned to build two vessels for Gazprom Neft — Alexander Sannikov and Andrey Vilkitskiy (Table 1).

Thus, Russian shipbuilding companies essentially have neither competences nor technologies to build Arctic ice-strengthened vessels, in particular, under the Arc7 class. For example, ice-strengthened vessels built abroad in South Korea or Finnish and German shipyards with South Korean competences use the concept of double acting ship to enable the ship to move in ice both bow and stern (stern speed is higher in ice). The principle of double action is implemented by means of an Azipot steerable thruster with a capacity (on Yamalmax-sized vessels) of up to 13 MW.

The presence of a steerable thruster (ST) is the main criterion for classifying a vessel as Arc7 [19]. Russia does not have the competence to manufacture and install such STs on vessels, which is a very difficult technological problem under sanctions.

When planning the composition of the gas fleet for the Arctic LNG 2 project, Russia's largest shipping company, PJSC Sovcomflot, and Japan's Mitsui OSK Lines (MOL) signed a contract in October 2020 with the well-known South Korean shipbuilding company DSME (since May 2023 — Hanhwa Ocean) for the construction of six (three for each ship owner) Yamalmax, Arc7 gas tankers. Taking into account the capacity of the Arctic LNG 2 project (19.8 million tons), the estimated number of vessels in the gas fleet of this project (similar to Yamal LNG) is 21 units.

It was decided to place the order for the block arrangement of 15 gas tankers at the Zvezda shipyard in Bolshoy Kamen, Primorskiy Krai, taking into account the delivery of the necessary equipment from the South Korean SHI under a contract with the latter. At the same time, it was clear that Zvezda did not have the technology, competence or experience in creating either cryogenic blocks or hull structures for the Arc7 ice class, or (see above) the Azipot thrusters.

Contracts for all 15 Arc7 vessels of the SN 2366 project were concluded in the first half of 2020. The pilot hull was ordered by PJSC Sovcomflot, while the other fourteen were ordered by LLC SMART LNG, a joint venture between PJSC Sovcomflot and PJSC NOVATEK created specifically to act as the operator of these vessels.

The operation of gas tankers was supposed to be based on long-term time charter agreements of the Operators (PJSC Sovcomflot-3+1; MOL-3; LLC SMART LNG-14) with LLC Arctic LNG 2.

The fulfillment of mutual obligations of the parties under contracts related to the formation of the gas fleet of the Arctic LNG 2 project was destructively affected by the fact that the United States included the latter in the so-called SDN List) [20].

[19] When in April 2018, the LNG tanker suffered "minor damage", namely "losing" one of its three propellers, the tanker managed to make one voyage with a batch of LNG before undergoing scheduled repairs in a dry dock, but despite the announced ice class of Arc 7, it was accompanied by an icebreaker. URL: https://neftegaz.ru/news/incidental/201875-tanker-gazovoz-b-vilkitskiy-yamala-spg-poluchil-neznachitelnye-povrezhdeniya/?ysclid=m5gvvwr0r5797052873 (accessed 09 January 2025).

[20] SDN — Specially Designated Nationals and Blocked Persons List — is a registry of the Office of Foreign Assets Control of the US Department of the Treasury (OFAC). This list includes individuals, organizations and individual regimes against which the US government embargo measures are directed. The list includes residents of almost all countries in

On November 2, 2023, the gas project was included in the US blocking list [21] in order to restrict Russia's economic activity in the field of production and export of energy resources [22], namely LNG.

After Arctic LNG 2 was included in the SDN list (US sanctions) in November 2023, SHI announced in December 2023 that it would stop manufacturing equipment for 10 out of 15 [23] gas tankers under the contract with Zvezda Shipbuilding Complex. The company fully complies with the terms of the contract for five [24] tankers that were already under construction at the Russian shipyard at the end of 2023.

At the same time (December 2023), due to economic and geopolitical pressure from the US and EU countries, all foreign shareholders [25] left the Arctic LNG 2 project, declaring force majeure and refusing to provide financial support for the project and fulfill the terms of the concluded offtake contracts for LNG. This decision was also facilitated by the fact that the SDN-list also included transshipment terminals (hubs) where LNG is transferred from Arc7 ice-class LNG carriers to conventional (non-Arctic) tankers and, most importantly, where the ownership of LNG is transferred from the producing company to the shareholders. Most of LNG from the Arctic LNG 2, as in the Yamal LNG project, is contracted at the transshipment terminals in Montoire-de-Bretagne, France, and Zeebrugge, Belgium [26], and is transferred to the shareholders, and then sent to buyers and other markets. In order to avoid sanctions and reduce the length of the LNG transportation route by ice tankers in the western direction, a Russian transshipment terminal is being built near the settlement of Ura-Guba, Murmansk Oblast. A similar terminal is being built in the east in Bechevinskaya Bay, Kamchatka Peninsula.

Due to the inclusion of PJSC Sovcomflot in the SDN list (summer 2022) and the introduction of blocking sanctions against the latter's subsidiaries [27] (February 2024), which also cannot act as a

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the world. Source: What Is the OFAC Specially Designated Nationals (SDN) List? URL: https://sanctionslist.ofac.treas.gov/Home/SdnList (accessed 10 January 2025).

[21] This list includes legal entities and individuals who pose a threat to US national security. All US residents are prohibited from contacting entities on the blocking list. The same applies to non-US residents, who may be subject to secondary sanctions. Source: Specially Designated Nationals and Blocked Persons List. URL: https://ofac.treasury.gov/faqs/topic/1631 (accessed 10 January 2025). For example, after the events of the Crimean Spring in March 2014, a number of Crimean and Russian legal entities and individuals were blacklisted by the US. Source: U.S. sanctions companies, people over Russia actions in Ukraine. URL: https://www.reuters.com/article/world/us-sanctions-companies-people-over-russia-actions-in-ukraine-idUSKBN1492C2/ (accessed 10 January 2025).

[22] Taking Additional Sweeping Measures against Russia United States Department of State, 2023, November, 2. URL: https://ua.usembassy.gov/taking-additional-sweeping-measures-against-russia/ (accessed 09 January 2025).

[23] Samsung will complete five tankers that are already in operation, but will not even begin building ten more. URL: https://oilcapital.ru/news/2023-12-27/samsung-otkazalas-stroit-oborudovanie-dlya-10-spg-sudov-zvezdy-3141045?ysclid=m5nzmyloi696773322 (accessed 09 January 2025).

[24] This includes the laid down and named gas tankers Alexey Kosygin (November 2020), Sergey Witte (January 2021; launched in July 2024) and Pyotr Stolypin (September 2021).

[25] These are France's TotalEnergies, China's CNPC (China National Petroleum Company) and CNOOC (China National Offshore Oil Corporation), as well as Japan's Japan Arctic LNG with a 10% share each.

[26] Sanctions threaten to disrupt Yamal LNG contracts. Version, 2024, no. 18, p. 4. URL: https://versia.ru/shop (accessed 09 January 2025).

[27] These are the Cypriot companies Elixon Shipping, Azoria Shipping and Glorina Shipping.

customer, the manufacturer of three [28] gas tankers ready for delivery to the customer, South Korean Hanhwa Ocean, has ceased interaction with these organizations.

It should be emphasized that the Arctic LNG 2 gas tankers themselves are not on the SDN-list, but being a specific and expensive product compared to their conventional analogues, they can only be used in Arctic LNG projects.

The readiness of three gas tankers, which are being built by order of MOL, is postponed indefinitely by Hanhwa Ocean due to the sanction restrictions of the project itself. These are “Ilya Mechnikov”, “Nikolay Semenov” and “Nikolay Basov”.

Thus, the situation with the readiness of gas tankers for the Arctic LNG 2 project in the summer of 2024, despite the launch of the first line of the project, was disappointing: 6 out of 21 planned tankers were “stuck” at the Hanwha Ocean company [29], 5 were not completed at the Zvezda Shipbuilding Complex, and the construction of 10 tankers was cancelled.

Therefore, in August 2024, NOVATEK announced the suspension [30] of the Arctic LNG 2 project for at least 2 years.

Joint US and EU sanctions essentially blocked the production and export (re-export) of Arctic LNG: the 14th package of EU sanctions [31], adopted on June 24, 2024, which entered into force after a transition period of nine months (April 24, 2025), for the first time, unlike the US, introduces restrictions on supplies of Russian (Arctic) LNG.

The meaning of the restrictions imposed is to prohibit the transshipment of Russian LNG in European ports with re-export to third countries. In the worst case, this will affect about 63% of the annual production of Yamal LNG. The ban on transshipment will come into effect upon ratification of the 14th package of sanctions by all EU member states.

Conclusion

In November 2024, the US launched a new geopolitical epic for dominance of the world's maritime communications under the maxim “Make America Great Again”. At this time, articles like “Make Greenland Great Again” and “Make Arctic Great Again” appeared in the American press, from which it follows that the American territorial expansion of Greenland and Canada indicates that the new US administration is going to control the North Pole [32].

Not only the North Pole, but the sea communications of the Arctic Ocean and the Arctic seas, as well as the energy resources of the continental shelf. In this sense, it is unclear whether

[28] We are talking about three gas tankers named “Pyotr Kapitsa”, “Lev Landau” and “Zhores Alferov”.
[29] Mikhelson's tanker fleet is stuck in Korea. Version, 2024, no. 9, p. 10.URL: https://versia.ru/shop (accessed 13 January 2025).
[30] Merci, Baku! Russian gas will go to Europe via Azerbaijan. Version, 2024, no. 32, p. 6–7. URL: https://versia.ru/rossijskij-gaz-pojdyot-v-evropu-cherez-azerbajdzhan (accessed 13 January 2025).
[31] Sanctions against LNG: what is Europe’s benefit and what awaits NOVATEK. URL: https://www.rbc.ru/business/24/06/2024/667980f89a79471dc1a52d80?ysclid=m5rwispzt7520007548 (accessed 13 January 2025).
[32] "A Suitcase without a Handle": Ukraine in the New Geopolitical Reality. Arguments of the Week, 2025, no. 1, p. 6.URL: https://argumenti.ru/politics/2025/01/933669 (accessed 13 January 2025).

the Arctic shelf, including the Mendeleev and Lomonosov ridges, is an extension of the Eurasian or North American continental margin.

The question is serious — the continental shelf of the Arctic seas contains energy resources equivalent to 89.0 billion tons of fuel equivalent, 80% of which are localized in the waters of the Barents-Kara continental shelf [33].

That is, the energy resources (oil and gas) localized on the shelf of the Barents and Kara Seas are estimated at 71.2 billion tons of fuel equivalent, or 2087 EJ [34]. *This is 3.37% of the world's consumption of PER (primary energy resources) in the record year of 2023* [35].

There are three routes from the Pacific Ocean to the North Atlantic: the NSR, which runs entirely within the zone of national jurisdiction of Russia, as well as the Northwest Passage in the waters of the coastal seas of Canada and Greenland, the third route is the Panama Canal, connecting the coasts of the Atlantic, Pacific Oceans and the Gulf of Mexico. Almost 80% of the US economy is concentrated there [36].

The temptation to gain a position of global superiority in these sea communications of planetary scale is great. Of course, it is not necessary to buy the lands of Canada and Greenland, but to gain these territories while the dollar (or, more precisely, the petrodollar) still dominates the world markets means to create a margin of safety for the future, when the dollar may lose its current value.

Previously, the article emphasized that at the beginning of the 21st century the confrontation between the great powers according to the "ocean-vis-continent" formula has shifted (from the North Atlantic and the waters of the Southern Silk Road) to the Arctic. The battles of hybrid warfare are already unfolding there. So, the 'Great Game' continues.

References

1. Ivashov L.G. *Geopolitics of Russian Civilisation*. Moscow, Institut Russkoy Tsivilizatsii Publ., 2015, 800 p. (In Russ.)
2. Kozmenko S.Yu., Kozmenko A.S. Russian Arctic in the Contours of the Maritime Doctrine of the Russian Federation. *Arktika i Sever* [Arctic and North], 2024, no. 57, pp. 267–284. DOI: https://doi.org/10.37482/issn2221-2698.2024.57.267
3. Mekhen A.T. *The Influence of Sea Power on the French Revolution and Empire.* In 2 Vol. Moscow, AST Publ., Saint Petersburg, Terra Fantastica Publ., 2002, 603 p. (In Russ.)
4. Mekhen A.T. *The Influence of Sea Power on History*. Moscow, AST Publ., Saint Petersburg, Terra Fantastica Publ., 2002, 634 p. (In Russ.)
5. Colomb P.H. *Naval Warfare*. Moscow, AST Publ., Saint Petersburg, Terra Fantastica Publ., 2003, 668 p. (In Russ.)

[33] Arctic crossword. Arguments of the Week, 2023, no. 40, p. 15. URL: https://aif.ru/gazeta/number/53215 (accessed 13 January 2025).

[34] EJ-Exo joule is equal to 10^{18} joules or 23.88 million TOE. In total, global consumption of PER in 2023 was approximately 15.8 billion TOE, or 620.0 EJ.

[35] Statistical Review of World Energy. Energy Institute. 2024. 73rd edition. 74 p. URL: https://www.connaissancedesenergies.org/sites/connaissancedesenergies.org/files/pdf-actualites/Statistical%20Review%20of%20World%20Energy%202024.pdf (accessed 13 January 2025).

[36] Donald the Conqueror // Versiya, 2025, no. 1, p. 2. URL: https://versia.ru/gazeta-nasha-versiya-1-ot-13-yanvarya-2025 (accessed 13 January 2025).

6. Mackinder H.J. The Geographical Pivot of History. *The Geographical Journal*, 1904, pp. 421–437.
7. Mackinder H.J. *Democratic Ideals and Reality*. New York, National Defense University Press, 1942, 227 p.
8. Mackinder H.J. The Round World and the Winning of Peace. *Foreign Affairs*, 1943, vol. 21 (4), pp. 595–605. DOI: https://doi.org/10.2307/20029780
9. Vandam A.E. *Our Position*. Saint Petersburg, Tipografiya A.S. Suvorina Publ., 1912, 204 p. (In Russ.)
10. de Tocqueville A. *Democracy in America*. New York, 1835, 340 p.
11. Brusnitsyn V.N. The Arctic in US Politics. *Collected Naval*, 2024, no. 1 (2122), pp. 59–67.
12. Kozmenko S.Yu., Kozmenko A.S. Strategizing Russia's Economic Presence in the Arctic. *The North and the Market Forming the Economic Order,* 2024, no. 2, pp. 146–157. DOI: https://doi.org/10.37614/2220-802X.2.2024.84.011
13. Kozmenko S.Yu., Kozmenko A.S. The Arctic Geo-Economy: Mobility of Strategic Oil Resources at the End of Globalization. *Arktika i Sever* [Arctic and North], 2022, no. 49, pp. 38–54. DOI: https://doi.org/10.37482/issn2221-2698.2022.49.38
14. Kennedy P. *The Rise and Fall of the Great Powers*. New York, Random House, 1987, 540 p.
15. Clausewitz C. *On War. In 8 Volumes*. Moscow, Gosvoenizdat Publ., 1934, 692 p. (In Russ.)
16. Lenin V.I. *War and Revolution*. Moscow, Politizdat Publ., 1969, vol. 32, 605 p. (In Russ.)
17. Makarov S.O., Kuznetsov N.A., Dolgova S.V. *Icebreaker Ermak*. Moscow, Paulsen Publ., 2010, 656 p. (In Russ.)
18. L'vov D.S., ed. *Way to the XXI Century. Strategic Problems and Prospects of the Russian Economy*. Moscow, Ekonomika Publ., 1999, 793 p. (In Russ.)
19. Borusevich V.O., Kanevskiy G.I., Sazonov K.E. Requirements for the Ice Qualities of the Ship and Some Problems of Their Development. *Collected Naval,* 2017, no. 7 (2044), pp. 37–43.
20. Granberg A.G., Peresypkin V.I., eds. *Problems of the Northern Sea Route*. Moscow, Nauka Publ., 2006, 581 p. (In Russ.)

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Organizational and Economic Mechanism of Managing Aviation Infrastructure for Ship Traffic along the Northern Sea Route

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Abstract. The development of new territories and international relations requires modernization and the formation of new approaches to managing the implementation of major federal projects. The most important federal project aimed at increasing the competitiveness of the country's economy in the international arena is the project for the development of transit container transportation along the water area and the Northern Sea Route. Great expectations are associated with the creation of new international economic relations, built using a new transport artery, the communication along which is formed along the shortest route, taking into account the peculiarities of the structure of our planet. The implementation of the project has clear time limits on the stages of its implementation. In 2027, it is planned to start movement along the Northern Sea Route sea transit route (hereinafter referred to as the NSR), which unites the eastern and western extremities of the Eurasian continent in autonomous navigation. By this time, the entire infrastructure of vessel traffic along the NSR should be ready and equipped with the necessary means of communication. This article aims to develop a mechanism for managing the aviation infrastructure capable of meeting the needs for ensuring the continuity of ship traffic along the NSR. The author has systematized the necessary management methods and supplemented the elements of the management subject structure, necessary and sufficient for the timely execution of the organizational decisions planned by the federal program.
Keywords: *management subject, management object, management mechanism, aviation infrastructure, Arctic zone of the Russian Federation, ship traffic along the NSR*

Research relevance

The problems of top-level management, where the interests of ministries and departments intersect, require the division of responsibility boundaries, setting clear goals and tasks to be solved. In Russia, strategic vision, especially at the federal level of management in the executive branch, is not a priority, and it is necessary to create new conceptual foundations to resolve the issues of developing large infrastructure projects. New concepts of making management decisions presuppose the formation of new mechanisms for managing large infrastructure projects in the Russian Federation. One of the problem areas in the development of infrastructure support of the national economy of the country is the formation of aviation infrastructure of ship traffic along the Northern Sea Route.

The object of the study is the mechanism of management of the Arctic aviation infrastructure of ship traffic along the Northern Sea Route.

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The subject of the study is the theory of management of large economic systems, as well as the organization of work of federal executive bodies.

The main objective of the study is to develop a mechanism for managing the aviation infrastructure of ship traffic in the Arctic zone of the Russian Federation along the Northern Sea Route, aimed at resolving organizational and economic problems.

In order to achieve the stated goal, the following tasks were set and consistently solved:

- the structure of the management subject was substantiated;
- the structure of key management methods was formed;
- the main management objects of the aviation infrastructure of the NSR traffic were determined;
- the structure and components of the mechanism of management of aviation infrastructure of ship traffic in the Arctic zone of the Russian Federation along the Northern Sea Route, aimed at solving organizational and economic problems, were developed.

Research methods

The work used the method of material systematization to form consistent conclusions about the state of aviation infrastructure in the Arctic and to search for rational solutions for its development.

Literature review

Avilov N.S. [1], Pavlova E.I. [2], Pestryakov B.V. [3] devoted their works to the study of the history and current trends in the development of polar aviation. These authors emphasize the lack of alternatives for the use of polar aviation resources in the implementation of any projects in the Arctic zone of the Russian Federation.

Large-scale problems of socio-economic development of aviation infrastructure of the territories of the Far North are considered in the works of Nenasheva M.V. [4], Donchenko V.K. [5], Karpovich O.G., Shlafman A.I. [6]. In the works of these authors, the country's priorities in the development of aviation infrastructure of various objects and processes are set. In modern works of foreign authors, one can find a view on the development of aviation infrastructure, the works of such authors as An H. [7], Scott B. [8], I.K. Lim [9] reveal the place and role of state support, as well as areas of active participation of business structures in the development of aviation infrastructure of the northern territories.

Modern researchers of the problems of development of the northern Arctic regions Jahn C., Weigell J., Levina A., Iliashenko V. [10], Karginova-Gubinova V.V., Vasilyeva A.V., Moroshkina M.V., Potasheva O.V. [11], Blagorodov A.A., Vilisova M.L., Prokhorov V.T., Volkova G.Yu. [12], Kuznetsova M.N., Vasilyeva A.S. [13], Poleshkina I.O. [14] identify urgent needs for infrastructure development of the territories of the Arctic zone of the Russian Federation. The importance of aviation component development for economic and cultural relations of the AZRF territories both

among themselves and in the organization of economic relations with other regions of the Russian Federation is noted.

Theoretical and methodological issues of NSR infrastructure development are discussed in the works of such authors as: Bashmakova E.P., Ulchenko M.V. [15], Danilin K.P., Ivanova M.V. [16], Novoselov A., Potravny I., Novoselova I. Gassiy V. [17], Radushinsky D.A. [18], Toymentseva I.A., Fedorenko R.V. [19], Topalov R.V., Miroshina E.A. [20], Kholoptsev A.V., Podporin S.A., Olkhovik E.O. [21]. The priority idea of these works is to attract researchers to the problems of substantiating the directions of investment activity in the development of the NSR infrastructure.

Research results

The work contains new solutions for arranging the interaction of three blocks as part of the organizational and economic mechanism for managing the development of aviation traffic infrastructure along all routes of the Northern Sea Route.

The mechanism block “management subject” was revised, which received a clear link to resolving the problems of developing aviation traffic infrastructure along the NSR.

The current structure of the subject of management of aviation infrastructure development in the Arctic zone of the Russian Federation showed insufficient feedback on the processes of managing the aviation infrastructure of ship traffic along the NSR, especially along high-latitude routes.

The new structure of the management subject proposed by the author allows solving this set of problems associated with the new organization of interdepartmental interaction.

Formation of the organizational and economic mechanism for managing the aviation infrastructure of traffic along the Northern Sea Route

The high priority of implementing socio-economic projects for the development of the Arctic zone of the Russian Federation in the context of building new international relations is difficult to overestimate. The development of natural resources of the AZRF is widely performed by private capital. Management of the development of systems, subsystems and elements that form the property complex of entrepreneurial initiatives in the Arctic zone of the Russian Federation is based on regional features of resource distribution and the development of the infrastructure of the Arctic territories. The AZRF include the Arctic territories of nine regions of the Russian Federation: “Murmansk Oblast, Arkhangelsk Oblast, Republic of Karelia, Komi Republic, Nenets Autonomous Okrug, Yamalo-Nenets Autonomous Okrug, Krasnoyarsk Krai, Republic of Sakha (Yakutia), Chukotka Autonomous Okrug” [1].

[1] Order of the Government of the Russian Federation of August 1, 2022 No. 2115-r “On approval of the plan for the development of the Northern Sea Route for the period until 2035”. URL: https://www.garant.ru/products/ipo/prime/doc/405010751/ (accessed 30 December 2024).

In turn, "System-forming projects for the socio-economic development of the Arctic zone of the Russian Federation" [2] are implemented under the management of ministries and state corporations through the approval of federal programs for the socio-economic development of the region. The most important federal program for the development of the Arctic zone economy initiated by the state is the Northern Sea Route development plan [3].

The implementation of the NSR development plan implies the involvement of many economic systems in economic relations, the basic of them are enterprises, organizations, departments and ministries responsible for organizing the movement of passengers and cargo along the NSR routes.

A separate place among the tasks of organizing traffic along the NSR is occupied by the organization of the uninterrupted movement of ships along the NSR by providing comprehensive support for the communication of moving ships with continental services.

"Among the many ways of interaction between ships and continental services, the organization of aviation support for the movement of ships along the NSR, or, in other words, the aviation infrastructure for the movement of ships along the NSR (the category, structure and composition of the air transport infrastructure are defined in the Air Code of the Russian Federation) is of great importance" [4] [22].

According to the Air Code of the Russian Federation, the aviation infrastructure includes [22]:

- "airfields, heliports, equipped areas for aircraft docking and landing, other facilities necessary for takeoff, landing, taxiing and parking of aircraft" [22];
- "airport terminals and other facilities, including capital construction projects, necessary for boarding and disembarking passengers, loading, unloading and storing cargo carried by aircraft, servicing and ensuring the safety of passengers and cargo" [22];
- "facilities of the unified air traffic management system" [22];
- "ground facilities necessary for the operation, maintenance, construction, reconstruction and repair of airports, airfields and heliports, underground structures and utilities" [22];
- "buildings, structures located on the territories of airports, airfields, heliports and intended to ensure aviation security, provision of services" [22];
- "ground equipment necessary for the provision of unmanned aircraft systems control lines and control services by suppliers of services (hereinafter — ground equipment for servicing control lines of unmanned aircraft systems and monitoring of unmanned aircraft systems)" [22].

[2] Ibid.
[3] Ibid.
[4] Air Code of the Russian Federation of March 19, 1997 No. 60-FZ. URL: https://base.garant.ru/10200300/f591b099fe667502efd1ff53a02722e8/ (accessed 30 December 2024).

The aviation component in the infrastructure of traffic along the NSR determines the conditions for direct material and technical interaction between vessels moving along the NSR and continental services [22, Chernyak T.A., p. 423].

The approved resolutions of the Government of the Russian Federation [5, 6] define priorities in the development of sea, river, and rail transport in the implementation of the NSR development plan; due to unforeseen circumstances, the plan [7] did not have an independent place for determining priorities in the development of the aviation infrastructure for the movement of passengers and goods along the NSR. By the Order of the Government of the Russian Federation of August 1, 2022 N 2115-r "On approval of the plan for the development of the Northern Sea Route for the period until 2035", the tasks of developing the aviation infrastructure were transferred to the department of eight regions (with the exception of the Republic of Karelia), forming the continental infrastructure of the Arctic zone of the Russian Federation as a whole. This step concealed a serious inconsistency in the implementation of management initiatives. The Arctic regions interested in developing interregional exchange, developing the Northern Delivery system, have no direct relation to the implementation of the main goal of the Northern Sea Route development plan [8] — ensuring uninterrupted movement of passengers and goods along the shortest sea route from the East to the West of the Eurasian continent and in the opposite direction. These routes are not directly related to the socio-economic development of six of the eight regions of the Arctic zone of the Russian Federation. The Murmansk Oblast and the Chukotka Autonomous Okrug are the extreme points on the route, where caravans can choose the route of lower latitudes and reduce the ice load on their route. In this regard, there is an organizational and technological problem today, consisting in insufficient provision of opportunities for interaction between ships following high-latitude routes of the NSR and continental polar aviation services. The starting point in the escalation of this problem is the insufficient development of the network of Arctic airfields, which affects their readiness to provide support to vessels following the NSR.

Thus, the current circumstances require researchers to pay increased attention to solving problems in managing the development of aviation infrastructure for ship traffic along the NSR. The beginning of the search for solutions to the stated problem is the construction of an organizational and economic mechanism for managing the Arctic aviation infrastructure for ship traffic along the NSR.

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[5] Order of the Government of the Russian Federation of August 1, 2022 No. 2115-r "On approval of the plan for the development of the Northern Sea Route for the period until 2035". URL: https://www.garant.ru/products/ipo/prime/doc/405010751/ (accessed 30 December 2024).

[6] Resolution of the Government of the Russian Federation of September 18, 2020 No. 1487 "On approval of the Rules of navigation in the waters of the Northern Sea Route". URL: https://rostransnadzor.gov.ru/documents/categories/79/document/3805 (accessed 30 December 2024).

[7] Order of the Government of the Russian Federation of August 1, 2022 No. 2115-r "On approval of the plan for the development of the Northern Sea Route for the period until 2035". URL: https://www.garant.ru/products/ipo/prime/doc/405010751/ (accessed 30 December 2024).

[8] Ibid.

An organizational and economic management mechanism means a set of management subjects and objects related to each other by management methods to achieve the set goals.

In turn, the goals in the development of the aviation infrastructure for traffic along the NSR are divided into three areas:

- ensuring the uninterrupted movement of ships along the high latitudes of the NSR by forming a new network of airfields in a quantity and with technical equipment sufficient to cover the entire route of ships along the high latitudes of the domestic northern seas;
- ensuring the maintenance of the functional state, modernization and technical equipment of existing airfields in the Arctic zone involved in ensuring the uninterrupted movement of ships along the NSR, with the necessary means for organizing communications;
- ensuring the interconnection and interaction of the aviation infrastructure for the movement of passengers and cargo along all NSR routes with convoys of icebreakers and ships following the directions approved by the main operator of the NSR.

In order to achieve the set goals, the management subject formulates objectives that define the requirements and form the directions of aviation infrastructure development. The implementation of the goals has a strict sequence. Thus, the third goal cannot be achieved until the result is obtained for the first and second ones. The first goal requires the greatest amount of preparatory work, the implementation of which is based on compliance with the requirement for sufficient coverage of the entire NSR route by aviation infrastructure. Achieving the results for the second goal is based on the priorities developed in the course of achieving the results of the first goal.

According to the order of the Government of the Russian Federation dated August 1, 2022 N 2115-r “On approval of the plan for the development of the Northern Sea Route for the period until 2035” [9], the development of infrastructure, including aviation, is allocated to a separate management entity, organized on the basis of institutional principle, under the general title “Preparation of proposals for the development of infrastructure of the transit container operator project based on the results of the pilot project in 2027”, the management subject includes such institutions as the Ministry of Transport of the Russian Federation, the Ministry for the Development of the Far East and the Arctic, as well as the state corporation “Rosatom” (Fig. 1).

The management subject included responsibilities for organizing the development of the entire infrastructure of container ship traffic, including aviation. Modern container ships, carrying 120–150 thousand tons of cargo on board, due to their high draft, are capable of moving only along the high-latitude routes of the NSR. However, in practice, little attention has been paid to the management of the development of infrastructure for its aviation component. During the en-

[9] Order of the Government of the Russian Federation of August 1, 2022 No. 2115-r “On approval of the plan for the development of the Northern Sea Route for the period until 2035”. URL: https://www.garant.ru/products/ipo/prime/doc/405010751/ (accessed 30 December 2024).

tire period of planning the development of NSR traffic, the structures forming the management subject found it necessary to implement only one decree of the Government of the Russian Federation dated 07.02.2022 N 186-r "On the action plan ("road map") for the construction (reconstruction) of landing sites in the Arctic zone of the Russian Federation" [10]. The implementation period for this order ended in November 2023, and not a single proposal was formed for the development of new aviation infrastructure within a radius closer than 200 km from the coast of the continent.

Fig. 1. Unified structure of the institutes included in the management subject developing the concept of the development of the infrastructure for container ship traffic along the NSR. Management mechanism block: "Management subject" [11].

All proposals from the roadmap serve to achieve specific development objectives for the Arctic regions that are not related to cargo traffic along high-latitude transit routes. Moreover, the Rosatom State Corporation, in accordance with the provisions of Federal Law No. 317-FZ of 01.12.2007 "On the State Atomic Energy Corporation Rosatom" [12], has no connection with the aviation infrastructure and does not study the possibilities of its use. "The Ministry for the Development of the Far East and Arctic does not have goals and objectives related to the development of transit routes. The Ministry for the Development of the Far East and Arctic considers the development of infrastructure affecting the activities of seaports assigned to eight Arctic regions. This concludes the authority of the Ministry for the Development of the Far East and Arctic regarding the organization" [13] of traffic along the NSR. The Ministry of Transport does not consider the problem of ensuring uninterrupted vessel traffic along the NSR without posing the problem from the outside. There is no one to designate the problem of international and interregional container traffic along high-latitude NSR routes in the dedicated subject of infrastructure management.

[10] Order of the Government of the Russian Federation of 07.02.2022 No. 186-r "On the action plan ("road map") for the construction (reconstruction) of landing sites in the Arctic zone of the Russian Federation". URL: https://www.consultant.ru/document/cons_doc_LAW_408943/f62ee45faefd8e2a11d6d88941ac66824f848bc2 (accessed 30 December 2024).
[11] Compiled by the author.
[12] Federal Law of 01.12.2007 No. 317-FZ "On the State Atomic Energy Corporation Rosatom". URL: https://www.consultant.ru/document/cons_doc_LAW_72969/ (accessed 30 December 2024).
[13] Ibid.

Thus, the mechanism for managing the aviation infrastructure of traffic along the NSR has very weak capabilities in the area of interpreting feedback; in fact, there is simply no feedback on the aviation infrastructure of traffic along high-latitude NSR routes. The aviation infrastructure itself is only a small part of the overall mechanism for managing the infrastructure support of container transportation along the NSR. The mechanism for managing the infrastructure of vessel traffic along the NSR can be illustrated by the following diagram (Fig. 2).

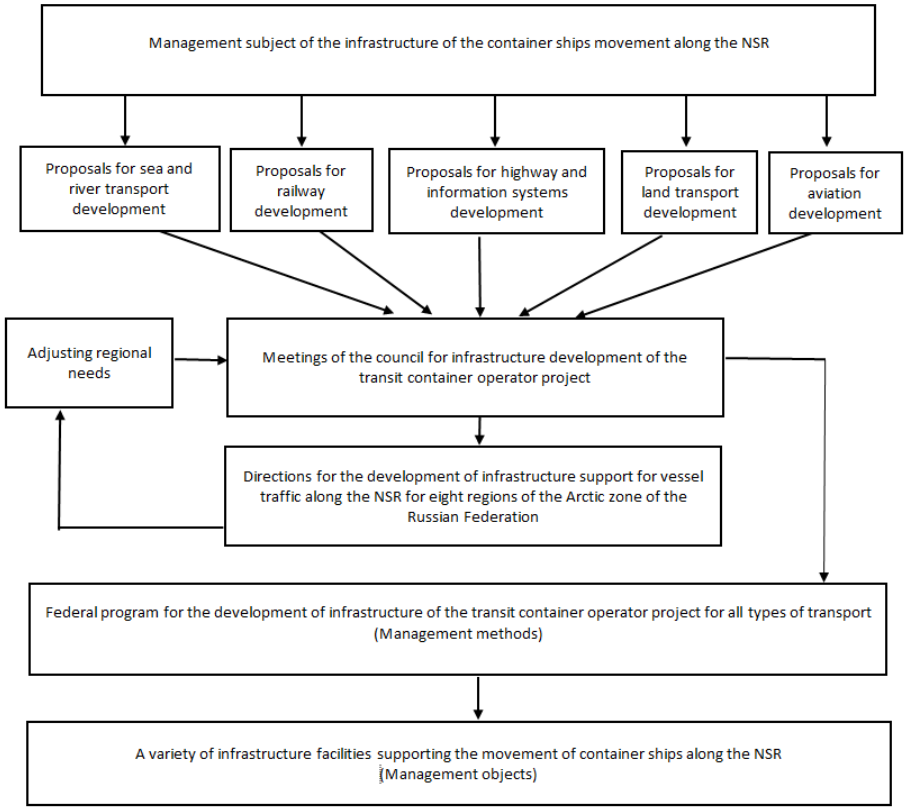

Fig. 2. Mechanism for managing the infrastructure of traffic along the NSR [14].

Currently, the management process has stopped at the stage of approving federal and regional regulations without reference to the goals and objectives of developing a transit high-latitude route for vessel traffic (according to the Order [15] — container ships) along the NSR.

Thus, the problem of ensuring the uninterrupted movement of passengers and cargo along the NSR based on the use of technical means of civil aviation remained outside the boundaries of the activities of the formed entity managing infrastructure projects, which is unacceptable in the context of the imminent launch of the pilot project scheduled for 2027.

In this regard, it is proposed to change the structure of the subject managing the infrastructure support for traffic along the NSR by forming an independent management subject, also formed according to the institutional principle, but with a dedicated function for developing the aviation component, lost in the system of forecasts and plans for the movement of container ships

[14] Compiled by the author.
[15] Order of the Government of the Russian Federation of August 1, 2022 No. 2115-r "On approval of the plan for the development of the Northern Sea Route for the period until 2035". URL: https://www.garant.ru/products/ipo/prime/doc/405010751/ (accessed 30 December 2024).

along the NSR. Fig. 3 shows the subject of aviation infrastructure management, which has a composition formed according to the institutional principle, in the interests of container ship traffic along the NSR. The proposed composition of institutions in the management subject forms the first block of the management mechanism for the development of aviation infrastructure for traffic along the NSR — "Management subject".

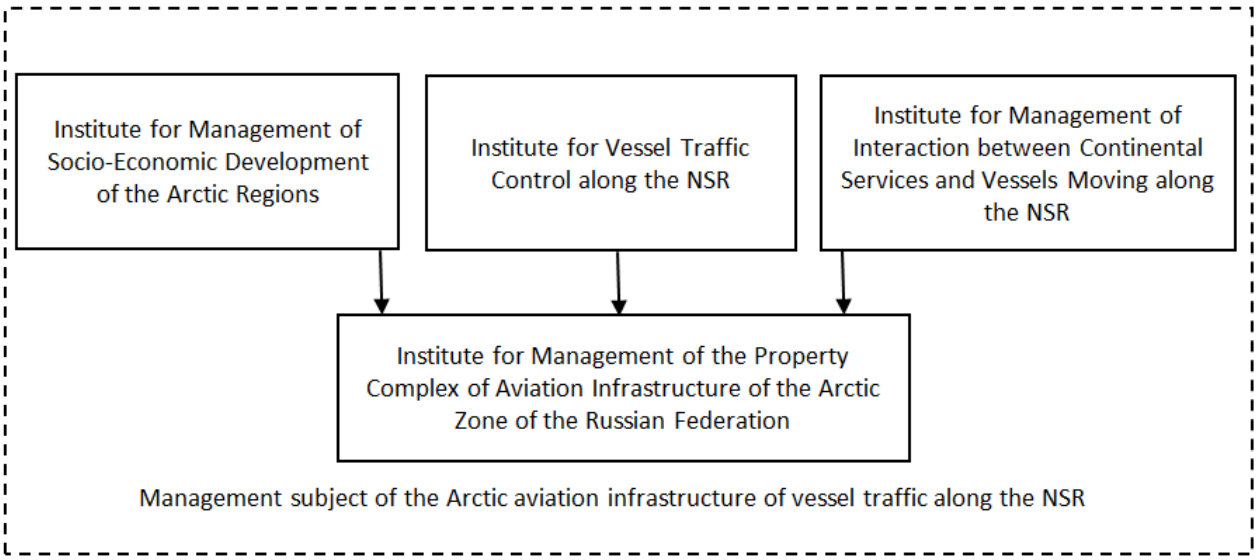

Fig. 3. Block of the management mechanism of the Arctic aviation infrastructure of vessel traffic along the NSR: "Management subject" [16].

Each institute for managing the development of aviation infrastructure for vessel traffic along the NSR forms its own set of requirements for the areas of development of the aviation infrastructure. The composition of the allocated institutes should be formed in accordance with the list of ministries and departments involved in the development of the NSR, according to the Order of the Government of the Russian Federation of August 1, 2022 N 2115-r "On approval of the plan for the development of the Northern Sea Route for the period until 2035" [17]. The tasks set by the management subject serve to achieve the goals in three areas of development of the aviation infrastructure of traffic along the NSR identified in the study.

The Institute for Management of Socio-Economic Development of the Arctic Regions (hereinafter referred to as IMSEDAR) will be responsible for initiating and monitoring the construction work in the territories of eight regions to build new airfields in the aviation infrastructure of traffic along the NSR. The IMSEDAR will include the Ministry for the Development of the Far East and the Arctic, the Ministry of Transport of the Russian Federation.

The Institute for Vessel Traffic Control along the NSR (hereinafter referred to as the IVTC) will coordinate the conditions and requirements for route planning, as well as compliance with the northern latitude limits of vessel convoys along the NSR in order to ensure the competitiveness of

[16] Compiled by the author.
[17] Order of the Government of the Russian Federation of August 1, 2022 No. 2115-r "On approval of the plan for the development of the Northern Sea Route for the period until 2035". URL: https://www.garant.ru/products/ipo/prime/doc/405010751/ (accessed 30 December 2024).

the transit use of the NSR. The IVTC will include the Ministry of Transport of the Russian Federation and the Rosatom State Corporation.

The Institute for Management of Interaction of Continental Services and Vessels Moving along the NSR (hereinafter referred to as the IMICSVM) will formulate requirements for coordinating the operational interaction of continental services and vessels moving along the NSR, by approving regulations and protocols for the implementation of communications in all possible areas of vessel traffic support. The IMICSVM will include the Ministry of Transport of the Russian Federation, the Ministry of Emergency Situations, the Rosatom State Corporation, and the Rostec State Corporation.

The formed conditions of construction works, protocols of communications implementation, as well as requirements to the organization of interaction between vessels and continental services are accumulated and analyzed by the Institute for Management of the Property Complex of the Aviation Infrastructure of the Arctic Zone of the Russian Federation (hereinafter referred to as IMPCAI). On the basis of consolidated data and in accordance with the general goal of developing the NSR transit route, the IMPCAI develops requirements for building the concept of developing the aviation infrastructure for vessel traffic along the NSR. This institute will include the Ministry of Transport of the Russian Federation, the Ministry for the Development of the Far East and the Arctic, and the Ministry of Emergency Situations.

The control action is implemented by standard management methods, including orders, decrees, implying control over their fulfilment, and therefore, largely relying on the rational organization of feedback with the second block — “Management methods” (Fig. 4).

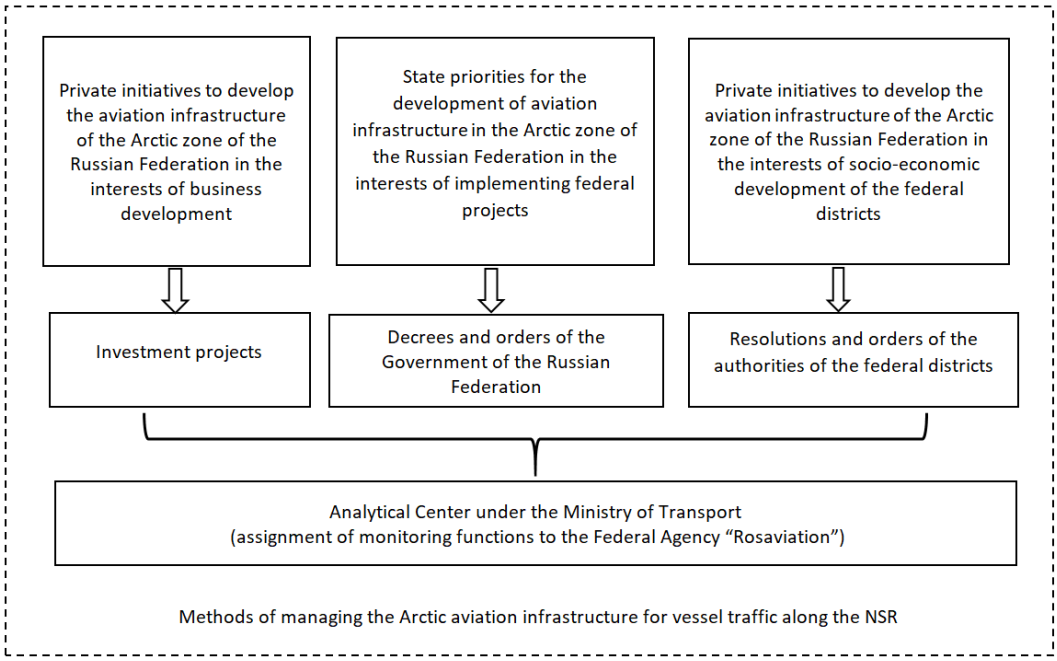

Fig. 4. Block of the management mechanism of the Arctic aviation infrastructure of vessel traffic along the NSR: “Management methods” [18].

[18] Compiled by the author.

Management methods have two stages of formation and assume the consolidation of the monitoring function within the process of making management decisions. It is important to note that the acute problem of today is the implementation of steps to form a concept for the development of aviation infrastructure for vessel traffic along the NSR.

The concept obtained as a result of the composition of data on the development of aviation infrastructure forms feedback with the management entity, which approves its implementation and gives instructions for the start of the implementation of economic activities necessary for the development of aviation infrastructure for vessel traffic along the NSR. The interrelation of the block of the management subject and the block of management methods in the mechanism of management of the Arctic aviation infrastructure of ship traffic along the NSR takes place in the order of implementing the development goals described above.

The result of the impact of management methods on management objects is the implementation of decrees, orders and projects for the development of the property complex of Arctic airfields, as well as the creation of new protocols of interaction between the Arctic infrastructure and ships travelling along the NSR.

The management objects in the system of relationships aimed at developing the aviation infrastructure for traffic along the NSR are both new territories of the Arctic zone, where the required number of Arctic airfields are to be built, and the existing property complexes of the main airfield operators, under whose management the equipment modernization processes are to be completed (see Fig. 5).

For all types of property complexes in the aviation infrastructure support system, programs for technical and technological equipment of the airfield with the necessary means for organizing and implementing interaction between vessels following NSR routes and continental services should be implemented.

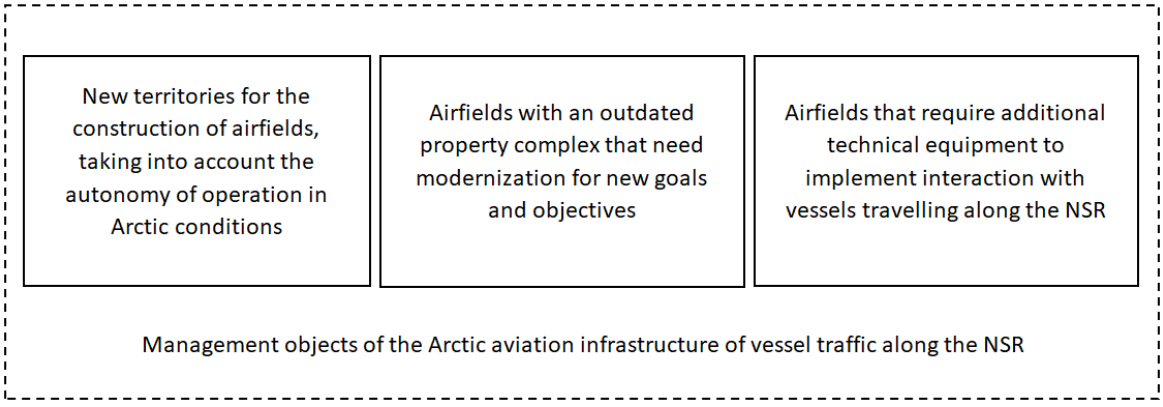

Fig. 5. Block of the management mechanism of the Arctic aviation infrastructure of vessel traffic along the NSR: "Management object" [19].

Thus, the mechanism for managing the development of the Arctic aviation infrastructure for vessel traffic along the NSR will have the following structure and will be implemented due to the established relationships reflected in Fig. 6.

[19] Compiled by the author.

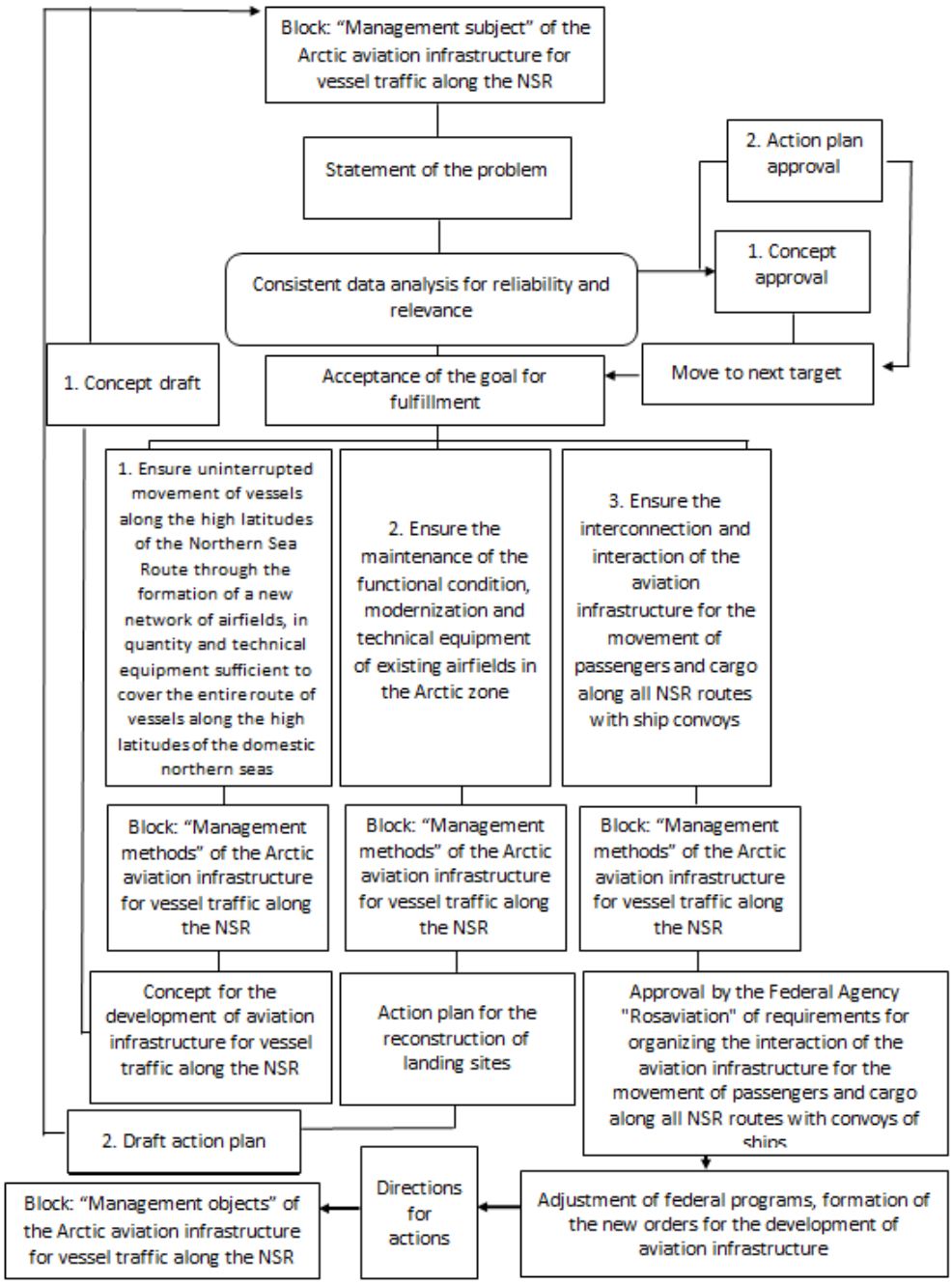

Fig. 6. Mechanism of management of the Arctic aviation infrastructure of ship traffic along the NSR.

The main starting point for the organizational and economic mechanism is the problem of managing the aviation infrastructure of ship traffic along the NSR. The solution of this problem forms three directions of management goals, which are consistently connected to the management mechanism through the creation of a concept for the development of aviation infrastructure and a plan for the reconstruction of landing sites in the Arctic zone of the Russian Federation, capable of providing support to vessels following all NSR routes.

Conclusion

The construction of a mechanism for managing the Arctic aviation infrastructure for vessel traffic along the NSR required a restructuring of the composition of the management subject of

the infrastructure support for vessel traffic along the NSR by justifying the need to allocate an independent structure of the subject managing the Arctic aviation infrastructure for vessel traffic along the NSR. The management subject of the Arctic aviation infrastructure of vessel traffic along the NSR acts as the first block in the management mechanism of the Arctic aviation infrastructure of vessel traffic along the NSR.

Initialization of identical management decisions by established methods in the new management mechanism of the Arctic aviation infrastructure of vessel traffic along the NSR formed a set of key management methods. The array of administrative decisions formed in accordance with the new scheme of operation of the management mechanism of the Arctic aviation infrastructure of vessel traffic along the NSR forms the second block of the mechanism — management methods.

In order to fulfil the goals of the development of the aviation infrastructure of vessel traffic along the NSR, the management objects were generalized as an independent third block in the new management mechanism of the Arctic aviation infrastructure of vessel traffic along the NSR.

The developed scheme of the organizational and economic management mechanism of the Arctic aviation infrastructure of vessel traffic along the NSR completely covers the most rational ways to solve the problems set in the study.

The main result of the work of the management mechanism of the Arctic aviation infrastructure of vessel traffic along the NSR is a new approach to the development of regulatory documents that define the requirements for the number, locations and technical characteristics of the development of airports in the infrastructure of ship traffic along the NSR. Based on these documents, the developers of the Arctic federal districts and the main operators of airfields will be able to begin implementing their functions.

In turn, the work of the aviation infrastructure in accordance with the established management mechanism of the Arctic aviation infrastructure of vessel traffic along the NSR will be able to ensure the uninterrupted movement of ships along all NSR routes.

References

1. Avilov N.S. Economic Opportunities and Policy of the Russian Federation on the Northern Sea Route. *Digital Economy & Innovations,* 2022, no. 2 (49), pp. 5–12. DOI: https://doi.org/10.18323/2221-5689-2022-2-5-12
2. Pavlova E.I., Byabina E.A., Tarasov K.S. The Role of Aviation in the Development of Northern Territories: History and Logistic Trends. In: *Problems of Transport Infrastructure Development of Northern Territories: Proc. of the 5th All-Russ. Sci. and Pract. Conf*. Kotlas, Kotlas Branch of the Federal State Budgetary Educational Institution of Higher Education “Admiral S.O. Makarov State University of Maritime and Inland Shipping” Publ., 2023, pp. 179–183.
3. Pestryakov B.V., Ydalov V.A., Chilingarov A.N. Importance of Aviation in Exploration and Development of the Arctic. In: *Geography and Geoecology in the Service of Science and Innovative Education: Materials of the XIII All-Russian Scientific-Practical Conference with International Participation, Dedicated to the 70th Anniversary of the Museum of Geology and Earth Science V.P. Astafyev KSPU, the 110th Anniversary of the Birth of M.V. Kirillov, the 110th Anniversary of the Tunguska Phenomenon*. Krasnoyarsk, KSPU named after V.P. Astafiev Publ., 2018, iss. 13, pp. 73–77.

4. Nenasheva M.V., Grishchenko I.V. Organization of Transport Services for the Population of the Russian Arctic Remote Areas (Using the Example of the Arkhangelsk Region). *Arctic: Ecology and Economy,* 2023, vol. 13, no. 4 (52), pp. 613–623. DOI: https://doi.org/10.25283/2223-4594-2023-4-613-623
5. Donchenko V.K., Gusev A.V., Ivanchin A.A., Mansurov M.N., Zatsepa S.N., Ivchenko A.A., Knizhnikov A.Yu., Solbakov V.V., Blinovskaya Ya.Yu. Polemical Article on the Study Results "An Approach to the Analysis of Hydrometeorological Conditions That Determine the Delay in Response to Marine Oil Spills in the Arctic Zone of the Russian Federation". *Arctic: Ecology and Economy*, 2023, 11 p. DOI: https://doi.org/10.25283/2223-4594-2023-pw1
6. Karpovich O.G., Shlafman A.I. The Place and Role of the Northern Sea Route in the Formation and Development of International Economic Relations and Expansion of the Economic Potential of the Regions. *Russian Journal of Management*, 2020, vol. 8, no. 1, pp. 21–25. DOI: https://doi.org/10.29039/2409-6024-2020-8-1-21-25
7. An H., King N., Hwang S.O. Issues and Solutions in Air-Traffic Infrastructure and Flow Management for Sustainable Aviation Growth: A Literature Review. *World Review of Intermodal Transportation Research*, 2019, vol. 8, no. 4, pp. 293–319. DOI: https://doi.org/10.1504/WRITR.2019.103286
8. Scott B.I. Vertiports: Ready for Take-off … And Landing. *Journal of Air Law and Commerce*, 2022, vol. 87, no. 3, pp. 502–530. DOI: https://doi.org/10.25172/jalc.87.3.6
9. Lim I.K., Cho K.H., Oh J.H., Lee J.R. Countermeasures against Cyber Threats to Aviation Systems. *Crisis and Emergency Management: Theory and Praxis,* 2022, vol. 18, no. 3, pp. 21–31. DOI: https://doi.org/10.14251/crisisonomy.2022.18.3.21
10. Jahn C., Weigell J., Levina A., Iliashenko V. The Northern Sea Route as a Factor of Sustainable Development of the Arctic Zone. *Contributions to Management Science*, 2022, pp. 261–282. DOI: https://doi.org/10.1007/978-3-030-92291-7_14
11. Karginova-Gubinova V.V., Vasilieva A.V., Moroshkina M.V., Potasheva O. V. Attracting Investments in the Arctic: In Which Regions Are Arctic Residents the Most Significant, Effective and Sustainable? *Arctic: Ecology and Economy*, 2023, vol. 13, no. 3 (51), pp. 394–404. DOI: https://doi.org/10.25283/2223-4594-2023-3-394-404
12. Blagorodov A.A., Vilisova M.L., Prokhorov V.T., Volkova G.Yu. Actual Aspects of Tourism Development in the Arctic Zone of the Russian Federation. *ISJ Theoretical & Applied Science*, 2023, no. 9 (125), pp. 1–24. DOI: https://doi.org/10.15863/TAS.2023.09.125.1
13. Kuznetsova M.N., Vasilyeva A.S. Innovation Potential of Regions within the Arctic Zone of the Russian Federation: Assessment Methodology, Comparative Analysis, Development Prospects. *Economic and Social Changes: Facts, Trends, Forecast*, 2023, vol. 16, no. 2, pp. 69–87. DOI: https://doi.org/10.15838/esc.2023.2.86.4
14. Poleshkina I.O. Methodology for Evaluating Transport Accessibility in the Arctic Zone: Organization of Passenger Transportation. In: *Proceedings of 10th International Conference on Recent Advances in Civil Aviation. Lecture Notes in Mechanical Engineering*. Springer, Singapore, 2023, pp. 425–432. DOI: https://doi.org/10.1007/978-981-19-3788-0_38
15. Bashmakova E.P., Ulchenko M.V. Development of the Northern Sea Route and Infrastructure Arctic Transport System. *Regional Problems of Transformation of the Economy*, 2019, no. 12 (110), pp. 88–96. DOI: https://doi.org/10.26726/1812-7096-2019-12-88-96
16. Danilin K.P., Ivanova M.V. Infrastructure of the Northern Sea Route as a Factor of Socio-Economic Development of the Arctic. In: *The North and the Arctic in the New Paradigm of World Development. Luzinskie Readings 2022: Proc. of the 11th Intern. Sci. and Pract. Conf*. Apatity, FRC KSC RAS Publ., 2022, pp. 46–47.
17. Novoselov A., Potravny I., Novoselova I. Gassiy V. Compensation Fund as a Tool for Sustainable Development of the Arctic Indigenous Communities. *Polar Science*, 2021, vol. 28, art. 100609. DOI: https://doi.org/10.1016/j.polar.2020.100609
18. Radushinskiy D.A. Prospects and Problems of Development of Transport Infrastructure of the Northern Sea Route in the Arctic Zone of the Russian Federation. In: *Arctic: History and Modernity. Proc. of the 2nd Intern. Sci. Conf*. Saint Petersburg, Mediapapir Publ., 2017, pp. 377–387.
19. Toymentseva I.A., Fedorenko R.V. Prospects for the Development of the Transport and Logistics Infrastructure of the Northern Sea Route within the Framework of the Program "One Belt, One Road".

Vestnik of Volzhsky University after V.N. Tatischev, 2023, vol. 2, no. 1 (51), pp. 140–149. DOI: https://doi.org/10.51965/2076-7919_2023_2_1_140

20. Topalov R.V., Miroshina E.A. Increasing the Investment Attractiveness of the Northern Sea Route. *Samoupravlenie*, 2019, vol. 2, no. 1 (114), pp. 326–329.
21. Kholoptsev A.V., Podporin S.A., Ol'khovik E.O. Changes in the Ice Situation on the Northern Sea Route Depending on the Movement of the Solar System Planets. *Arctic: Ecology and Economy*, 2023, vol. 13, no. 2, pp. 310–321. DOI: https://doi.org/10.25283/2223-4594-2023-2-310-321
22. Chernyak T.A., Shlafman A.I., Litvinenko A.N. Organizational and Economic Tools for Managing the Aviation Infrastructure of the Arctic Zone of the Russian Federation in Ensuring the Movement of Ships along the Northern Sea Route. *Arctic: Ecology and Economy*, 2024, vol. 14, no. 3 (55), pp. 462–471. DOI: https://doi.org/10.25283/2223-4594-2024-3-462-471

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Configuration of Dominant Identities in the North-East of Russia: Towards the Question of the Civilizational Specificity of the Russian State

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Abstract. The article publishes the results of the research devoted to the analysis of dominant identities, the position of the population in relation to civic and regional patriotism. Theoretical approaches to analyzing the problem of the relationship between the concepts of "nation" and "patriotism", as well as the relationship between the configuration of dominant identities and the forms of state formations in the context of this idea are considered. The article presents the results of a questionnaire survey of the population conducted in the spring of 2024 in two regions of Russia — the Republic of Sakha (Yakutia) and the Chukotka Autonomous Okrug. The hierarchy of identities is revealed, the results of the study showed that the Russian identity turned out to be the most significant for the population of both regions. Regional patriotism is more inherent in ethnic groups that have historically inhabited these territories; however, differences were revealed in the regions of the study. In Yakutia, the ethnic identity of respondents of Yakut nationality actualizes the importance of regional rather than ethnic identity, while in Chukotka this tendency is not manifested among Chukchi. The assumption is made that civilizations in the modern world represent a special structure of interaction between the identities of people who are part of it. The specificity of the Russian civilization is that in a multi-ethnic state the ethnic identity, which is institutionalized by the state, is dominant along with the civic identity.
Keywords: *identity, ethnicity, nation, patriotism, North-East Russia, state*

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Introduction

Russia is a unique multinational state. There are obviously other countries with a large number of ethnic groups. For example, India, Indonesia, Nigeria — these are countries where the

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number of ethnic groups is even greater than in Russia. However, it should be noted that the concept of "nationality" in its ethnic sense, which was developed in the USSR and passed to Russian practice, is not a universal, global norm. In other multiethnic countries, other classifications are much more important — racial, religious, caste. Configuration of the real multiethnic character of the Russian state and the high significance of ethnicity creates its unique identity.

In this regard, special attention is paid to the issue of the relationship between the significance of ethnic and other identities, it even acquires political significance. For example, ethnic and civic identities in Russia (civic identity in this case is understood as reflection of belonging to the state) are often assessed as competing by both domestic and foreign scientists. The fact is that the concept of civic identity is associated with the formation of nation-states and, accordingly, with a sense of belonging to a certain nation as a political entity. In turn, in Russia, both in everyday language and in public thought, the concepts of "nation" and "national" are often interpreted in the context of ethno-cultural significance.

In particular, it is ethnic significance that is attached to the concept of "nation" when it comes to the right to self-determination, as well as when we talk about Russian society as multinational one. This is the basis for the idea of competition. Indeed, it should be noted that within the framework of the Russian community of peoples united in an asymmetric federal structure, this represents a certain challenge to the state, especially in the context of the existing historical experience.

In this regard, studies that would be aimed at understanding the scope of patriotic feelings and types of loyalty to social formations among representatives of the peoples inhabiting the country, including its different parts, are of interest, since the action of the ethnic factor always has a certain territorial and spatial localization.

The purpose of this article is to identify the configuration of dominant identities based on the analysis of materials from the regions of the North-East of Russia in the context of the issue of patriotism in relation to the nation as a state and an ethnic group. In this article, we will consider the positions of the population of different ethnicities in two national regions of Russia belonging to the North-East of the country — the Republic of Sakha (Yakutia) (RS(Ya)) and the Chukotka Autonomous Okrug (ChAO).

Literature review

It should be noted that in a wide range of foreign literature, the issue of nation has largely appropriated such a phenomenon as patriotism. It is called a phenomenon that legitimizes the existence of a nation. Such an opinion, for example, is held by B. Anderson. Speaking about the essence of patriotism, he notes that "nation is instilled with love, often deeply imbued with the spirit of self-sacrifice" [1]. In a broad sense, he means by patriotism a deep loyalty to the community that is created as a result of unification by a single state and culture.

I. Wallerstein believed that the emergence of a nation-state occurs due to the peculiarities of the development of the capitalist system, within which the need for ideological justification of inequalities of the center and the periphery was formed. National self-consciousness is a product of liberal ideology, proposed to the "dangerous classes" in the 19th century, which carried racism beyond the "white" world [2, p. 239]. He considered the subsequent emergence of the concept of "self-determination of nations" to be an extension of the postulates of liberal ideology with its dominant concept of rational reformism to the level of the world system as a whole with the aim of containing "dangerous classes" already in the global south. The period of decolonization, according to Wallerstein, awakened the consciousness of the masses in order to offer them self-determination and to pave the way for prosperity in the form of national development, but this was only an illusion. Over time, it became clear that the integration of the extra-European world into the system of formal political institutions of the interstate system had no prospects for economic transformations on the periphery of the capitalist world economy, although the idea of national development remained quite attractive to the masses. In this regard, a rethinking of the role of the nation-state in the world order began.

In modern Western scientific thought, the attitude to the concept of nation has changed, and due to this, the attitude to patriotism has also changed, since the fact that "nations" and "patriotism" were related concepts remained unchanged. Over time, the position expressed by such researchers as W. Beck [3], J. Dunn, who believed that the nation is an anachronism in the modern post-national world, and patriotism is associated only with intolerance, xenophobia, militarism and aggression [4], has become more widespread. R. Brubaker, in fact, also does not distinguish between patriotism and nationalism. According to him, they represent an extremely flexible political language, a way of expressing political arguments through an appeal to the motherland, fatherland, country, nation [5, p. 120]. Thus, by consolidating the concept of patriotism in a semantic link with the national state, on the one hand, a certain contradiction was created between patriotic feelings and a form of statehood that presupposes the unification and union of many peoples, on the other hand, over time, the concept of the national state is written off in favor of formation of a transnational world with other multiple loyalties.

In Russia, even in pre-revolutionary times scientific and social thought formed such an understanding of the state structure and patriotism that would correspond to the civilizational identity. Thus, in 1914, P.B. Struve in his article "Great Russia and Holy Rus" defined Russia as a national state-empire and believed that Russia, being multinational, has national unity [6]. The emphasis was placed on the fact that the state, despite its cultural heterogeneity, can unite representatives of different cultures as equal citizens.

The Soviet period, when the understanding of coexistence of peoples within a single state as a union of sovereign nations was formed, had a great influence on the modern understanding of the problem. The collapse of the Soviet Union along ethnic lines should be interpreted as a reflection of a deep perception of the concept of national development. In this regard, the risks for

the state as an asymmetric federal structure are still visible at present, which is why there is an active research work related to the analysis of the situation, its dynamics and the formation of a new concept of the coexistence of peoples within a single state.

For example, A.V. Golovnev points out that statehood and ethnicity in Russia are two determinants of Russian society, and their relationship has always been mutually stimulating and played the role of a system of checks and balances [7, p. 11]. Based on this, he concludes that multi-ethnicity is a feature of Russian society that simultaneously acts as a national idea.

V.A. Tishkov offers a special approach to understanding the uniqueness of Russia as a state formation. His approach consists in the recognition and scientific development of two categories that do not exclude each other: the historiosophical and cultural category of "civilization" with the substantiation of its more specific features and the socio-political, normative and legal category of "nation" as co-citizenship with a common historical memory, culture and values. According to this approach, Russia is both a nation and a civilization, and the Russian people are a nation of nations [8].

The discussion of the issue of the forms of state entities and the types of loyalties and identities that they form has intensified due to the crisis of Western society and the capitalist system. Researchers from various disciplines from history to philosophy are working in this direction; one can mention such well-known authors as A.I. Miller [9], V.S. Martyanov [10], V.V. Kozlovskiy [11], etc.

Although the discussion about Russian identity has been going on for a long time, the question remains open. It should be said that there is a scientific direction that provides an opportunity to confirm hypotheses, since it studies the relationship between ethnic self-awareness and civic identity based on sociological research. The most famous scientists in this area are L.M. Drobizheva [12], Yu.V. Arutyunyan [13], and others. These studies provide an opportunity to assess empirically how identities are related to each other, as well as to understand which of them occupy dominant positions in society in the course of its historical development.

It should be noted that in the context of the question raised in this article about what identities prevail among the population of the North-East of Russia, it should be mentioned that the remoteness of the region within the Russian state has formed an ethnographic tradition of considering the peoples inhabiting these territories as stateless and even acting as antipodes of "Russianness" [14, Ssorin-Chaikov N.V.], [15, Slezkin Yu.L.]. The question arises about the specificity of their configuration of the significance of identities, as well as how the configuration of identities is connected with the modern idea and understanding of what the state is in the changing geopolitical conditions and what is the role of such concepts as "people", "nation", "ethnic group" in them.

Research methodology

In the period from March to April 2024, a sociological survey was conducted within the framework of the project "Patriotism of the Peoples of the North-East of Russia: Big and Small Homeland in the Narratives of Residents of Yakutia and Chukotka". The research tools were de-

veloped by a team of ethno-sociologists from the Institute for Humanities Research and Indigenous Studies of the North of SB RAS (IHRISN SB RAS).

The research methodology in both regions is a questionnaire survey of the population using a quota sample of age and gender representative of the general population of the region. The sampling error in Yakutia with a probability of 95% does not exceed 3%, in the Chukotka Autonomous Okrug the error with a probability of 95% does not exceed 5%. Accordingly, the survey covered 1,066 observation units in the Republic of Sakha (Yakutia), and 370 units in the Chukotka Autonomous Okrug.

Characteristics of the sample population in Yakutia: 47.9% of respondents are men, 52.1% are women. Age characteristics of the surveyed population: 18 to 22 years old — 9.3%, 23 to 34 years old — 24.3%, 35 to 44 years old — 21.6%, 45 to 54 years old — 16.4%, 55 to 64 years old — 16%, over 65 years old — 12.3%. Survey implementation levels: 58.1% — urban population, 10.1% — urban-type settlement population, 31.9% — rural population. Participants in the survey were Sakha — 62.7%, Russians — 18.9%, indigenous peoples of the North — 7.7%, and others — 8.9%. 1.4% refused to answer the question about their nationality. In this sample, 8.8% of respondents indicated the presence of a second ethnic identity. It should be noted that among the respondents' answers there were also those who indicated only citizenship — 4 people called themselves Russians. Another 4 indicated themselves as Russians as a second existing nationality.

Characteristics of the sample population in the Chukotka Autonomous Okrug: 49.2% of respondents are men, 50.8% are women. Age characteristics of the surveyed population: from 18 to 22 years old — 6.8%, from 23 to 34 years old — 22.2%, from 35 to 44 years old — 24.6%, from 45 to 54 years old — 20.3%, from 55 to 64 years old — 16.8%, over 65 years old — 9.5%. Survey implementation levels: 50.3% — urban population, 21.4% — urban-type settlement population, 28.4% — rural population. The survey involved Russians — 39.5%, Chukchi — 30.3%, indigenous peoples of the North — 13.5%, others — 6.2%. 10.5% refused to answer the question about their nationality. In this sample, 13.8% of respondents indicated their second ethnic identity.

The primary data were processed using SPSS software, the results are presented using descriptive statistics methods. Such an analysis tool as cross-tabulation was used for an in-depth analysis of empirical information — the significance criterion $\chi 2$.

Specifics of the situation in the North-East of Russia

The North-East of Russia is the easternmost and most remote part of the country from the center, located in the Far East. It covers a huge territory: it includes the Republic of Sakha (Yakutia), Magadan Oblast, Kamchatka Krai, Chukotka Autonomous Okrug. This natural and geographical macro-region is extreme in its natural and climatic conditions. A significant part of it is located beyond the Arctic Circle. Despite the unfavorable climatic and natural conditions, this territory has become home to a significant number of peoples. The combination of all these circumstances had a direct impact on the historical development of the administrative-territorial structure, the func-

tions of government and management bodies and their powers within the Russian political and administrative system. In particular, it determined the significant autonomy of this macro-region in the early stages of development.

Researchers note that Russian foreign expansion was dominated by strategic foreign policy rather than economic motives. As a result, political and administrative development began first in the lands that were new to the Russian state, and only then it was the turn of economic integration [16, Dameshek L.M., Dameshek I.L.]. The overall result of the territorial expansion that began in the first half of the 17th century with Yakutia was the transformation of Russia into the largest state in the world. It should be noted that the situation with the establishment of Russian power was different in Yakutia and Chukotka. According to historians, the peoples of Yakutia voluntarily joined the Russian state, and therefore the demographic consequences of joining Russia for the Yakuts are considered to be an increase in population, as well as extensive migration due to colonization of Northeast Asia [17, Borisov A.A.]. The situation in Chukotka was very different, because the Chukchi and Koryaks resisted the establishment of Russian rule in Northeast Siberia for a long time [18, Nefedkin A.K.]. The Chukchi were accepted into Russian citizenship only in the second half of the 18th century.

An interesting question is whether the peoples inhabiting the North-East had a national consciousness at the time of the arrival of the Russian state. We cannot overturn the modern idea of national (ethnic) belonging into the past, but the awareness of certain communities still existed. Researchers see a major role for the state in the form of the national thinking of the indigenous peoples of Siberia that has developed to date. Thus, D. Anderson writes that before the appearance of representatives of the state, ethnographers, there were many intersecting identities that were used to distinguish people, but there was not a single one that a person could not change during his life [19]. He emphasizes that a different idea developed later and was largely formed by the distribution system of Soviet power. Other researchers note that the interaction of indigenous peoples with the state was specific due to the peculiarities of their way of life. For example, N. Ssorin-Chaikov describes the interaction of the indigenous peoples of the North with the state as a relationship of “avoidance and burden” [14, p. 158], their natural desire to live without state intervention; it could be assumed that this situation could influence the specific perception of their belonging to the state or other communities.

Currently, the self-awareness of the indigenous peoples of the North and the ethnic groups that gave their names to the regions is at a high level. This is noted in the publications of ethnosociologists conducting research in this particular macro-region [20, Maklashova E.G., Osipova O.V.] and in Russia as a whole. It is important to note that in Yakutia, a high level of national self-awareness among indigenous peoples is combined with an outflow of the Russian population. During the post-Soviet period, there was a decrease in the share of Russians among the population of Yakutia — from 50.3% in 1989 to 27.8% in 2020. In the Chukotka Autonomous Okrug, the situation is different; population migration did not have such a strong impact on the ethnic structure of the

population. Although in the 1990s, there was a loss of 2/3 of its inhabitants. The last census recorded that during the post-Soviet period the number of Russians in the region decreased only from 68% to 54.2%.

Dominant identities

Studies record different situations with the assessment of the significance of ethnic and civic identity in different regions of Russia, but common trends are identified. For example, it is indicated that representatives of the nationalities that give the republics their names usually have a higher ethnic identity in these regions than other ethnic groups. Another trend that has been recorded in recent years is that civic identity turns out to be more significant than all other types of identities.

The study discussed in this article also examined the issue of dominant identities. Respondents were asked to assess how important it was for them to be aware of belonging to a number of communities, among which the following formulations were proposed: “representative of a people, ethnic group, nationality”, “resident of a region”, “citizen of Russia, Russian”, “citizen of the world”.

The results of the study in the Republic of Sakha (Yakutia) and in the Chukotka Autonomous Okrug showed that Russian identity turned out to be the most significant for the population of both regions. 96% of the population in Yakutia and 95.9% in Chukotka indicated that to some extent it is important for them to consider themselves citizens of Russia. 85.4% of the population in the Chukotka Autonomous Okrug and 92% in the Republic of Sakha (Yakutia) indicated that ethnicity is also important for them. 83% of the population in the Chukotka Autonomous Okrug and 92.9% in the Republic of Sakha (Yakutia) indicated that it is important for them to consider themselves residents of the region. Besides, 64.9% of the population in the Chukotka Autonomous Okrug and 69% in the Republic of Sakha (Yakutia) indicated that it is important for them to consider themselves citizens of the world.

The analysis of the survey results by ethnic group showed that representatives of different ethnic groups in Yakutia have different assessments of the importance of ethnic ($\chi2 = 34.580$, $p < 0.000$), regional ($\chi2 = 61.328$, $p < 0.000$), and Russian identity ($\chi2 = 14.719$, $p < 0.023$). It should be noted that for the Yakuts in Yakutia, ethnic and civic identities are of high importance in approximately equal measure (see Table 1). In Chukotka, the significance of ethnic ($\chi2 = 22.392$, $p < 0.001$) and regional identity ($\chi2 = 57.332$, $p < 0.000$) are assessed differently, and there are no statistically confirmed differences in the assessment of the significance of Russian identity ($\chi2 = 8.083$, $p < 0.232$) among representatives of different ethnic groups. For the Chukchi in the Chukotka Autonomous Okrug, with a high significance of ethnicity, Russian identity turned out to be more significant (see Table 2).

Table 1

Significance of ethnic and Russian identities in the context of respondents' ethnicity in the Republic of Sakha (Yakutia)

Nationality of respondent	Ethnic identity			Civic identity		
	Very important	Im-portant	Not im-portant	Very important	Im-portant	Not im-portant
Yakuts	52.4	41.5	6.1	53.2	43.6	3.2
Russians	38.3	44.4	17.3	56.4	35.9	7.7
SIPN	56.3	38.8	5	46.8	51.9	1.3
Others	50	45.7	4.3	56.4	38.3	5.3

This trend of increasing significance of Russian identity has been recorded in recent years. For example, in the 2000s (2002), according to surveys, Russian identity was inferior to ethnic identity in terms of prevalence and intensity [21, Drobizheva L.M.]. By 2011–2012, Russian identity became the most widespread and most significant identity for the majority in regions with a predominantly Russian population. Currently, Russian identity has established itself as the most important in some national regions and has the greatest significance in the hierarchy of identities. Perhaps this was the result of a noticeable increase in the solidarity of Russians on a civic basis against the backdrop of the aggressive policies of Western countries. At the same time, it should be noted that the Yakuts (Sakha) in the Sakha Republic (Yakutia) more often noted the position "very important" not for civic or ethnic identity, but for regional identity — 55.8% of them gave this answer.

Table 2

Significance of ethnic and Russian identities in the context of respondents' ethnicity in the Chukotka Autonomous Okrug

Nationality of respondent	Ethnic identity			Civic identity		
	Very important	Im-portant	Not im-portant	Very important	Im-portant	Not im-portant
Chukchi	53.6	39.3	7.1	70.5	27.7	1.8
Russians	37.0	43.2	19.9	62.3	31.5	6.2
SIPN	60	38	2	78	18	4
Others	30.4	56.5	13	69.6	30.4	0

At the same time, it is noteworthy that in both regions, the Russian population indicated that ethnic and civic identities are not important more often than representatives of other ethnic groups. In addition, 4.8% of Russians in the Chukotka Autonomous Okrug and 5.5% in Yakutia did not choose any of the 4 proposed identities as important. Among representatives of different ethnic groups, this indicator of the lack of importance of identities is the highest among the Russian population. Since identity is considered as identifying oneself with a community, these data can be perceived from the point of view of the spread of individualistic ideas, which in modern society require a person to refuse to choose a stable identity and the responsibility that it imposes.

The weak importance of ethnic self-awareness for Russians is also noted in other studies. Researchers, explaining this phenomenon, associate it with the long-term absence of social institutions involved in ethnic socialization. It is noted that the decentralization of cultural policy, which has been enshrined in the regulatory framework of the Russian Federation and its subjects, has

actually recognized the ethnic specificity of the republics, but pays virtually no attention to the problems of Russian culture in these regions [22, Luchsheva L.V.].

Ethno-sociological studies have noted that the level of solidarity in the republics is higher among representatives of the nationality that gives the region its name. This is indeed true: in the survey regions the position "A modern person needs to feel part of his nationality" is chosen by 50.5% of Russians and 70.5% of Yakuts (Sakha) in the Sakha Republic (Yakutia) and 49.3% of Russians and 73.2% of Chukchi in the Chukotka Autonomous Okrug. However, it should be noted that, in comparison with the results of studies in the 1990s, the indicator of ethnic consolidation among Russians in Yakutia has noticeably increased — in 1994 it was only 37.4%, while among Yakuts, on the contrary, it slightly decreased from 73.9% to 70.5% [23, Ignatyeva V.B., Abramova S.V., Pavlov A.A., p. 152].

Based on lower rates of ethnic consolidation, it is usually concluded that ethnic identity is not expressed by Russians. However, a different view will be formed if we pay attention to the way researchers explained the low rates of ethnic consolidation of Russians previously. They linked them to the fact that Russians equated ethnic and civic identities. If we follow this logic, then at present, among other reasons, we can assume that these two identities have become separated both in the minds of Russians and in the minds of representatives of other ethnic groups inhabiting Russia. Over the past decade, Russia's national policy has paid much attention to the fact that Russia is a multinational state. In this regard, this version has a right to exist, if we take into account that "Russians", like the "Soviet people" before, are a mental construct that is primarily associated with citizenship, a common historical path, and the formation of a common cultural field.

However, we should not ignore other factors, including the outflow of the Russian population from Yakutia and changes in the ethno-social structure of society. Such fluctuations in the ethnic composition of the population may affect the self-perception and perception of the need for consolidation along ethnic lines.

In general, it should be noted that the high level of significance of civic identity indicates the stability of the situation and the cohesion of the multi-ethnic society of the North-East of Russia. It can be argued that ethnic identity in modern conditions does not hinder Russian identity, while at the same time ethnic identity affects the level of significance of regional identity.

Civic and regional patriotism of the population

Next, let us consider the issue concerning the patriotic feelings towards the country and region. Its study is important for several reasons: firstly, it will demonstrate the validity of the thesis about the assertion of civic identity as dominant in the consciousness of the population. The fact is that only a high level of patriotic consciousness in the country allows resisting the imposed cult of material values, the culture of consumption — the simplest, but also the most effective tool for the decomposition of national self-awareness [24, Tovanchova E.N., Kashina A.A., p. 142]. Sec-

ondly, based on the analysis of the population's opinion on civic and regional patriotism, it will be possible to analyze the relationship between ethnicity and feelings of attachment to a certain territory within the country.

The first thing to note is that there is a rather high percentage of the population declaring a patriotic position towards Russia (see Tables 3 and 4). The difference in the answers of respondents of different ethnic backgrounds was small both in Yakutia ($\chi2 = 8.208$, $p < 0.513$) and in Chukotka ($\chi2 = 6.210$, $p < 0.400$), the differences are not statistically significant. The influence of the region of residence on the answers of respondents is revealed to a greater extent. Respondents of the ChAO more often declared their patriotic position towards Russia than residents of Yakutia. As the study shows, the historical features of the inclusion of peoples in the Russian state do not affect the current situation. To a greater extent, the current situation is associated with the features of the general political agenda in the region, the socio-economic situation of the population, the socio-political discourse, the influence of the discourse of the ethnic intelligentsia, etc.

Table 3

Distribution of answers to the question "Are you a patriot of Russia and the region?" in the ethnic cross-section in the Republic of Sakha (Yakutia), %

Nationality of respondent	Patriotism towards Russia				Patriotism towards Yakutia			
	Yes	No	Difficult to answer	No answer	Yes	No	Difficult to answer	No answer
Yakuts	75.4	5.7	17.7	1.2	84.0	3.9	11.5	0.6
Russians	75.6	6.0	16.4	2.0	57.7	12.4	27.9	2.0
SIPN	69.5	6.1	23.2	1.2	74.4	6.1	17.1	2.4
Others	77.9	4.2	13.7	4.2	63.2	6.3	26.3	4.2

In the Republic of Sakha (Yakutia), patriotism towards the country and the region as a whole in the sample was approximately at the same level — 75.2% and 76.5%. But if we consider these figures in the projection of the ethnic identity of the respondents, we will see that regional patriotism is inherent in representatives of different ethnic groups to an unequal extent ($\chi2 = 76.678$, $p < 0.000$). In other words, while civic patriotism is indeed characteristic of all ethnic groups to an equal extent, regional patriotism is observed to a greater extent among Yakuts (Sakha) — 84%, and among representatives of the indigenous peoples of the North — 74.4%. It is worth noting that in the Republic of Sakha (Yakutia), the level of regional patriotism among the Yakuts and representatives of the indigenous peoples of the North is even higher than the level of civic patriotism. The same trend is recorded by other studies [25, Tomaska A.G.].

Table 4

Distribution of answers to the question "Are you a patriot of Russia and the region?" in the ethnic cross-section in the Chukotka Autonomous Okrug, %

Nationality of respondent	Patriotism towards Russia			Patriotism towards Chukotka		
	Yes	No	Difficult to answer	Yes	No	Difficult to answer
Chukchi	89.3	3.6	7.1	78.6	6.3	15.2
Russians	88.4	2.1	9.6	59.6	17.1	23.3
SIPN	82.0	8.0	10.0	90.0	4.0	6.0
Others	95.7	0	4.3	73.9	8.7	17.4

A slightly different situation is observed in Chukotka (see Table 4). Among the Chukchi, civic patriotism is expressed more strongly than regional one. The highest rates of regional patriotism can be observed in the group uniting other representatives of the indigenous peoples of the North living in Chukotka — Eskimos, Evens, Yukaghirs, Chuvans, etc. Nevertheless, if we consider the obtained results in the ethnic section, a statistically significant difference in the answers of representatives of different ethnic groups is recorded ($\chi 2 = 22.709$, $p < 0.001$).

In managerial practice, regional (local) patriotism is evaluated as a significant managerial resource, as a factor of development and promotion of the small homeland in the social space. Local patriotism can serve as an impetus for various transformations, a basis for the initiation of socially significant projects and actions by authorities, the population, and civil institutions that transform the social space [26, Shchukina R.I., Vyatkina N.V., p. 105]. Patriotic sentiments of ethnic groups should be taken into account as a potential for civic participation in the active transformation of the social environment and the enhancement of the socio-economic development of territories. Examples of successful activities of local communities associated with a conscious attitude to their place of residence and responsibility for its development already exist in Russian practice [27, Breslavsky A.S.].

At the same time, a balance of participation in internal migration of representatives of different nationalities should be observed here. The fact is that a person's migration experience, while reducing his or her attachment to a specific territory, expands the idea of the homeland as a territory of the country as a whole, and forms a more conscious mental connection with the country as a whole. It is known that even in Soviet times, Russians, being the most mobile in terms of migration [28, Kulichenko M.I.], shared the Soviet identity to a greater extent. In these circumstances, when managing migration movement, it is important to create not only material incentives for the population, but also conditions for people to realise their ties with the territory, positive identification with the locality and region.

According to other studies conducted by the IHRISN SB RAS, the Russian population of Yakutia is, as a rule, much less attached to the region. Only about one third of the population positively assessed their attitude to their place of residence. The majority of the population, answering the question: "What feelings do you have towards Yakutia?", feel both positive and negative aspects. The percentage of responses (16.8%) of respondents of Russian nationality who indicated a lack of emotional attachment to the region is noteworthy. Apparently, a similar situation is observed in Chukotka. In this regard, it is possible to predict the continuation of the trend towards migration outflow of the Russian population [29, Maklashova E.G., p. 75].

Thus, regional patriotism is more inherent in ethnic groups historically living in these territories. It seems that it should be considered not only in the context of the territorialization of ethnic identity, but also as a reflection of the fact that the process of population rooting, the "germination" of individuals in a certain territory is long and difficult. This is associated with the need to

study the factors that motivate the population to migrate, as well as the subjective motives and intentions reflecting these factors.

Discussion

In general, the idea that representatives of ethnic groups belonging to the indigenous peoples of the North-East of Russia have a different position on patriotism from the Russian population of these regions should be noted. There is no statistically confirmed difference in opinions here, despite the fact that the significance of ethnic identity is indeed more pronounced among these groups of respondents. This situation, apparently, is a reflection of modern national policy aimed at supporting cultural diversity and strengthening civic identity. Managing this process is not an easy task and in the new geopolitical conditions, it requires special attention. At the same time, the question of how attitudes towards the significance of certain identities and forms of state structure will change in the context of the crisis of the capitalist system and the growing contradictions within it is becoming more relevant.

It should be noted that the formation of nation-states was the result of the transition from a traditional society to a modern society within the framework of the capitalist world system. The process of destruction of old social structures was accompanied by an explosion of new identities that fragmented society, focusing on private and special interests as opposed to the general [30, Martyanov V.S., p. 253]. Keeping society from final disintegration required the creation of common socio-cultural collective “self” in the form of nations and the suppression of other forms of loyalty, which include regional, religious, ethnic and other. Therefore, the period of formation and development of national states was largely associated with the cultural unification of the population within these political entities. Researchers quite accurately use the image of painting the territory in a single color in order to describe this constant and persistent desire for unification, obscuring differences, neglecting local particularisms [31, Filippova E.I., p. 88].

As A.V. Golovnev points out, Russia in its historical path did not seek to eliminate cultural differences; on the contrary, the statehood of the country was understood on the basis of cultural diversity. At the same time, there was a pendulum shift of two trends: during periods of crisis of power, ethnicity was activated and the number of peoples grew, and in times of prosperity of centralism, their number decreased in favor of civil unity [8, p. 11]. The alternation of periods of a “strong” and “weak” state and their influence on ethno-cultural processes is emphasized in the works of M.S. Mikhalev. He notes a rather democratic, compared to other countries, position of the Russian state with regard to the manifestation of ethnic diversity [32].

If we consider the results of the research we have undertaken in the context of these ideas, we should conclude that at the present time there is a process of strengthening centralism, which causes an increase in the importance of civic identity in society against the background of other loyalties. However, we do not observe a strong decrease in the importance of ethnicity. Moreover,

ethnic identities largely determine the territorial development of Russia, due to the increase in the importance of regional identity.

It can be assumed that at present the state has gradually developed a modern understanding of the coexistence of the peoples of Russia, while, importantly, the idea of multinationality remains its basic element and is expressed in the implementation of national policy, understood as the development of the ethno-cultural environment in Russia. It seems that the reduction in state control in the area of manifestation of certain ethnic cultures, which is uncharacteristic for the stage of centralization of power, should be considered not as an ideological weakness of the Russian state, but as a strategy for the soft involvement of ethnic groups in the general socio-cultural field of the country, as well as in the process of strengthening statehood. Patriotism in this context becomes the binding basis of interaction. The effectiveness of this strategy is confirmed by both the results of sociological research and the active involvement of representatives of ethnic groups in the all-Russian agenda.

These facts lead to the need to revise the established idea of the influence of historical and cultural factors on the development of society and stimulate the recognition of the existence of different forms of statehood, the specificity of civilizations and the hierarchies of identities formed by them.

It can be assumed that civilizations in the modern world represent a special structure of interaction of the identities of the people who are part of it. The specificity of Russian civilization is that in a multi-ethnic state, ethnic identity, which is institutionalized by the state, is also dominant along with civil identity. The latter distinguishes the social situation in Russia from the rest of the world.

In the era of modernity, which largely unified different societies and individualized them, the ethnic dimension of Russian society is one of the key characteristics of Russian civilization. This feature acted as a certain barrier to extreme individualization (which Western society followed), coupled with the goal-setting associated with it, which underlies the decisions that are made in areas of vital importance for the existence of society.

Conclusion

Patriotism in Russia contains the idea of belonging to a country that unites many peoples, a unique multi-ethnic and multi-confessional situation. This is the peculiarity of Russia as a state-civilization. The idea of one's own state accumulates the idea of all peoples, their unique spiritual culture. All this stimulates the scientific search for approaches to understanding the social space in which a person lives, as well as the ways of its development. The high level of significance of civic identity indicates the cohesion of the multi-ethnic society of the North-East of Russia. It seems that patriotic feelings can be a factor in reducing the effectiveness of external information influence aimed at the growth of ethnic conflicts in Russia. State authorities should pay attention to the processes of managing the distribution of labor resources of the country, maintaining a bal-

ance between the formation of regional identity among representatives of different ethnic groups of Russia, as well as to issues of scientific study and popularization of the history of the peoples inhabiting Russia in the context of all-Russian historical processes.

References

1. Anderson B. *Imagined Communities. Reflections on the Origin and Spread of Nationalism*. Moscow, Kuchkovo Pole Publ., 2016, 416 p. (In Russ.)
2. Wallerstein I. *After Liberalism*. Moscow, Editorial URSS Publ., 2003, 256 p. (In Russ.)
3. Beck U. *Cosmopolitan Vision*. Moscow, Tsentr issledovaniy postindustrial'nogo obshchestva Publ., 2008, 340 p. (In Russ.)
4. Dunn J. *Western Political Theory in the Face of the Future*. Cambridge University Press, 1979, 120 p.
5. Brubaker R. In the Name of the Nation: Reflections on Nationalism and Patriotism. In: *Myths and Misconceptions in the Study of Empire and Nationalism*. Moscow, Novoe Izdatelstvo Publ., 2010, pp. 110–130. (In Russ.)
6. Struve P.B. Great Russia and Holy Russia. *Russkaya mysl',* 1914, vol. 12, pp. 176–180.
7. Golovnev A.V. Multinationality of Russia: A View from the North. *Etnografia*, 2022, no. 4 (18). Pp. 6–32. DOI: https://doi.org/10.31250/2618-8600-2022-4(18)-6-32
8. Tishkov V.A. *The Nation of Nations: On Approaches to Understanding Russia*. Moscow, IEA RAS Publ., 2023, 69 p. (In Russ.)
9. Miller A.I. *Nation or the Power of Myth*. Saint Petersburg, EUSP Publ., 2016, 146 p. (In Russ.)
10. Martianov V.S., Rudenko V.N. The Magic of the White Progressor: From Global Cargo Cult to a New Political Normality. *The Journal of Political Theory, Political Philosophy and Sociology of Politics Politeia*, 2022, no. 1 (104), pp. 24–49. DOI: https://doi.org/10.30570/2078-5089-2022-104-1-24-49
11. Kozlovskiy V.V., ed. *Russian Society: Architectonics of Civilizational Development*. Moscow, Saint Petersburg, FCTAS RAS Publ., 2021, 340 p. (In Russ.) DOI: https://doi.org/10.19181/monogr.978-5-89697-375-1.2021
12. Drobijeva L.M. The Russian and Other Ethnic Identities: Compatibility or Otherwise. *Rossiya reformiruyushchayasya*, 2002, no. 2, pp. 213–244.
13. Arutyunyan Yu.V. Russians: Problems of National-Civil Identity Formation in the Light of Ethnosociological Data. *Social Sciences and Contemporary World*, 2009, no. 4, pp. 91–97.
14. Ssorin-Chaikov N.V. Hobbes in Siberia: On the Social Life of the State. *Sociology of Power*, 2012, no. 4–5, pp. 155–187
15. Slezkin Yu.L. *Arctic Mirrors. Russia and the Small Peoples of the North*. Moscow, Novoe Literaturnoe Obozrenie Publ., 2008, 512 p. (In Russ.)
16. Dameshek L.M., Dameshek I.L. National Outskirts in the System of Internal Policy of the Russian Autocracy of the XVI-XX Centuries. In: *Asian Russia: Problems of Socio-Economic, Demographic and Cultural Development (XVII-XXI Centuries): Proc. of the Intern. Sci. Conf.* Novosibirsk, Parallel Publ., 2017, pp. 381–387.
17. Borisov A.A. Historical and Demographic Problems of the National Outskirts of the Russian Empire in the 17th — Early 19th Centuries. In: *Northeast Siberia in the Context of Russian History. XVII–XX Centuries: Proc. of the All-Russ. Sci. Conf. Dedicated to the 75th Anniversary of Doctor of Historical Sciences, Professor V.N. Ivanov*. Yakutsk, Prodizayn Publ., 2012, pp. 54–61.
18. Nefedkin A.K. *Military Affairs of the Chukchi (Mid-17th—Early 20th Centuries)*. Saint Petersburg, Peterburgskoe Vostokovedenie Publ., 2003, 352 p. (In Russ.)
19. Anderson D. G. *Tundroviki: The Ecology and Identity of the Taimyr Evenkis and Dolgans*. Novosibirsk, SB RAS Publ., 1998, 272 p. (In Russ.)
20. Maklashova E.G., Osipova O.V. State National Policy in Conditions of Russian Ethnic Federalism: Sociological Cross-Section (Case Study of the Republic of Sakha (Yakutia)). *Theory and Practice of Social Development*, 2015, no. 12, pp. 28–34.
21. Drobizheva L.M. Russian, Ethnic, Regional Identity: Longitudinal Study of 1993-2012 Years. *Bulletin Russian Foundation for the Humanities*, 2014, no. 2 (75), pp. 71–83.

22. Luchsheva L.V. Identity and Self-Consciousness of the Russians of the Republic of Tatarstan. In: *Ethnosociology in Russia: Scientific Potential in the Process of Integration of a Multiethnic Community: Proc. of the Intern. Sci. and Pract. Conf*. Kazan, Marjani Institute of History of Tatarstan Academy of Sciences Publ., 2009, pp. 221–226.
23. Ignateva V.B., Abramova S.V., Pavlov A.A., et al. *Ethnosocial Development of the Republic of Sakha (Yakutia): Potential, Trends, Prospects*. Novosibirsk, Nauka Publ., 2000, 273 p. (In Russ.)
24. Tovanchova E.N., Kashina A.A. Socio-Cultural and Ethno-National Identification of Patriotism in the Context of Modern Globalization Processes. *Science and Education: Economy and Financial Economy; Entrepreneurship; Law and Management*, 2023, no. 9 (160), pp. 141–145.
25. Tomaska A.G. The Republic of Sakha (Yakutia) Population Identities. *Herald of Anthropology*, 2023, no. 4, pp. 37–50. DOI: https://doi.org/10.33876/2311-0546/2023-4/37-50
26. Shchukina R.I., Vyatkina N.V. Regional Patriotism as a Factor of Territorial Development. *Bulletin of Prikamskiy Social Institute*, 2022, no. 3 (93), pp. 103–109.
27. Breslavsky A.S. Territorial Public Self-Government in Contemporary Buryatia: Factors of Sustainable Development. *Russian Peasant Studies*, 2021, vol. 6, no. 2, pp. 79–98.
28. Kulichenko M.I. *The Rise and Rapprochement of Nations in the USSR*. Moscow, Mysl Publ., 1981, 444 p. (In Russ.)
29. Maklashova E.G. Strengthening Traditional Spiritual and Moral Values in the System of Public Assessment of the Social Position of the People (Based on Yakutia's Material). *Etnosocium (Multinational Society)*, 2023, no. 12 (186), pp. 66–79.
30. Martianov V.S. *Political Project of Modernity. From World Economy to World Politics: Russia's Strategy in a Globalising World*. Moscow, ROSSPEN Publ., 2010, 359 p. (In Russ.)
31. Filippova E.I. *Territories of Identity in Modern France*. Moscow, Rosinformagrotekh Publ., 2010, 300 p. (In Russ.)
32. Mikhalev M.S. *Great Eastern Limitrof: Transboundary Peoples in the State Policy of Russia and China*. Moscow, IFES RAS Publ., 2022, 295 p. (In Russ.)

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Northern Civilization Corridor in the Eurasian Socio-Cultural Space: Statement of the Problem

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Abstract. The article substantiates the important role of the Arctic zone of Russia in forming and strengthening not only its geopolitical, defense, resource and raw material, economic, transport and communication potential, but also as a significant civilization corridor, providing intensive interaction between different peoples and cultures, which goes far beyond the boundaries of this particular region. Civilization corridors are understood as the basis for the functioning of individual territorial locations, linking them into a living and developing organism of a single humanity due to their fulfillment of the most important migration, communication, information, trade and political socio-cultural functions. There are latitudinal and meridional civilization corridors in the Eurasian socio-cultural space, the intersections of which form the centers of civilizational dialogue of various political, ethnic and religious communities. The three most important latitudinal civilization corridors are the Great Silk Road, the Trans-Siberian Railway (Transsib), and the fundamental conclusion is substantiated about the possibility and exceptional importance for Russia and the whole world of turning the existing Arctic sea transport route into a new civilization corridor that is able to link not only the civilizations of the East and West into a single system of Eurasia, but also North and South. The article analyzes the objective prerequisites for the formation of this new and "youngest" civilization latitudinal corridor, as well as its unifying civilizational functions. The historical role of the Russian people, who united the peoples of the North into a single local Arctic civilization, possessing the civilizational gift of peaceful exploration of space through organic "ingrowth" into other ethno-cultural worlds, is emphasized. The civilizational approach in the unity of its synchronic and diachronic dimensions is used as the main methodological resource of the study.

Keywords: *civilization, peoples, civilization corridor, Transsib, Northern sea route, Eurasia, Russia, Arctic, North*

Introduction

The study of civilizations is one of the significant modern trends in social thought, primarily within the framework of theoretical sociology, social philosophy, and recently also geopolitics. The topic has become significantly relevant in the modern conditions of the global civilizational crisis and the forecast of S. Huntington about the conflict of civilizations [1].

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At once it is necessary to state a fact known to specialists: there is a variety of interpretations of the content of the very concept of "civilization", a variety of distinguished bases for the typology of civilizations, as well as an ambiguous understanding of the civilizational approach as a methodological resource of social cognition. In our works we substantiate the heuristic value of combining the synchronic (spatial) and diachronic (temporal) versions of this approach, where civilizations are considered as local socio-cultural phenomena distinguished by their uniqueness, but at the same time the general historical vector of civilizational development with the dominance of a certain type of social structure and way of life is recognized [2, Ivanov A.V., Popkov Yu.V.]. One of the important results of such a presentation is the conclusion about the significance of the successful experience of individual centers of socio-cultural development not only for the ecumene of their own local civilization, but also for other regions and macro-regions, as well as the entire world community. All great civilizational shifts in the history of mankind initially have a specific civilizational location and embryonic period of maturation. Thus, the cradle of the great Eastern civilizations are the cities located on the great rivers (Yangtze, Indus, Nile, Tigris and Euphrates), which perform the function of civilization corridors. The ideological foundations of European civilization were laid in the Greek poleis of Asia Minor, which spread to the entire West via the Mediterranean civilization corridor. The formation of classical capitalism began with the manufactories of the city-states of Italy and then spread around the world through oceanic corridors.

The Arctic region and, above all, the Arctic zone of the Russian Federation are currently among the globally significant specific territories. Important state decisions have been made aimed at its comprehensive development, in the form of the establishment of a special ministry of the Russian Federation (for the development of the Far East and the Arctic), a new version of the Strategy for the Development of the Arctic Zone of the Russian Federation (for the period until 2035), which is directly linked to ensuring the national security of the country. Important general and special programs for the implementation of this Strategy have also been adopted.

A large body of scientific literature, including generalizing fundamental works, is devoted to the history of exploration and the problems of modern development of the Arctic [3]. From the perspective of the internal significance of its Arctic zone for Russia, plans for its comprehensive development are assessed by experts as the most complex megaproject of those that have been proposed recently, and in terms of its scale and importance it is compared with the historical space and nuclear Soviet projects [4, Ivanter V.V., Leksin V.N., Porfiryev B.N., p. 6].

The importance of the Arctic zone development for other regions and the entire world community is no less significant. In this regard, we should agree with the following assessment, echoing what was said above: "In fact, we can say that the Arctic of the 21st century can potentially become an analogue of the Mediterranean Sea of the ancient world, the Baltic Sea of the Hanseatic period and the Atlantic Ocean of the era of great geographical discoveries" [3, p. 16].

Recognizing the fundamental role of the Arctic zone of Russia in the formation of the "geostrategic axes" of the entire Eurasian continent, as well as the "core" regions within the country [3,

p. 13], most authors in numerous publications give priority to the analysis of its natural resource, economic, transport and communication potential, as well as geopolitical and military significance. At the same time, another fundamentally important aspect of the topic under consideration, which has not been the subject of special reflection by researchers so far, remains in the shade. We are talking about the civilizational influence of the Arctic and the grandiose projects carried out here on the development of other regions of the Earth, which will be the subject of this article. The emphasis is on the analysis of those spatio-temporal channels through which this influence is realized and which we designate as civilization corridors. The main focus of our attention is the latitudinal civilization corridors of Eurasia.

The concept of a civilization corridor and its functions

In the article "Meridional civilization corridors of Eurasia: retrospectives and perspectives" in the second issue of the "Eurasian Yearbook" [5, Ivanov A.V., Popkov Yu.V.], we substantiated the use of the concept of civilization corridor, highlighted and justified the crucial role played in the history of Russia by its four meridional corridors: two water corridors (Dnieper and Volga), located in the European part of Northern Eurasia; and two land corridors (Buryatia – Mongolia – Tibet and Altai – Himalayas), located on its Asian territory. These corridors, as well as the latitudinal corridors, which will be discussed later, were formed at different times, in different historical conditions between different civilizational and sub-civilizational communities. They had specific features and their own logic of historical development. However, despite all the differences, their functions were and remain close: to serve as spatio-temporal channels of communication and exchange of material and cultural achievements, experience in creating economic, state-legal, cultural and military institutions, as well as economic, household and technical skills between different communities, sometimes located in very remote territories.

Civilization corridors can be temporarily interrupted and then re-established. They can be controlled by various state formations and state unions. They are capable of acquiring new features and functions over time; they can be routes of both peace and war; both values and antivalues can circulate along them; both true and false knowledge, etc. But even in times of hostility and turmoil, they never completely lose their creative functions: transport, trade, information and educational, cultural and communicative, and pilgrimage. Civilization corridors maintain the unity of different loci of mankind, and its separate parts communicate and culturally nourish each other. Thus, starting from the second century BC, the Great Silk Road established trade and cultural interaction between the West and the East, never to disintegrate completely; and the Dnieper corridor (the famous "route from the Varangians to the Greeks") enabled communication between northern pagan and southern Christian Europe, the Eurasian forest and steppe, in the terminology of the founders of Eurasianism.

Civilization corridors are a kind of inter-civilization veins, carrying the life-giving blood of economic and everyday practices, scientific and religious knowledge, artistic achievements and

philosophical insights between the various countries and peoples of the Earth. Meridional corridors intersect with latitudinal civilization corridors, and at the points of these intersections large trade, political and cultural centers arise that have played and sometimes still play an important role in world history. Such are Kyiv and Astrakhan, Derbent and Khorezm, Urumqi and Turpan, Yarkand and Ulan Bator.

The system of meridional and latitudinal civilization corridors can also be likened to a global trade, cultural and intellectual network that ensures the integrity of human development as a single world system. Any significant political, technical, scientific or religious fluctuations in various parts of this network quickly become known to its other segments; and destructive processes that threaten to break the established world order allow the elements of this network to prepare for destructive deviations from established creative trends and norms in advance.

There is one more regularity concerning the emergence and functioning of civilization corridors, which is important from the perspective of what will be discussed further: a civilization corridor can initially emerge as a regional channel of interaction and cultural exchange between local ethnic communities, and then, due to new natural and historical circumstances, acquire a global character, linking together large civilizational and sub-civilizational communities.

In this context, the theoretical model of A.V. Golovnev, supported by specific historical facts, seems heuristically significant. It characterizes the distinction, interaction, and symbiosis of mainline and local cultures in sociocultural dynamics [6, pp. 18–23; 7]. The main feature of local cultures is the development of a specific territory and its resources (cultivation of an econiche), and of mainline cultures — in the connection and integration of different populated spaces and cultures (organization of local groups into complex communities). An example of a complex ethnocultural and civilizational configuration that arises in the process of interaction between local and mainstream cultures is, according to the author, the formation of a synthetic Russian culture (which exists in a wide range of its variations), as well as Russian civilization. “The dual mainline of Russian culture, which absorbed the traditions of Nordicism and Ordism, as well as Slavic local adaptability, became the engine of the epochal expansion that led to the formation of Russia and still preserves it in the vastness of Northern Eurasia” [7, p. 237].

Summarizing the methodological introduction to the topic of civilization corridors, it should be noted that the most important of them — both active and emerging — have had and still have a huge impact on the existence and development of Russian civilization.

Transsib as a latitudinal civilization corridor

The most significant and active latitudinal civilization corridors of Eurasia include the Great Silk Road, now actively promoted by China under the geopolitical brand of “One Belt, One Road”, as well as the Trans-Siberian Railway (Transsib), which runs through the whole of Russia. Hundreds of studies have been devoted to the Great Silk Road, so there is no point in dwelling on it. Let us

pay attention to a more northern latitudinal civilization corridor associated with the famous Trans-Siberian Railway.

Several years ago, the project of Transsib modernization as a civilization corridor was proposed by the then President of Russian Railways V. I. Yakunin and the Rector of Moscow State University V. A. Sadovnichiy. It was called the Trans-Eurasian Belt of RAZVITIE, TEBR. The project implied the joint interaction of Eurasian countries, primarily Russia, Belarus, Kazakhstan and China, in creating a single transport, energy and telecommunications latitudinal infrastructure that was to connect the ports of Primorye and border points of China with the western border of Belarus. At the second stage, it was supposed to build a transport corridor to America through the Bering Strait, ensuring a profitable flow of goods along the Europe-Eurasia-America axis. The mega-project implied not just the creation of a transport corridor based on a technologically updated Trans-Siberian Railway, but a belt of dynamic and comprehensive development of the territories through which it would pass. Particular attention was paid to Siberia and the Far East, with an emphasis, which is very important, on environmental safety, cultural cooperation and joint solution of social problems. It was stated that the project "will give an impetus to the development of Siberia and the regional economy, will connect remote regions with the center, will create new jobs and social infrastructure. The free spaces of Siberia and the Far East will serve as a platform for the creation of industries and settlements of a new techno-industrial and socio-cultural order." [1]

Due to a number of objective and subjective reasons, this project has remained at the level of a geopolitical declaration, although the systemic modernization of the Trans-Siberian Railway was and remains the most important state political and economic task facing Russia, which today is increasingly turning in an easterly direction. It is noteworthy that the global economic and geopolitical potential of Transsib, under the condition of its permanent modernization, was already noted in 1897 by the engineer, a Pole by nationality, Henryk Krajewski: "All world passenger traffic from Europe to Japan and back, and also partly from the eastern states of North America, will be carried out through Siberia" [8, p. 4]. He counted on the correct economic and tariff policy, thanks to which international cargo should increasingly go through this road, which will ensure the widespread development of our trade with Asia.

So far, such an optimistic prediction has not come true, but the strategic task of modernizing the Transsib as the most important railway and at the same time civilization corridor connecting Russia with the East and the West has not been cancelled. This is relevant not only in terms of strengthening the status of Russia as a great Eurasian and world power, but also for the development of Russia itself. According to the prediction of M.V. Lomonosov, it is possible to effectively develop the Trans-Ural lands only in parallel — through the development of land and sea

[1] The regular meeting of the Russian Academy of Sciences was held on 11th of March 2014. Russian Academy of Sciences. URL: http://www.ras.ru/news/news_release.aspx?ID=0c3705ee-0c1d-4830-963a-e7fe4ad99569&print=1 (accessed 15 July 2024).

transport routes: "... Russian power will grow through Siberia and the Arctic Ocean and will reach the main European settlements in Asia and America" [9, p. 354–355].

In essence, M.V. Lomonosov's project is still relevant, especially its key point about "excellent privileges and liberties" for Siberians [9, p. 351], which, alas, has never been and does not exist to this day.

The Russian Arctic as an emerging civilization corridor

However, let us return to the thought of the great Russian scientist and patriot about the connection between the power of Russia and the development of the Arctic Ocean. Here, in fact, a program for laying the future Northern Sea Route is outlined, which was implemented in Soviet times and played a huge role in the history of the economic development of the Arctic and the Arctic coast of our country.

So far, the Northern Sea Route mainly provides for the extraction and transportation of oil, liquefied gas and ore concentrate in northern latitudes, cargo for investment projects in the Arctic, as well as Northern delivery. Navigation in winter turns out to be extremely difficult here, and the use of icebreakers even in summer makes this route expensive and technically difficult. However, there are quite reasonable optimistic plans. In this regard, we will cite the forecast given by Maxim Kulinko, Deputy Head of the Northern Sea Route Directorate of Rosatom State Corporation: "...By 2030, transportation through the Arctic seas will become a routine operation — by that time, 13 icebreakers should be operating, and the "ice navigator" and the Roscosmos satellite group will supply ships with information in real time. The ship's transit time should be about 10 days all year round: although the Arctic is full of surprises, Rosatom believes that it will be able to tame the ice elements. By the same timeframe, international cooperation is expected to scale up and expand: the New Shipping Line Company from China started transiting cargo from Chinese ports in 2023, and the pilot launch has been recognized as successful by both parties." [2]

Today, the prospects of turning the Northern Sea Route into a global transport corridor, significantly shortening the route from Asia to Europe and being a potential alternative to the sea route through the Red Sea and the Suez Canal, are also beginning to be discussed quite seriously. The cargo turnover along the Northern Sea Route in 2024 is expected to grow to 40 million tons [3]. Interest in its use is demonstrated not only by China, but also by other countries of the East, and most recently even by the United States [4].

Understanding the well-known hypothetical nature of what will be revealed below, we will still risk expressing and substantiating a much more fundamental thesis: the Russian Arctic, taking

[2] Arctic Russia – Northern Sea Route 2023: preliminary results of the year and plans for the future. Investment portal of the Arctic zone of Russia. URL: https://arctic-russia.com/article/severnyy-morskoy-put-2023-predvaritelnye-itogi-goda-i-plany-na-budushchee/ (accessed 15 July 2024).

[3] "More competitive advantages": perspectives of the Northern Sea Route. URL: https://radiosputnik.ru/20240329/sevmorput-1936680158.html (accessed 15 July 2024).

[4] Media: The West has turned its attention to the Russian-controlled Northern Sea Route because of the Houthis. URL: https://radiosputnik.ru/20240601/sevmorput-1949827481.html (accessed 15 July 2024).

into account both global biosphere and geopolitical processes, in the near future has every opportunity to turn not just into a global transport corridor, but a new civilization corridor, linking together not just the civilizations of the East and West, but also the North and South of the Eurasian socio-cultural space. This realizes not only the prediction of M.V. Lomonosov about the special role of the Russian North, but also the scientific foresight of the classic of Eurasianism P.N. Savitskiy about the steady shift of the center of civilizations from the southern to the northern regions of the Earth (see his famous work “Migration of Culture” [10, Savitskiy P.N.]).

What are the objective grounds for talking about the possibility of turning the Arctic sea transport corridor into a new important civilization corridor?

Firstly, it is necessary to state the northern nature and northern identity of Russia. A.V. Golovnev writes about this most reasonably and systematically, having devoted a special fundamental study to this issue [11]. Although the most famous and officially recognized geopolitical and spatial orientations of Russia in history were “the European West, the Horde East, the Byzantine-Christian South”, in reality, according to A.V. Golovneva, it is “the northernmost country on the planet in terms of location, nature and culture” [11, p. 2]. From this position, “all Russia is the North” [11, p. 147], and by the “northernness” of Russia the author means “not only geography and climate, but also anthropology and ethnography, where the main figures are not territory and temperature, but people — a northerner-man and northerners-peoples with their destinies, motives, values” [11, p. 7].

In this regard, it would be quite logical to conclude that everything we said above about the transformation of civilization corridors from regional to global has a direct relation to the Russian North. It already represents a historically formed northern civilization corridor with an exceptional diversity of cultures, languages, ethno-social structures, original economic crafts and cultural traditions of the peoples of the North. These northern cultures, primarily thanks to the Russian earliest explorers who came here (especially the Pomors), entered into a complex symbiotic relationship with a variety of cultural and economic borrowings, division of labor and ecological niches of existence. In the Russian North, locality and dynamism of the existence of Russian ethnic groups are intricately and uniquely intertwined, and their deep dialectic has been discovered [11, Golovnev A.V.].

A.V. Golovnev notes the fundamental importance of studying the peoples of the North for understanding the whole of Russia, its multinationality and cultural “flourishing complexity”, to quote K.N. Leontiev. In particular, A.V. Golovnev writes: “Positioning the North as the main dimension of Russia fundamentally changes the place and significance of the cultures and peoples of the North, which in this perspective appear not as outlying, but as supporting ones. Archaeological and historical-ethnographic research reveals not only the huge fund of tangible and intangible cultural heritage of the Russian North, but also the need to actualize it. This perspective presupposes a rethinking of the ethnic history and culture of Novgorodians, Pomors, Karelians, Komi-Zyryans,

Nenets, Khanty, Evenks, Yakuts, Chukchi and other communities of Northern Eurasia as a relevant and fundamental ethno-historical topic for Russia" [11, p. 371].

The presence of a northern civilization corridor (still proto-civilizational — from a global point of view), where Russians act as bearers of a formed main culture, is manifested in numerous facts of ethnic and intercultural synthesis, in the interweaving of the life foundations of many northern ethnic groups. A.V. Golovnev notes that "the Russian (Moscow) movement to the east was a reverse wave of the Mongolian movement to the west and did not generate a civilizational frontier, but followed long-trodden paths, only slightly updating the stable picture of multinationality. The best confirmation of this can be the abundance of marriages between newcomers and natives, as well as the inclusion of local nobility in the imperial nobility. In the north of Eurasia, relations from antiquity were oriented more towards maintaining ties than towards separation. Ethnic boundaries set by ecological boundaries and seasonal migration systems often served not as a zone of alienation, but as crossroads of trade and military connections and routes, where new ethno-cultural centers were formed (for example, on Lake Ladoga, where the routes of the Scandinavians, Finns and Slavs converged; at the mouth of the Ob, where the routes of the Nenets, Khanty, Komi and Russians intersected)" [11, Golovnev A.V., pp. 376–377].

Another thing is that so far, this northern corridor of interaction between peoples represents precisely the Russian Eurasian civilization. It played an important role in its history, if we take into account that the Russian movement eastwards along Siberia initially went along the circumpolar lands and only then began to shift southwards. In this regard, the Arctic Ocean has not yet become a global road for humanity, where the civilizations of the East and West, North and South meet. However, we can confidently say that in the Russian North we are dealing with a historically formed local civilization corridor, where there are not just transport-biospheric opportunities for the creation of a global civilization corridor, but also its objective economic, socio- and ethno-cultural prerequisites.

Russia has actually laid the spatial, infrastructural and ethno-cultural foundations of the northernmost global civilization corridor at the cost of incredible effort of people and state forces. It will pass through the lands where the process of great cultural synthesis and "germination" of the most diverse peoples into each other has already been accomplished. This historical northern Eurasian experience of cooperation and friendship of peoples is exceptionally important for the future of the entire, currently disunited humanity.

Secondly, if we move from the Russian to the global level of civilizational analysis, we can state a steady change in the world climate, which is most clearly manifested in the Arctic. Warming expands the technical capabilities of shipping in northern latitudes. In this regard, the Arctic Ocean claims to become the water latitudinal civilization corridor of Northern Eurasia. Perhaps, it will even surpass in its potential the land-based Great Silk Road, which runs through the Great Eurasian Steppe, which P.N. Savitskiy, already mentioned above, called the "terrestrial ocean". Unlike the Great Steppe, this corridor does not cross state borders, does not depend on possible local

conflicts and changes in political regimes, and does not require capital investments in maintaining railway and automobile infrastructure. This, of course, does not mean that water and land civilization corridors should be opposed to each other. On the contrary, the well-known Bohr principle of complementarity should be in effect here.

The quantitative increase in the number of ships passing through the Arctic, which can be confidently predicted, will require a qualitative improvement of the technical infrastructure with new centers for repair and refueling of ships, junction points for sea, rail, automobile and air logistics. The international composition of crews and the qualitative diversity of cargo, in turn, will contribute to the development of their information-analytical and cultural-humanitarian support through the training of appropriate specialists — translators, pilots, dispatchers, managers and logisticians who speak foreign languages and have intercultural communication skills.

Here, as noted, not only representatives of the civilizations of the East and West (Europe, the USA, China and Japan), but also southern Eastern civilizations interested in cooperation with the countries of the global North, primarily with Russia, will enter into an intensive dialogue. Such processes are now becoming more and more active.

Thirdly, against the background of the Middle East, which is always torn by civilizational conflicts, threatening the world navigation in one way or another [5], the Arctic corridor is controlled by one country — Russia, which has always been civilizationally oriented towards dialogue and synthesis, and not towards confrontation of cultures and civilizations; towards peacekeeping and equality in relations between peoples, and not towards political and economic dominance of individual blocs and countries. Accordingly, the Northern Sea Route together with the Trans-Siberian Railway should become roads of peacekeeping and union of peoples, their intensive civilizational interaction and mutual understanding.

Peaceful cooperation of peoples will promote joint rational and ecologically responsible economic development of the wealth of the North in the interests of not only those living now, but also future generations. The Arctic cannot be divided between selfish countries; and there can be no war in the Arctic. The common fragile Arctic home, as many researchers correctly emphasize, can be preserved and developed only together, in the interests of all countries and peoples of the Earth, especially in the context of global climate change. The North is the civilization corridor that can geopolitically, geo-economically, geo-culturally and ecologically reconcile the currently warring peoples and civilizations, open up new paths of dialogue and constructive interaction for them, given that historically it was not so much an arena of confrontation between peoples as of cooperation and development of skills of conciliar coexistence.

The outstanding thinker S. N. Bulgakov once perceptively noted that “unity of thoughts is achieved only through life unity” [12, p. 308]. This productive civilizational dialogue in the corridors vital for all peoples differs from the abstract call of S. Huntington, “hanging” in space and time, that “people of all civilizations should seek and strive to spread the values, institutions and

[5] The shelling of ships in the Red Sea by the Yemeni Houthis is clear evidence of this.

practices that are common to them and to people belonging to other civilizations" [1, p. 235]. But the same Europeans, fixated on the values of democracy, tolerance and market, i.e. on purely European and relative socio-political values, are unlikely to accept the Russian spiritual values of conciliarity, brotherhood and truth. This requires not just an open and unbiased civilizational dialogue, but a common — vital — cause that helps separate civilizational value grains from civilizational chaff.

Fourthly, a single northern civilization corridor implies mandatory interaction not only of political and economic, but also scientific elites of different countries studying the Arctic. Such scientific interaction has been significantly undermined in recent years, although scientifically grounded support for northern shipping is simply impossible without a constant exchange of empirical databases, advanced methods and techniques, new conceptual models. The joint study of processes occurring in northern latitudes, their impact on climate and human economic activity, the formation of scientifically grounded biosphere forecasts — this is what also objectively brings peoples and cultures closer together, allows them to jointly and promptly respond to the ever-deepening climate challenges. In its interaction with the biosphere, humanity cannot but act as a single and united whole, because storms, floods, droughts and tsunamis know no human or state borders. Scientific intellect, designed to provide universal answers to natural challenges, knows no divisions into countries and peoples as well. The Arctic, as a particularly rapidly changing natural region, requires the adoption of quick, balanced and collectively thought-out scientific decisions.

Fifthly, if we take into account everything that we have said above about the exceptional cultural diversity of the northern Russian peoples, the Northern Sea Route, which is increasingly transforming from a regional to a global route, creates favorable opportunities for the development of world tourism. Residents of the southern civilizational and sub-civilizational socio-cultural communities will have the opportunity to get acquainted with a whole scattering of original northern cultures — from the Slavic Pomors to the Nenets, Yakuts and Chukchi. This, in turn, will open up new horizons for comparative ethnographic, ethno-social and cross-cultural research, for the search for kinship and intersection of today's spatially distant cultures, which once may have had common roots.

Tourism is also significant from a civilizational perspective in the sense that representatives of other peoples and cultures, especially southern ones, will be able to learn about and appreciate the exceptionally harsh natural and climatic conditions within which the northern Eurasian peoples managed to organize their economic and everyday life, create and preserve their original cultural traditions.

Sixthly, the Pomors once played a special role in the development of Siberia. "The descendants of the Pomors," writes V.N. Kalutskov in this regard, "acquired invaluable skills in survival and economic development of the northern territories. It is not surprising that the Russian North became the springboard and resource base for advancing into Siberia. But the most important resources in the development of new lands were the resources of human experience and

knowledge. Therefore, the Pomors formed the backbone of the Siberian explorers" [13, p. 152]. The Pomors and Don Cossacks, who formed the backbone of Yermak's detachments [6], especially clearly manifested such human qualities of the Russian ethnos as the spirit of universal responsiveness and the ability to find ways to the hearts of the most diverse ethnic groups, the ability not to be alien to foreigners, but to kin and fraternize with them. This northern Russian spirit of mastering new space through organic "ingrowth" into other ethno-cultural worlds should play its unifying role in the current difficult historical conditions in the spaces of the northern civilization corridor.

In this regard, let us recall one of the most important factors in the formation and spatial expansion of Russia as a great Eurasian and world power: it is the harsh conditions of life that awaken the "will to a common cause", where people and nations die alone, and survive and prosper only together. The Northern Civilization Corridor, running through the harsh Arctic territories of Russia, is designed to awaken a new will for a common cause among the peoples of the East and West, North and South. The preservation and ecologically balanced use of the spatial and economic resources of the North — this common "ice roof" of the world — will teach people to manage common resources in the earthly home in a neighborly and fraternal manner, where cooperation is much more profitable than competition, a bad peace is better than a good quarrel, and giving ultimately turns into the greatest profit.

Personal factor in the formation and understanding of civilization corridors

Civilization corridors always have a clearly expressed anthropological dimension in the person of their discoverers and pioneers, scientists, artists and holy ascetics, who for the first time subjected them to scientific or artistic reflection. Thus, for the Dnieper civilization corridor, the holy apostle Andrew and the legendary Oleg are significant. For the Volga corridor, which connected Rus' with Persia and India, the most important figure is the Tver merchant Afanasiy Nikitin; for the Altai – Himalaya's land corridor — the Russian officer and Kazakh educator Ch.Ch. Valikhanov. Finally, the first scientist who passed through and described the civilization trade and pilgrimage corridor Buryatia – Mongolia – Tibet was the outstanding Buryat scientist and public figure G.Ts. Tsybikov.

For the northern civilization corridor, the figure of M.V. Lomonosov is extremely significant. He not only personifies the best qualities of the Pomor and the Russian people, uniting peoples and cultures, but in fact scientifically outlines the contours of the future northern civilization corridor, predicts the special role of the Arctic and Siberia in the fate of Russia, and finally, personally presents the image of a conciliar man of the future, in whom religious faith and reason, a scientist and a poet, a public figure and a sophisticated researcher of nature, a patriot and, in a way, a "universal man" organically coexist. It is no coincidence that the northern civilization corridor passes

[6] It is not without reason that V.I. Surikov specially travelled to the Don to choose the types for his famous painting "Yermak's Conquest of Siberia".

through the ancestral lands of the great scientist, who once wrote with inspiration that "the Arctic Ocean is a vast field where ... Russian glory can be enhanced, combined with unparalleled benefit, through the invention of east-northern navigation to India and America" [9, Lomonosov M.V., pp. 290–291].

It is necessary to mention the great Russian artist, scientist, traveler, thinker and public figure N.K. Roerich (in 2024 it will be 150 years since his birth). This is a man who was connected to one degree or another with the Dnieper and Volga civilization meridional corridors; who always noted the exceptional role of the northern territories in the formation of Rus–Russia and himself had northern Varangian ancestral roots; who, during his unprecedented Central Asian expedition of 1925–1928, travelled along the Trans-Siberian Railway and walked on foot from south to north and back from north to south along two great land Asian civilization corridors: the Himalayas – Altai and Mongolia – Tibet – India. He is the author of the words that fully apply to the emerging northern civilization corridor: "Great migrations of peoples are not accidental… In contact with new neighbors, consciousness expands and the forms of new races are forged. Therefore, living mobility is one of the signs of wisdom. In the depths of Asia — this cradle of all spiritual and creative movements — in ancient times, movement was considered the completion of education." [7].

There is every reason to believe that the future development of our northern territories and the formation of the Northern civilization corridor will put forward new Lomonosovs and Mikhail Sidorovs [8], Sedovs and Papanins, because only great historical tasks call outstanding personalities under their banners. Our global turn to the East, which is being talked about so much today, should be carried out not only by land, but also by sea, and above all — in the interests of our own Russian civilization and its Siberian regions, as we should not forget that the Russian North makes up 70% of the entire global North, and the northern regions represent 2/3 of the entire territory of Russia.

Today we can also talk not only about the northernness of Russia, but also about the growing northernness of the entire earthly civilization, to which Russia is opening new "civilization gates" to the future.

References

1. Huntington S. *The Clash of Civilizations*. Moscow, AST Publ., 2003, 603 p. (In Russ.)
2. Ivanov A.V., Popkov Yu.V. Typology of Civilizations in the Diachronic Dimension: Basic Models and Perspectives of Russia. *RUDN Journal of Sociology*, 2022, vol. 22, no. 2, pp. 404–415. DOI: https://doi.org/10.22363/2313-2272-2022-22-2-404-415
3. Tatarkin A.I. *Russian Arctic: Modern Paradigm of Development*. Saint Petersburg, Nestor-Istoriya Publ., 2014, 844 p. (In Russ.)

[7] Roerich N.K. To the Society of Slavic Culture. URL: https://culture-into-life.ru/nikolaj_rerih_obshestvu_slavianskoj_kultury/ (accessed 15 July 2024).
[8] A touching sketch of the life and work of this great enthusiast of the Russian North belongs to Valentin Pikul. See [14, Pikul V.S., pp. 374–385].

4. Ivanter V.V., Lexin V.N., Porfiriev B.N. Arctic Megaproject in the System of National Interests and State Administration. *Outlines of Global Transformations: Politics, Economics, Law*, 2014, vol. 7, no. 6, pp. 6–24.
5. Ivanov A.V., Popkov Yu.V. Meridional Civilization Corridors of Eurasia: Retrospectives and Perspectives. *Eurasian Yearbook*, 2024 (2), pp. 52–73. DOI: https://doi.org/10.22455/2949-5865-2024-2-52-74
6. Golovnev A.V. *Anthropology of Movement*. Yekaterinburg, KSC UB RAS, Volot Publ., 2009, 496 p. (In Russ.)
7. Golovnev A.V. Local and Mainstream Cultures of Northern Eurasia. In: *Man and the North: Anthropology, Archeology, Ecology: Proceedings of the All-Russian Conference*. Tyumen, Institute of the Problems of Northern Development Publ., 2012, pp. 234–237. (In Russ.)
8. Kraevskiy G.F. *World-Transit Siberian Railway: A Report Made in the Meeting of Engineers of Ways of Communication, 8 March 1897 by Engineer G. Kraevskiy and Supplemented with Notes on the Way through Siberia to the Hingan Mountains in Manchuria*. Irkutsk, Tipo-litografiya P.I. Makushina Publ., 1898, 84 p. (In Russ.)
9. Lomonosov M.V. *For the Benefit of Societ*y. Moscow, Sovetskaya Rossiya Publ., 1990, 384 p. (In Russ.)
10. Savitskiy P.N. *Continent Eurasia*. Moscow, Agraf Publ., 1997, 464 p. (In Russ.)
11. Golovnev A.V. *Northness of Russia*. Saint Petersburg, MAE RAS Publ., 2022, 450 p. (In Russ.)
12. Bulgakov S.N. *Essays in 2 Volumes. Vol. 1*. Moscow, Nauka Publ., 1990, 604 p. (In Russ.)
13. Kalutskov V.N. Russian North and Siberia: Histotical and Cultural and Geographical Aspects of Interaction. *Vestnik ARGO*, 2017, no. 6, pp. 148–156.
14. Pikul V.S. *The Living Link of Time*. Moscow, Profizdat Publ., 1989, 560 p. (In Russ.)

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Perception of Space and Sense of Place among Elderly Residents of the Solovetsky Village

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Abstract. Sensory-emotional perception of natural-architectural landscape is a collective phenomenon that depends on various factors. The natural and architectural space of the village of Solovetsky is distinguished by territorial isolation (island environment); marine type of natural and climatic conditions; consequences of the relatively late formation of the civilian population; rich religious history; location of special purpose places. In the conditions of the complex system of historical connections and the relative "youth" of the village, the population is in the stage of forming a "sense of place". The architectural space of the settlement has been transformed many times and has not been characterised by a consistent linear development. Important transformational events were: the history of the monastery and its monastic services, the arrangement of the monastery space for the needs of the Solovetsky special purpose camp and the Solovetsky special purpose prison (1923–1939), further adaptation of the architectural space for the school of cabin boys and boatswains, a military unit, with subsequent transformation for civil settlement (1944). The transformational stages of architectural space are captured in the modern image of the village, which influences the formation of a "sense of place" among the population. This article examines and analyses the results of a survey of the elderly population of the Solovetsky village, identifying the features and patterns of sensory-emotional perception of space. Particular attention was paid to feelings of beauty, uniqueness, cleanliness, safety and friendliness among older respondents. The article concludes with recommendations for strengthening the "sense of place" — the psycho-emotional connection with the place of residence. These recommendations will improve the psycho-emotional climate in the village and the health of elderly residents.

Keywords: *sense of place, sensory-emotional perception, natural architectural space, Solovetsky village*

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Introduction

The concept of "sense of place" has a deep tradition of study since the 1970s. However, the study of the sense of place among the inhabitants of island territories with specific features of both natural and architectural landscape is a little-studied phenomenon. The present research in-

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cludes the study of sensory and emotional perception of the surrounding space by the elderly population of the village of Solovetsky, Primorskiy District, Arkhangelsk Oblast.

According to Western concepts, the three-dimensional model of “sense of place” is a composite product of “place attachment”, “place identity” and “place dependence” [1, Jorgensen B., Stedman R.]. For example, attachment to place is formed from a positive emotional connection of people with a place [2, Hummon D.M.; 3, Low S.M., Altman I.]. According to the second model, the sense of place is formed only through identification with the place and dependence on the place [4, Trentelman C.].

In addition to these two models, there are a number of personal concepts that reveal the very concept of “place”. I. Tuan believed that the sense of place is associated with interpretation, creation of symbols and meanings in interaction with the environment, living through life situations in contact with physical space. In his opinion, unidentified space becomes a “place” only when it is endowed with value [5, p. 6]. The closest to our understanding of the term “place” is the concept of E. Relph, who also considered “place” as the relationship between space and man — “phenomenology of place”, i.e. the interpretation of human experience of interaction with the surrounding space [6; 7]. E. Relph, describing the connection between space and place, explained that space includes many places. He notes that in order to study “place” and “sense of place” it is necessary to study people’s attitudes to space, i.e. the process of accumulating spatial experience [7, p. 44]. E. Relph also considered people’s identity with place. Personal experience shapes a place outside of space. By “place identity” he meant its “constant similarity and unity that allows this [place] to differ from others” [7, p. 45]. Identity is also determined by involvement and care for a place, living through certain life situations in contact with a place. One of Relph’s key ideas is that “human experience acquires different qualities of feelings” [6, p. 45]. His theory suggests that the accumulation of spatial experience is a long-term process that leads to a strengthening of the connection between a person and a place. R. Stedman, continuing the ideas of his predecessors, notes that “the transition from space to place presupposes a transition from the alien to the familiar, i.e. space is transformed into place as it acquires definition and meaning” [8, p. 823]. The author records the connection between cognition and emotions.

Summarizing, it should be noted that different understandings of the term “place” are in many ways not mutually exclusive. “Place” is usually considered as a combination of three concepts: place as location means a spatial area or physical location; place as an action taking place in this place; sense of place —the subjective meaning of place, attachment to place, identity of place [9, Amundsen H., pp. 257–258; 10, Agnew J.]. One of the questions remaining open is how long it takes for a person to move from identifying a place to developing a strong sense of place — attachment to a place, which is based on sensory-emotional connections, obtained through experiencing positive emotions and accumulated experience. Researchers of the Arctic territories A. Bolotova and F. Stammler came to the conclusion that attachment to places among the visiting population was formed “in proportion to the increasing importance and value of these places for

the biographies of newcomers" [11, p. 211]. The authors note that one of the places of attachment is the graves of ancestors. Accordingly, a strong attachment is formed already among the second generation of migrants: the second generation of migrants to the North of Russia cares for and looks after the burial places of their ancestors, and the attachment formed prevents their re-settlement to climatically more favorable regions [11, p. 211]. It is important to note that another factor in the formation of a strong sense of place — attachment to the space of the North — is the "solidarity of northerners" based on collective labor, which was widespread in these territories in the past: "deep knowledge of people with collective experience and the places where this experience took place creates strong social ties among the inhabitants of the North, as well as between people and places" [11, p. 213].

The Solovetsky Archipelago is a unique natural and architectural landscape with a rich history and the status of a UNESCO World Heritage Site. At the same time, the village of Solovetsky is relatively young, it was built in the 1990s (Fig. 1).

Fig. 1. Solovetsky settlement. Photo by R. Pshenko, 2023.

The natural and architectural landscape of the Solovetsky archipelago was formed under the influence of various factors. Firstly, it is worth noting the monastery, the "monastery walls" and the complex of outbuildings located outside the central monastery complex. The monastery was founded in 1420–1430 [12, pp. 5–6], it was and remains the main architectural dominant of the island and the historical and artistic background of the village and the archipelago as a whole. The outbuildings are currently under the jurisdiction of the monastery and are objects of cultural heritage of federal significance, but most of them are not suitable for use. It is worth noting that the remaining buildings of the monastery outbuildings are important elements of the architectural space of the village. These buildings include: the Salotoppenny plant (1842), the rigging barn (1838), the monastery power station building (1910–1912 and 1920–1930), the Beletskaya bathhouse (1717), the turpentine distillery (19th century), the monastery radio station (1915), etc. In addition to the economic complexes, residential and educational buildings have been preserved.

Thus, next to the monastery, there is a wooden building of the school for workers (second half of the 19th century) and the Nikolskiy building (1896–1898).

The second reference point for the formation of the natural and architectural landscape is the time of the existence of the Solovetsky special purpose camp and the Solovetsky special purpose prison (1923–1939). At that time, the monastery architecture was used for the needs of the camp/prison. Additionally, residential premises were built. In the southern part of the village, barracks and the administrative building of the workers' settlement of the Solovetsky special purpose camp (1928) have been preserved. Currently, the barracks and the administrative building are used as residential premises, a museum building and a store. After the prison was closed, the monastery premises were used to locate a school for cabin boys and boatswains. The civilian settlement was formed in 1944, the period of its formation is characterized by the construction of private houses, as well as the conversion of "camp architecture" to accommodate local residents.

Due to the fact that the formation of the Solovetsky settlement was of a heterogeneous nature and was conditioned by the work of the Solovetsky special purpose camp (1923–1933), the Solovetsky special-purpose prison (1937–1939), and the naval unit (1939–1991), a significant part of the local population are the descendants of employees and prisoners of the camp and prison, the second largest part of the population are the children of military men who served and lived on the Solovetsky Islands. The emergence, formation, and development of the architectural landscape of the settlement took place before the eyes of local residents. Accordingly, the elderly people living in the Solovetsky settlement are mostly the first and second generation of local residents. Identifying the formation of a sense of place among them is of undoubted research interest.

The hypothesis of this study was the assumption that, due to the late formation of a permanent civil settlement and the heterogeneous nature of the natural and architectural landscape, the modern period is characterized by a process of place identification, rather than the development of a strong "sense of place".

Research methodology

One of the modern approaches to the study of sensory-emotional perception of the landscape is emotional geography, which studies the emotional connection of a person with his place of residence [13, p. 31]. "Emotional geography", taking its origin from geographical sciences, focuses the object of research on the concept of "sense of place", which is associated with the space of a person's everyday reality; in other words, the space involved in the process of performing "daily rituals" [14, p. 574]. The methodology of this work is based on the concept of Russian researcher T.V. Zhigaltsova that a strong sense of place is the sum of such feelings as the feeling of beauty, cleanliness, safety, friendliness, uniqueness of the surrounding natural and architectural landscape [15, pp. 362; 379]. "Sense of place" in rural areas has deeper roots and a stronger attachment [14, p. 574]. It can be assumed that the island, isolated nature of the territory can enhance the sense of place.

The study of the emotional geography of the Solovetsky Islands became part of a large project "Creating sustainable communities taking into account the consequences of the transformation of the architectural and ethnographic environment of the island and coastal Arctic", supported by the Russian Science Foundation. Comprehensive studies of the modern natural and architectural landscape of the Solovetsky Archipelago, as well as a retrospective view, are based on the memories of elderly residents collected during interviews in June 2023. The historical perspective is supported by archival materials from the Russian Ethnographic Museum, the Solovetsky State Historical, Architectural and Natural Museum-Reserve, and the Arkhangelsk Museum of Local History. In addition, the study included a field survey of the preservation of buildings and structures on the archipelago that are significant for the elderly local population.

The study sample included people from 45 years old (second generation) to 78 years old (first generation). The survey was of the "snowball" nature. The author notes the interest of the respondents in this study and the desire of the population to participate. In order to obtain a complete picture, the respondents included the monastery servants, museum employees and people living on the Solovetsky Islands seasonally. A total of 17 elderly and old people were interviewed, of which 6 respondents are the first generation of local residents who moved to a permanent place of residence; 7 respondents are the second generation of local residents who have lived on the Solovetsky Archipelago since birth; 4 people come to the Solovetsky Archipelago seasonally for 5 years in a row or more. The text of this article includes the answers of the respondents of the first and second generations.

The average duration of the survey was 30 minutes. The questions were divided into three semantic blocks and were open-ended without answer options, which allowed capturing a more complete opinion of the respondent. The first block of questions was related to the history and layout of the village. This block was a preparatory part in psychological terms, helping to dispose the respondent, prepare for an open dialogue, and encourage memories. The second semantic block of questions was related to the sensory perception of the natural and architectural landscape by respondents: a sense of beauty (aesthetic need), uniqueness (need for singularity, dissimilarity of the environment from others), cleanliness (need for a comfortable and healthy (clean) environment), safety (need for a safe and protected environment) and friendliness (need for communication and a conflict-free environment) [15, Zhigaltsova T.]. The third block of questions was aimed at expressing a personal assessment of the space that surrounds the respondents.

Research results

During the interviews, respondents did not identify themselves as indigenous people, but rather maintained a detached position, the position of a "guest": "there is no indigenous population on Solovki, so they are not interested in changes, they are not ready to take care of the place

where they live" [1]. Another respondent agrees with this opinion: he believes that the uniqueness of the Solovetsky settlement is that "there are many different historical layers on Solovki. It [the settlement — author's note] was formed in 1944, the first layer is sailors and sailors' families, then — the first museum workers ... These are all newcomers, there is no indigenous population here, and this is what makes it unique" [2]. Researcher of the history and culture of the Solovetsky Islands V.N. Matonin also confirms this idea with the words: "there is almost no local population on Solovki, the rotation of local residents is extremely high" [3]. Thus, the respondents who have been living on this territory even for more than 15 years do not relate themselves to local residents; this indirectly indicates an unformed "sense of place".

A stable assessment of space is imprinted in the aesthetic sense (the idea of the beauty of the natural and architectural landscape). During the survey, we asked to evaluate the aesthetic component of the village and the archipelago. We deliberately divided the question into "the aesthetic appearance of the village" and "the aesthetic image of the archipelago". In the first case, we meant the anthropogenic architectural environment inscribed in the natural space: the development of the village, the monastery, residential and utility buildings, piers, hotels, Blagopoluchiya Bay, etc. The second question was focused on the archipelago as a whole: forest, coastline, village, monastery, islands (Anzer, Zayatskie Islands, etc.), Cape Pechak, dam, lakes and other objects. However, the survey revealed that the residents separate the monastery and the settlement. Most respondents who have lived most of their lives on the archipelago answered that the village is not beautiful: "The historical part is beautiful, the village part can hardly be called beautiful" [4]; "The village is ugly, unfortunately, but no one has bad memories of the island. About a bad life — yes, about the island — no" [5]. Respondents, who moved to Solovki relatively recently or come seasonally, look at the architecture of the village more positively and consider it beautiful. The respondents associated the uniqueness with the history and architecture of the Solovetsky Monastery: "It is unique only because of the monastery. Personally, I think so, because of these holy places, the sketes there, Sekirnaya Mountain" [6]; "There is no Kremlin like ours, made of wild boulders, of such stones" [7].

The sense of cleanliness and the need to care for the surrounding landscape were deeply revealed in the conversation with the first-generation respondent. Working in the field of housing improvement and garbage removal, he emphasized that "the locals are not ready to care about the surrounding space" [8]. As was said above, researcher E. Relf associated the identification of a place

[1] FMA — Field materials of the author. Expedition to Solovetsky settlement, Primorskiy district, Arkhangelsk Oblast, June 2023. Interviewer no. 2 (second generation).
[2] FMA, Interviewer no. 10 (second generation).
[3] FMA, Interviewer no. 13 (second generation).
[4] FMA, Interviewer no. 5 (first generation).
[5] FMA, Interviewer no. 13 (second generation).
[6] FMA, Interviewer no. 5 (first generation).
[7] FMA, Interviewer no. 3 (second generation).
[8] FMA, Interviewer no. 4 (first generation).

with the manifestation of care for this place, accordingly, the absence of care speaks of the absence of identification of a place in one's perception of space: "No, the village is dirty. While I'm walking, for example, towards the cemetery... with a bucket and collecting [garbage] along the way, even with a bag, empty bottles... And the villagers litter there, well, and visitors, of course, too" [9], "The village dump. Everything is simply buried there! There is a swamp nearby, groundwater, it washes away, and there are batteries and polyethylene... That is, this is probably the most painful point" [10]. The lack of cleanliness causes shame among the residents. A first-generation respondent, describing the area around the fortress walls, Blagopoluchiya Bay, explained: "It's a shame — it's the very center, it's very dirty there" [11]. He said that he wrote a note on this matter in "Live Journal" to attract public attention. In this way, he showed his involvement and desire to participate in the life of the village.

The sense of security is perhaps the strongest feeling among the respondents surveyed. It is associated not only with the village, the archipelago, but also with the sea (Fig. 2).

Fig. 2. The White Sea. Photo by R. Pshenko, 2023.

During the interview, a guiding question was asked, the purpose of which was to identify the attitude to the sea as a source of danger, but none of the respondents consider the sea in this way. The population has only positive perception of the sea: "It is interesting to go to the sea every time, because it is different every time... I live in Komarovo, there is access to the sea nearby, a forest with mushrooms, peace and quiet" [12]; "We are happy with the sea. It is air for us, and water, everything" [13]. A first-generation respondent explained: "our children are accustomed to such a healthy fear [of the sea — author's note] from birth" [14]. Two of the respondents experience a feeling of anxiety about the sea, caused by the intense anthropogenic load that affects its flora and

[9] FMA, Interviewer no. 5 (first generation).
[10] FMA, Interviewer no. 10 (second generation).
[11] FMA, Interviewer no. 1 (first generation).
[12] FMA, Interviewer no. 2 (second generation).
[13] FMA, Interviewer no. 8 (first generation).
[14] FMA, Interviewer no. 8 (first generation).

fauna. One of the respondents defined the sea as an allegory — a connection with eternity and ancestors. Such an allegory is often found in the works of philosophers. For example, V.N. Toporov, considering the sea as a symbol, defined it as "a universal way of correlating essential and existential being, a paradoxical semantic structure in which the infinite is expressed in the finite, the eternal in the temporal" [16, p. 594].

The solidarity of northerners is based not only on collective labor [11, p. 213], but also on a *sense of community* in relation to each other. Only half of the respondents consider the residents to be friendly with each other. Interestingly, respondents consider the Beletskaya bathhouse to be one of the places that forms a sense of community on the Solovetsky Islands (Fig. 3).

Fig. 3. Beletskaya bathhouse. Photo by R. Pshenko, 2023.

The Beletskaya bathhouse is a building presumably built in 1717, located on the shore of Lake Bannoe (on the territory of the village) and part of the Solovetsky Monastery complex. At the moment, it is a historical and cultural monument of federal significance [15]. The bathhouse was built of boulders with small inclusions of brick [16]. It was actively used by the population of the Solovetsky village and was a public bathhouse. By the end of the 1990s, the bathhouse ceased to be used due to the need for repairs, which have not been carried out to this day. Older residents noted the importance of the public bathhouse for exchanging opinions and news: "There used to be a bathhouse, a common bathhouse. Everyone came there and talked" [17]; "We all went there, the whole village. It was closed only about 10 years ago. Now it is under the jurisdiction of the monastery" [18]; "For me, for example, and for many who have lived here for a long time, there used to be a good public bathhouse. Unfortunately, it is not used now. It is called Beletskaya bathhouse. You could say that it was a public place where people gathered and discussed certain issues" [19]. The population also notes the need for a bathhouse at the present time: "There is a bathhouse

[15] Scientific archive of the Solovetsky Museum-Reserve. F.1. Invt.1. Arch. 657. Sh. 1.
[16] Ibid. Sh. 2.
[17] FMA, Interviewer no. 2 (second generation).
[18] FMA, Interviewer no. 5 (first generation).
[19] FMA, Interviewer no. 10 (second generation).

building here — the oldest in Russia — from 1717. Now it is closed and the pretext for its closure was repairs, since then it [the bathhouse — author's note] has not appeared, although there is a need for it" [20]. At the moment, the building is not in use, although it is in relatively good condition.

Thus, we can conclude that the architectural environment of the Solovetsky settlement does not satisfy the needs of residents of both the first and second generations for beauty, cleanliness, and communication. However, this is compensated by a sense of security on the one hand and ideas about the beauty and uniqueness of the surrounding natural landscape and the Solovetsky Monastery on the other. During the survey, respondents independently identified the problem of a weak "sense of place" on the Solovetsky Islands. This was explained by the constant change in the surrounding architectural landscape and the loss of places of attachment: "In conditions of geographic isolation, every visible object is associated with some emotions, moods, states. Each one reminds of the past. You feel comfortable in this space, but it can be very unpleasant and difficult when you suddenly discover that a new fence has appeared somewhere, something has been destroyed somewhere, something has been lost... The vector of changes is oriented towards loss" [21]; "I am afraid to return to Solovki after a long absence, because it is unclear whether you will find what you wanted to see. Suddenly you discover that your favorite tree was cut down by an unknown person and for an unknown reason" [22].

It is interesting to note that, given the above results, when answering the last question of the interview, where respondents were asked to continue the phrase "for me, the village of Solovetsky is …", two respondents who identified the problem of the indigenous population used the lexeme "homeland" to continue the proposed phrase. Thus, this phenomenon can be interpreted as a complex process of transition from identifying a place to developing a "sense of place", which takes more than one generation. To summarize, it should be noted that the hypothesis that the "sense of place" in the sensory-emotional perception of the natural and architectural landscape of the Solovetsky Archipelago by elderly residents is at the stage of formation, has been confirmed.

Strengthening the "sense of place" requires local work with specific places in the natural and architectural landscape, such as keeping graves and cemeteries clean and tidy. As noted above, researchers A. Bolotova and F. Stammler named ancestral graves as one of the places of attachment, which form a sense of attachment among the second generation of migrants [11, p. 211]. This study confirmed these results: "Everyone has someone there [at the cemetery — author's note]" [23]. One respondent attributed the cemetery to a place of "reunification with loved ones" [24]. The difference in opinion is related to personal cultural and religious beliefs.

[20] FMA, Interviewer no. 13 (second generation).
[21] FMA, Interviewer no. 13 (second generation).
[22] FMA, Interviewer no. 13 (second generation).
[23] FMA, Interviewer no. 8 (first generation).
[24] FMA, Interviewer no. 2 (second generation).

In addition to ancestral graves, specific places that form a strong sense of place among the local population are places of pride [13, p. 34]. Respondents of the first and second generations noted the following places of pride: kindergarten, school, Anzer Island, fortress and dam. Among those elderly residents who live on the islands seasonally, the most common answer was "monastery". In order to visualize the results of the study, quotes, as well as specific places and emotions named by respondents, were plotted on an interactive map of the Solovetsky Archipelago [17, Zhigaltsova T.].

In order to strengthen the "sense of place" and the psycho-emotional connection with the place of residence, it is necessary to pay attention to such problematic issues as the insufficient number of public places and events that contribute to strengthening ties between the population and the formation of a sense of community. Work to strengthen the "sense of place" and improve the emotional climate in the village requires the implementation of the following renovation policy, carried out by representatives of various fields of activity:

- restoration of the Beletskaya bathhouse;
- restoration of the main administrative building, which houses the administration, police, medical center, pharmacy, and library;
- construction of a club and provision of its operation for holding cultural events;
- creation of a council of representatives of residents of the Solovetsky settlement, ready for an open dialogue with representatives of the authorities, the Solovetsky Museum-Reserve, the Solovetsky Monastery, and with travel agencies.

References

1. Jorgensen B., Stedman R. Sense of Place as an Attitude: Lakeshore Owners Attitudes toward Their Properties. *Journal of Environmental Psychology*, 2001, pp. 233–248. DOI: https://doi.org/10.1006/jevp.2001.0226
2. Hummon D.M. Community Attachment: Local Sentiment and Sense of Place. In: *Place Attachment*. New York, Plenum, 1992, pp. 253–278.
3. Low S.M., Altman I. Place Attachment: A Conceptual Inquiry. In: *Place Attachment*. New York, Plenum Press, 1992, pp. 1–12.
4. Trentelman C. Place Attachment and Community Attachment: A Primer Grounded in the Lived Experience of a Community Sociologist, Society and Natural Resources. *Society & Natural Resources*, 2009, no. 22 (3), pp. 191–210. DOI: https://doi.org/10.1080/08941920802191712
5. Tuan Y.F. *Space and Place: The Perspective of Experience*. Minneapolis, University of Minnesota Press, 1977, 226 p.
6. Hubbard P., Kitchen R., Vallentine G., eds. *Key Texts in Human Geography*. London, Sage, 2008, pp. 43–51.
7. Relph E. *Place and Placelessness*. London, Pion, 1976, 156 p.
8. Stedman R.C. Sense of Place and Forest Science: Toward a Program of Quantitative Research. *Forest. Science*, 2003, no. 49 (6), pp. 822–829.
9. Amundsen H. Place Attachment as a Driver of Adaptation in Coastal Communities in Northern Norway. *Local Environment*, 2013, no. 20 (3), pp. 257–276. DOI: https://doi.org/10.1080/13549839.2013.838751
10. Agnew J. Space: Place. In: *Spaces of Geographical Thought. Deconstructing Human Geography's Binaries*. London, Sage, 2005, pp. 81–96.

11. Bolotova A., Stammler F. How the North Became Home. Attachment to Place among Industrial Migrants in Murmansk Region. In: *Migration in the Circumpolar North: Issues and Contexts*. Alberta, CCI Press, 2010, pp. 193–220.
12. *A Brief History of the Stavropigial First-Class Solovetsky Monastery*. Saint Petersburg, Tipografiya M.I. Akinfieva i I.V. Leonteva Publ., 1899, 92 p. (In Russ.)
13. Zhigaltsova T. Emotional Tapestry of Small Cities: Emotional Perception of Urban Environments by Swedish and Finnish Senior Citizens. *Suomen Antropologi: Journal of the Finnish Anthropological Society*, 2022, no. 46 (2), pp. 30–50. DOI: https://doi.org/10.30676/jfas.v46i2.102863
14. Zhigaltsova T. City as Home: Sense of Security and Emotional Places in the Drawings of Schoolchildren from the Nordic Countries and Russia. In: *Arctic Yearbook 2021: Defining and Mapping Sovereignties, Policies and Perceptions*. Akureyri, Iceland, Arctic Portal, pp. 572–591.
15. Zhigaltsova T. Favorite and Least Favorite Places of the Northern Border Cities. In: *Human and Societal Security in the Circumpolar Arctic: Local and Indigenous Communities*. Leiden, Boston, Brill Nijhoff, 2018, pp. 357–384. DOI: https://doi.org/0.63/9789004363045_00
16. Toporov V.N. *Myth. Ritual. Symbol. Image: Studies in the Field of Mythopoetic: Selected*. Moscow, Progress: Kul'tura Publ., 1995, 621 p. (In Russ.)
17. Zhigaltsova T. Emotional Tapestry of Small Cities: Emotional Perception of Urban Environments by Swedish and Finnish Senior Citizens. *Suomen Antropologi: Journal of the Finnish Anthropological Society*, 2022, no. 46 (2), pp. 30–50. DOI: https://doi.org/10.30676/jfas.v46i2.102863

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Logistics Capabilities of the Russian Arctic Regions for the Development of Automobile Tourism

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Abstract. The development of automobile tourism in Russia has reached a new stage due to the concept approved by the Government of the Russian Federation. The relevance of this type of tourism is associated with the increased demand of Russians for travel within the country and the difficulties in providing of transportation for the increased tourist flows. The stimulus to its development is the increase in motorization of citizens and the great recreational potential of Russia. For the Arctic Zone of the Russian Federation, auto tourism is one of the ways to develop the territory. In our work, based on the analysis of reviews of auto tourists in the Internet, we studied the demand for the regions of the Russian Arctic, the directions of the main car routes, the impressions gained from travelling on the Arctic roads. It turned out that the most popular regions among Russian auto tourists are the western sector of the Russian Arctic — Murmansk Oblast and the Republic of Karelia. Most trips are made in warm season. Tourists note the poor quality of the surface on some sections of the roads and the lack of roadside service facilities. Based on the materials of the highway departments, the Ministry of Transport and road maps, we studied the accessibility of the Arctic regions of Russia for auto tourists, their suitability for the development of tourist routes. As a result, we divided the Arctic regions into four groups: the most accessible, accessible, conditionally accessible and difficult to access. For each group, we proposed the types of auto tourism that can be developed there. Currently, development of auto tourism in the first two groups is the most promising.
Keywords: *automobile tourism, Concept, Arctic, highways, transport accessibility*

Introduction

On April 25, 2024, the Government of the Russian Federation approved the Concept for the Development of Automobile Tourism in the Russian Federation until 2035 (hereinafter referred to as the Concept) [1]. The first stage of the Concept's implementation (2024–2025) envisages the elaboration of a program for the development of automobile tourism in Russia until 2035. The second stage (2025–2035) will involve the implementation of the planned activities. The develop-

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[1] Order of the Government of the Russian Federation of 25 April 2024 No. 1025-r "On approval of the Concept for the Development of Automobile Tourism in the Russian Federation until 2035". URL: https://www.garant.ru/products/ipo/prime/doc/408865491/ (accessed 30 September 2024).

ment of automobile tourism in Russia is a consequence of the increased demand in the domestic tourism market due to the current restrictions on outbound tourism. This has increased the load on passenger transport and demonstrated its limited carrying capacity. The incentive for the development of automobile tourism has become the increasing motorization of the Russian population. The Concept draws attention to the difficulties that limit the development of automobile tourism in the Arctic zone of the Russian Federation. First of all, they are related to the problems of road logistics in many Arctic regions. Automobile tourism is one of the ways to develop Arctic tourism due to the lack of regular passenger flights in many of its regions. It is a relatively low-cost way of tourist development of territories. In addition, it allows developing infrastructure that can serve not only tourists, but also local residents. In order to elaborate a general program for the development of automobile tourism in Russia, it is necessary to draw up recommendations on the selection of Arctic territories where it is possible to create the most accessible routes with minimal economic costs. The purpose of this work is to analyze the logistical capabilities of the regions of the Arctic zone of the Russian Federation for laying sustainable routes for automobile tourism.

Materials and methods

The emergence of automobile tourism in the world coincides with the appearance of personal cars. Interest in this type of recreation has not disappeared since then, as the traveler is not limited in space, is mobile, and has the opportunity to choose a travel route in accordance with desires, financial possibilities and current traffic situation [1, Martyshenko N.S., Loksha A.V.].

There are different definitions of the concept of automobile tourism. They all agree that this is a type of travel in which the main means of transportation for tourists is a personal car [2]. The purposes of travel are cultural, educational and sports, the direction of the route should be to countries and localities other than the tourist's place of residence [1; 2, Valkova T.M., Shabalin A.D., Shabalina N.V.]. Automobile tourism is divided into several types: vacation trips with camping in a specially designated place (usually on the sea coast); trips with educational purposes, during which tourists are constantly on the route, staying at campsites or local hotels. If tourists use a motorhome or a caravan for ease of travel, this type of tourism is called "caravanning". Traveling by jeep-class cars or all-terrain vehicles off-road is called "jeeping" or "off-roading". In this case, either a personal car or transport provided by a travel agency organizing the trip can be used. A common type of auto tourism is a car rally, although it is distinguished by the fact that it is usually organized by sponsors for specific purposes (promotion, sports, testing). Several cars take part in them [1; 2].

The development of auto tourism attracted the attention of scientists, representatives of the tourism business and government bodies even before the adoption of the Concept by the Government of the Russian Federation. According to the Federal Target Program "Development of

[2] Buranov I. Tomorrow of an Auto Traveler. URL: https://www.kommersant.ru/doc/6428069 (accessed 23 September 2024).

Domestic and Inbound Tourism in the Russian Federation for 2011–2018", budget funding was received, among other things, for the development of auto tourism clusters [2]. According to surveys, every fourth adult resident of Russia makes one car trip per year [2]. Based on the All-Russian Public Opinion Research Center (VCIOM) surveys conducted in 2023, 39% of Russians have gone on vacation by car over the past 5 years, 67% of surveyed auto tourists prefer outdoor recreation, and 62% — visit attractions [3]. Earlier works cited the expansion of the inbound tourism market, Russia's great recreational potential, the interest of foreign tourists, the creation of cross-border automobile routes, and the growth of motorization of Russians as incentives for the development of automobile tourism [1]. From 2000 to 2018, the number of cars among the population of Russia increased by 2.3 times, among residents of the Arctic regions — by 2.5 times [3, Serova N.A., Serova V.A.]. In articles published later, in addition to the growth of motorization of Russians, the increase in demand for trips within the country due to the difficulties for outbound tourism that have arisen for political reasons was cited as factor actualizing automobile tourism in Russia. At the same time, the growth of automobile tourism by 25-30% per year is noted, which, provided that the appropriate tourist infrastructure is created, can turn automobile tourism into one of the most popular and accessible types of tourism. In this case, this type of tourism becomes a factor affecting the growth of profitability of territories, their investment attractiveness, makes the Russian tourist product more competitive [2].

The main frameworks for the development of automobile tourism infrastructure are federal highways, especially those that go to the territories of neighboring states [2, p. 61]. According to the level of development of transport infrastructure, the Arctic zone of the Russian Federation can be divided into two sectors: the western sector with fairly developed road networks, having a year-round land connection with the rest of the country, and the eastern sector with autonomous transport systems concentrated in the most developed areas, not connected to each other, having no year-round land connection with other areas of the country [3]. Federal highways in the Russian Arctic pass through the territories of the Murmansk and Arkhangelsk oblasts, Karelia and the Yamalo-Nenets Autonomous Okrug. In other Arctic regions, there are only regional and local roads, with federal highways ending in the more southern parts of these subjects. The Arctic regions of the north of Krasnoyarsk Krai, the Sakha Republic (Yakutia) and the Chukotka Autonomous Okrug are connected with the rest of Russia only by temporary winter roads. The length of public roads in the Arctic regions of Russia is 112.2 thousand km, in the entirely Arctic regions their length is 8.5 thousand km. Including the length of roads with hard surfaces is 67.3% and 79.5%, respectively [3; 4, Mitryukova K.A.]. The quality of roads varies: in the Arkhangelsk Oblast and the Nenets Autonomous Okrug, 80% of regional roads and 90% of local roads do not meet the standards [3]. According to the results of the VCIOM survey in 2023, 81% of drivers note the low

[3] Autotourism in Russia: opportunities and challenges. URL: https://wciom.ru/analytical-reviews/analiticheskii-obzor/avtoturizm-v-rossii-vozmozhnosti-i-problemy (accessed 23 September 2024).

quality of the road surface, and 26% are not satisfied with the quality of roadside service [4]. According to A.Yu. Kudrevich, in the Murmansk Oblast, on the roads leading to the most popular tourist sites in the village of Teriberka, the urban-type settlement of Umba, there is no high-quality road surface, and there are not enough gas stations. At the same time, the tourist flow to the village of Teriberka in 2023 increased by 51% compared to 2022 [5].

The development of automobile tourism is limited by the underdeveloped infrastructure of road service facilities, poor quality of roads, lack of information on the availability of campsites in the locations of objects of tourist interest [6, Valkova T.M., Kruzhalin V.I., Shabalina N.V.]. Roadside infrastructure includes gas stations, catering, trade, communication, medical care, service stations, hotels, motels. For reasons of economic feasibility, these facilities should be located together as part of multifunctional zones (MFZ) [5]. In addition, there is no legal regulation of automobile tourism outside public roads that would regulate safety requirements, including environmental protection, which is especially relevant for the regions of the Arctic zone [5].

In Russia, there are practically no professionally developed auto-tourism routes [2, p. 64]. The following auto-tourism clusters are developing: “Golden Gate” (Altai Krai), “Zadonshchina” (Lipetsk Oblast), “Kyakhta”, “Tunkinskaya Valley”, “Baikal” (Buryatia), “Samotsvetnoe Ring of the Urals” (Sverdlovsk Oblast), “Belomorskie Petroglyphs” (Karelia) [2]. But for the most part, modern automobile tourism in Russia is unorganized; therefore, it does not bring income to the state [1]. The fact that inexperienced developers are engaged in the organization of routes is a problem for the development of tourism in the Russian Arctic [7, Paskevich A., Stjernstrom O.].

There are no organized auto-tourism clusters in the Arctic zone of the Russian Federation, although there is interest in its development. A conference on the development of auto-tourism in the Arctic zone was held in Kargopol on June 15, 2021. The conference resolution states that the Russian Arctic has the potential to increase tourist arrivals, but it is necessary to develop infrastructure for auto-tourists and monitor roadside service facilities. The interregional automobile route “Protected Lands of the Russian North” was presented at the conference [6]. The regional auto route “Protected Lands of the Russian North” is 1,920 km long and runs through the territory of the Arkhangelsk Oblast, including areas that are referred to the Arctic zone of Russia (Velsk — Kargopol — Kenozero National Park — Onega — Arkhangelsk — Golubino — Zeleny Gorodok — Velsk). According to the results of a survey of auto-tourists, this route, developed by the national association of auto-tourism and caravanning, was awarded the status of “people’s route” on February 17, 2020. The association’s experts note that there are no campsites along the route, gas stations are located no more than 330 km away, but Arhautodor brings the highways to a normal

[4] Ibid.
[5] Order of the Government of the Russian Federation of 25 April 2024 No. 1025-r “On approval of the Concept for the Development of Automobile Tourism in the Russian Federation until 2035”. URL: https://www.garant.ru/products/ipo/prime/doc/408865491/ (accessed 30 September 2024).
[6] Resolution of the participants of the conference on autotourism in the Arctic. URL: https://pomorland.travel/upload/iblock/a18/22ilpxawm2u2ibsstd0bzfxqsh7qjo42.pdf (accessed 14 September 2024).

condition. Restrictions exist for cars and motorhomes during the thaw season for a month on sections of the Savinskiy–Onega and Belogorskiy–Golubino roads. During the period of ice formation and ice drift, ferry crossings are closed for 5–10 days [7].

In order to achieve our goal, we have studied the demand for the Russian Arctic regions among car tourists. For this purpose, we conducted a content analysis of reviews left by car travelers on the Vinskiy forum (random selection) [8]. We analyzed 195 reviews related to car trips to all regions of Russia. Not all travelers leave reviews. But the amount of content that is available on different sites on the Internet can be considered proportional to the number of travelers visiting a particular region or route. Therefore, to get a general idea of the state of car tourism, we can rely on the analysis of these reviews. Territories not mentioned in the reviews are visited by car tourists occasionally. In the analysis, we paid attention to the route direction, mode of travel, season, visited tourist sites and reviews of the state of the roads. Information about motorways, their status and condition in different subjects that are fully or partially included in the Arctic zone was obtained from reference materials published on the official websites of the motorway administrations and the Ministry of Transport of the Russian Federation, as well as from articles, press releases, reviews of drivers and travelers who have visited them. Analysis of motorway maps was of great importance for understanding the information. Generalization of the collected material allowed us to classify subjects of the Arctic zone of the Russian Federation by their accessibility for automobile tourists and readiness to develop tourist routes for them. The main criterion of accessibility is the status of roads by which automobile tourists can arrive in a given region. The most accessible regions are crossed by federal highways with access to the state border; most regional roads are open year-round. Accessible regions can be reached by federal highways, but the condition of regional roads implies temporary travel restrictions in the off-season. Conditionally accessible regions can be reached by regional highways; the nearest federal motorways to which they are connected are outside their borders. Regional roads there are characterized by seasonal restrictions, lack of bridges and asphalt pavement in some areas. Hard-to-reach regions can be reached by land only by winter roads during the cold season.

Results and discussion

Content analysis of reviews of auto travelers' routes showed that 11% of them are fully or partially referred to the Russian Arctic zone. At the same time, all the trips described in them took place in the western sector of the Arctic. It is characterized by the highest indicators of the share of transport in the gross regional product (more than 10%) [3]. In addition, 45% of auto tourists in Russia live in the Northwestern Federal District, which includes the territories of the western sec-

[7] Regional auto route "Protected Lands of the Russian North". URL: https://automototravel.com/dzhiptury/regionalnyy-avtomarshrut-zapovednye-zemli-russkogo-severa/ (accessed 01 October 2024).
[8] Vinskiy Forum. Independent Travel. URL: https://forum.awd.ru/viewforum.php?f=1399 (accessed 04 October 2024).

tor of the Russian Arctic [9]. We identified the starting points of the routes and points in the Arctic regions visited by tourists. We found that the main season for car trips to the Arctic is summer, since in spring and autumn the problem of poor road quality limits the possibilities of free movement in the Arctic territories. The exceptions are territories where motor transport can only travel along the winter road. As the main means of transportation, travelers use a personal car of various classes. Only one review described travelling on a swamp buggy across the Bolshezemelskaya tundra in the Nenets Autonomous Okrug (however, the tourist got to the swamp buggy's departure point by car). In cases of travelling to the islands (the Solovetsky Islands were most often mentioned in the reviews), in addition to the car, people used motor ships. Most tourists travelled by car to Kem, Rabocheostrovsk, parked there and transferred to motor ships; only in one case they flew by plane from Arkhangelsk. The Solovetsky Islands were most often named in the reviews as the main destinations of the route (settlements or tourist sites). An option for a car trip is the case when tourists arrived in Arkhangelsk by plane, and then travelled in a rented car around the Arkhangelsk Oblast.

Popular destinations for travelers were Murmansk, the village of Teriberka, the Khibiny Mountains, the Lovozero Tundra, Seidozero, the Rybachiy Peninsula, the Terskiy Coast (Murmansk Oblast), the city of Onega, Kiy Island, Arkhangelsk, settlements on the Pinega and Mezen Rivers (Pinega, Karpogory, Verkola, Mezen, Kimzha, Leshukonskoe), the Pinega Caves and occasionally other objects in the territories classified as Arctic (Table 1).

Table 1

Main routes for auto tourists visiting Russian Arctic regions [10]

Departure	Percentage of total number of departures, %	Direction (from all departure points)	Percentage of total number of directions, %	Month of visit (all destinations)	Frequency of trips from the total number, month, %
Moscow	50	Karelia and the Solovetsky Islands	40.9	January	9
Saint Petersburg	36	Arkhangelsk Oblast	27.3	May	5
other cities	14	Murmansk Oblast	27.3	June	18
		Komi Republic and NAO	4.5	July	18
				August	50

Table 1 shows that most car trips start in Moscow and St. Petersburg; the northern regions of Karelia, which are part of the Arctic zone, are the most visited by car tourists. At the same time, some routes pass through them in transit, tourists visit the Solovetsky Islands, then some of them continue their journey northwards to the Murmansk Oblast. Tourists with Schengen visas continued their route from the Murmansk Oblast to Norway, to the North Cape. In the Arkhangelsk Oblast, car tourists mainly go to Arkhangelsk, visiting tourist sites along the way, which are located

[9] Autotourism in Russia: opportunities and challenges. URL: https://wciom.ru/analytical-reviews/analiticheskii-obzor/avtoturizm-v-rossii-vozmozhnosti-i-problemy (accessed 23 September 2024).
[10] Vinskiy Forum. Independent Travel. URL: https://forum.awd.ru/viewforum.php?f=1399 (accessed 04 October 2024).

both in the Arctic territories and outside them (Onega, Kiy Island, Malye Korely, Severodvinsk, Velsk, Kargopol, Kenozero National Park, Kholmogory, etc.). The Pinezhskiy, Leshukonskiy and Mezenskiy districts located away from the federal highway are of interest, however, due to complex logistics, these destinations are not popular. The Komi Republic and the Nenets Autonomous Okrug are mentioned in the reviews once. An analysis of travel dates showed that most of them were made in 2012 (18% of reviews). From 2014 to 2019, the number of reviews did not change (9% per year). Then, a decrease in the number of reviews to 4.5% per year is noted (this may also be due to the emergence of other forums where travelers leave reviews).

In order to determine the accessibility of the regions of the Russian Arctic for auto tourists, we studied the connectivity of these territories with the country's unified road network. We paid attention to the presence of federal highways within these regions as the main routes for tourists (Table 2).

Table 2

Availability of motorways in the Russian Arctic regions [11, 12, 13, 14, 15, 16, 17, 18]

Region	Motorway	Administrative-territorial unit	Motorway features
Murmansk Oblast	R-21 federal motorway "Kola"	districts: Kandalaksha, Kola, Pechenga cities with subordinate territories: Polyarnye Zori, Apatity, Kirovsk	runs from south to north in the central-western part of the region and west to the borders with Norway (Borysoglebsk BCP) and Finland (Lotta BCP).
	47A-001 Kandalaksha — Salma BCP (border with Finland), 47K-010 Kandalaksha — Umba, 47K-021 Pirenga — Kovdor, 47K-037 Kirovsk — Umba, 47K-043 Olenegorsk — Lovozero, 47K-050 Kola — Serebryanskie HPPs (with access to Teriberka village)	districts: Kandalaksha, Tersk, Kovdorskiy, Olenegorskiy, Kola city with subordinate territories: Kirovsk	roads are connected to the federal motorway "Kola" and branch off to the west and east of it
Karelia Republic	R-21 federal	districts: Segezhskiy,	runs from south to

[11] Murmanskavtodor. URL: https://www.madroad.ru/index.php/press-centr/shema-avtodorog (accessed 14 October 2024).
[12] Upravtodor. URL: https://www.upravtodor-rk.ru/ (accessed 14 October 2024).
[13] Road agency "Arkhangelskavtodor". URL: https://ador.ru/roads.shtml (accessed 14 October 2024).
[14] State budgetary institution of the Komi Republic "Road Administration of the Komi Republic". URL: https://dor.rkomi.ru/ (accessed 14 October 2024).
[15] Public roads of regional importance in the Yamalo-Nenets Autonomous Okrug. URL: https://map.yanao.ru/eks/transport_map (accessed 14 October 2024)
[16] Regional State Budgetary Institution "Road Administration for Krasnoyarsk Krai". URL: https://krudor.ru/about/roads-list/ (accessed 14 October 2024).
[17] URL: https://gnkk.ru/news/tysyachi-kilometrov-zimnikh-dorog-prolo/ (accessed 14 October 2024).
[18] System of control over the formation and use of road funds. URL: https://скдф.рф/roads (accessed 14 October 2024).

	motorway “Kola”	Belomorskiy, Kemskiy, Louhskiy	north in the eastern part of the republic
	A-135 Kem — Kostomuksha — Lyuttya BCP (border with Finland), A-137 Belomorsk — Kostomuksha — border with Finland, 86K-127 Loukhi — Päozero — border with Finland	districts: Segezhskiy, Belomorskiy, Kemskiy, Louhskiy, Kostomuksha urban district	roads branch off the federal motorway “Kola” from east to west
Arkhangelsk Oblast	M-8 federal motorway “Kholmogory”	Primorskiy district	runs from south to north, has access to Severodvinsk
	11A-005 Arkhangelsk — Onega	districts: Primorskiy, Onega	connects to the M-8 motorway
	11A-004 Arkhangelsk — Pinega — Mezen, 11K-571 Savinskiy — Onega, 11K-461 Karpogory — Leshukonskoe, 11K-462 Leshukonskoe — Mezen, 11K-611 Pinega — Pirinem, Karpogory — Nyukhcha — Komi border	districts: Primorskiy, Pinezhskiy, Mezenskiy, Onega, Leshukonskiy	with hard surface (without asphalt), without bridges, with ferry crossings, covering part of the territories of the districts
Komi Republic	R87-001 Syktyvkar — Usinsk, 87R-005 Irayol — Ust-Tsilma	Usinsk urban district, Ust-Tsilemskiy district	connect to the federal motorway R-176 “Vyatka”
	Ukhta — Inta — Vorkuta winter motorway	Inta and Vorkuta urban districts	access to the federal motorway via road R87-001
Nenets AO	R87-001 Usinsk — Naryan-Mar	Zapolyarny district	continuation of the Syktyvkar — Usinsk road, no bridge over the Pechora River near Usinsk
Yamalo-Nenets AO	71P-1 Surgut — Novy Urengoy — Salekhard	districts: Purovskiy, Tazovskiy, Nadymskiy, Priuralskiy	transferred into federal ownership, under construction, has access to the federal motorway R-404 Tyumen — Tobolsk — Surgut
Krasnoyarsk Krai	Yeniseysk — Vorogovo — Bor winter motorway	Turukhanskiy district	with access to federal motorways R-255 and R-257
	Urengoy — Vankor — Igarka winter motorway		from Yamalo-Nenets Autonomous Okrug, departmental winter motorway
	winter motorways: Tura — Ust-Ilimsk, Tura — Severo-Yeniseiskiy, Tura — border with Boguchanskiy district	Tura rural settlement, from which there is a connection via winter roads with other arctic territories of Evenkiya	connected by federal motorways A-331 (in Irkutsk Oblast), R-255, R-257 (in Krasnoyarsk Krai)
Republic of Sakha	winter motorways:	Uluses: Olenyokskiy,	run from south to

(Yakutia)	Anabar (Udachny — Yuryung-Khaya), Yana (Tonoksha — Tiksi), Indigir (Ust-Nera — Russkoe Ustye).	Anabarskiy, Verkhoyan-skiy, Ust-Yanskiy, Bulun-skiy, Eveno-Bytantayskiy, Momskiy, Abyiskiy, Allaihskiy	north, via regional roads to the federal motorways A-331 “Vilyui” (“Anabar”), R-504 “Kolyma” (“Yana” and “In-digir”).
Chukotka AO	Arktika winter motor-way (Burustakh — Cherskiy in Yakutia— Bilibino — Pevek)	Uluses of Yakutia: Momskiy, Verkh-nekolymskiy, Sred-nekolymskiy	access to the federal motorway R-504 in Yakutia

We have analyzed the road network features of the regions included in the Arctic Zone of the Russian Federation and have come to the following conclusions. The most popular areas among car tourists in Karelia and Murmansk Oblast are best connected by roads of relatively good quality with other regions of the country and neighboring states [19, 20]. The fact that these subjects of Russia are consistently located on the same federal highway “Kola” allows combining visits to their tourist sites into one route. A common feature of the roads of Murmansk Oblast and Karelia is the fact that from the federal highway running from south to north, there are roads from east to west in the direction of the state border with Finland and Norway, and there are several border crossings. This expands the possibilities for modeling car routes and allows attracting foreign auto tourists. The problem of Murmansk Oblast is the poor coverage of roads in the central-eastern, north-eastern, southern and south-eastern parts. Not everywhere the roads and road service facilities have proper quality. In the Arkhangelsk Oblast, the federal highway M8 “Kholmogory” ends in the territory of the Primorskiy district, classified as the Arctic zone. Automobile routes, as a rule, go to Arkhangelsk, from which it is possible to get to Severodvinsk, to the White Sea coast, to visit the main sights of the region, which are concentrated in the area of this road (the museum “Malye Korely”, Kurtyaevo, etc.). Arkhangelsk can be used as a departure point for radial trips [8]. The rest of the Arctic regions can be reached only by regional roads that are connected to the M8 highway. However, only small parts of their territories are covered by roads. The most difficult to access are the Mezenskiy, Leshukonskiy and Pinezhskiy districts. They are especially remote from the federal highway, and it is possible to get there only by regional roads, which do not have asphalt pavement and bridges [21]. In this regard, routes should take into account the schedule of ferries across the rivers crossed by the road and the seasonality of their operation. During the thaw, roads may be washed out in some areas, and ferry services may be cancelled. The condition of the 11A-005 “Arkhangelsk — Onega” road, which provides access to the Onega Peninsula, currently depends on the season and weather conditions. Its repair and the project to extend it to the Belomorskiy district of the Republic of Karelia (with the planned transfer of the new road to federal ownership) will open up opportunities for creating interregional automobile routes and will improve the ac-

[19] Murmanskavtodor. URL: https://www.madroad.ru/index.php/press-centr/shema-avtodorog (accessed 14 October 2024).
[20] Upravtodor RK. URL: https://www.upravtodor-rk.ru/ (accessed 14 October 2024).
[21] Road agency "Arkhangelskavtodor". URL: https://ador.ru/roads.shtml (accessed 14 October 2024).

cessibility of the northwestern Arctic part of the Arkhangelsk Oblast. In the Komi Republic, the only federal highway R-176 Vyatka ends in Syktyvkar, significantly south of those areas that are part of the Arctic zone. The regional highway, connected to the federal highway, provides access to the Ust-Tsilemskiy district. The obstacle to year-round automobile communication is the lack of a bridge and the poor condition of the road in areas without asphalt. Despite the existing road P87-001 “Syktyvkar — Usinsk — Naryan-Mar”, the urban district of Usinsk can only be reached via the ferry crossing on the Pechora River, its operation may be interrupted during ice formation and ice drift [22]. The Inta and Vorkuta urban districts included in the Arctic Zone of the Russian Federation can only be reached via the winter road, which operates on average from December to March (depending on the weather). Driving on it is problematic, since the condition of its surface depends on traffic and weather. In addition, it is a departmental road and therefore requires permission from the owner. In summer, cars are transported to these urban districts on railway platforms. The construction of a year-round road to Vorkuta with an exit to Salekhard (Yamalo-Nenets Autonomous Okrug) is planned. The continuation of the road P87-001 “Syktyvkar — Usinsk — Naryan-Mar” leads to the capital of the Nenets Autonomous Okrug. For a long time, a winter road was laid from Usinsk to Naryan-Mar, but recently a year-round road was opened along its route. The road surface is not satisfactory on all sections, and in the area of the village of Ust-Usa, there is no bridge across the Pechora, its construction is planned for 2026. This limits movement from the southern regions of the Komi Republic to the northern ones and to the Nenets Autonomous Okrug. In addition, in order to preserve the road surface, traffic is limited in the off-season in some areas. Within the Okrug, there are motorways for year-round use only in populated areas. Access to the Yamalo-Nenets Autonomous Okrug is currently possible only by one road (71R-1 “Surgut — Novy Urengoy — Nadym — Salekhard”) [23]. However, it is not fully completed, and the condition of its pavement is unsatisfactory for a large part of its length. In addition, the road only partially covers the territory of the Okrug (eastern and northern regions). Many areas can only be reached by winter roads. Surgut (Khanty-Mansiysk Autonomous Okrug) can be reached by federal highway P404 “Tyumen — Tobolsk — Khanty-Mansiysk — Surgut”. It can be assumed that after the repair and completion of the road “Surgut — Salekhard”, there will be new prospects for attracting auto tourists to the Yamalo-Nenets Autonomous Okrug. The Arctic regions of Krasnoyarsk Krai (Taimyr and Turukhanskiy districts, Ilimpiyskiy group of settlements of Evenki district) are difficult to access. They can only be reached by winter roads. They, as a rule, have access to regional roads that connect with federal highways in the south of Krasnoyarsk Krai (P255 “Siberia” and P257 “Yenisei”) [24]. From the Evenki District, one winter road goes to the territory of the neighboring Irkutsk

[22] State budgetary institution of the Komi Republic "Road Administration of the Komi Republic". URL: https://dor.rkomi.ru/ (accessed 14 October 2024).
[23] Public roads of regional importance in the Yamalo-Nenets Autonomous Okrug. URL: https://map.yanao.ru/eks/transport_map (accessed 14 October 2024).
[24] Regional State Budgetary Institution "Road Administration for Krasnoyarsk Krai". URL: https://krudor.ru/about/roads-list/ (accessed 14 October 2024).

Oblast and connects with the federal highway A331 “Vilyuy” [25]. The Turukhanskiy district can be accessed via a departmental winter road from the neighboring Yamalo-Nenets Autonomous Okrug (with a permit from the owner). This should be taken into account when planning possible routes for auto tourists. The Taimyr district is the least accessible for cars, since there are no direct winter roads starting from federal highways. The Sakha Republic (Yakutia) is located far from the beginning of the potential flows of auto tourists, and its uluses, classified as part of the Arctic zone, are accessible only by winter roads. Only 8.7% of the region’s area beyond the Arctic Circle has year-round transport service [9, Kuklina V.V., Osipova M.E., p. 108]. However, all winter roads heading north are connected to federal highways (A331 “Vilyuy” and P504 “Kolyma”). The Chukotka Autonomous Okrug is the least accessible to auto tourists. It can only be reached by land via the “Arktika” winter road from the Sakha Republic (Yakutia), where it starts from the P504 “Kolyma” federal highway. It ends in the western regions of Chukotka (Bilibino, Pevek). Further east, there are other winter roads. Although in the summer there is a summer road in the Okrug, which crosses it from west to east; it is impossible to reach it by land from the mainland at this time. Since 2011, the “Kolyma — Anadyr” road (with a stop in Bilibino and Pevek) has been under construction, which will connect Chukotka with the rest of Russia [26]. All roads in the regions of the Russian Arctic are characterized by the absence of multifunctional zones that should provide roadside services for travelers. The sparse location of settlements, large distances between gas and service stations, the absence of mobile communications in some places, and low temperatures in winter make car travelling in many areas of the Arctic potentially dangerous. Seasonal temperature fluctuations create problems in the operation of Arctic roads and increase the risk of accidents [10, Shojaei Barjouei A., Gudmestad O.T., Barabady J.]. In addition, coastal areas are a border zone, and a pass is required.

Based on the summary of the presented materials, the regions classified as the Arctic zone can be divided into four groups based on their accessibility for auto tourists and their readiness to develop tourist routes.

The most accessible regions include the territories of the Murmansk Oblast and the Arctic regions of the Republic of Karelia. The presence of a through federal highway, a network of roads with access to the state border makes them convenient for Russian and foreign tourists. Here, caravanning, jeeping, auto rallies and other types of auto tourism can be developed. To increase the attractiveness of the regions, it is necessary to monitor the quality of roads, especially to the locations of tourist sites. The creation of multifunctional zones on the highways will make auto travel more comfortable and popular.

Accessible regions include the Arctic regions of the Arkhangelsk Oblast (Primorskiy, Onega). It should be noted that only the territories directly adjacent to the roads are accessible; large are-

[25] URL: https://gnkk.ru/news/tysyachi-kilometrov-zimnikh-dorog-prolo/ (accessed 14 October 2024).
[26] Construction of the Kolyma–Anadyr road in Chukotka continues. URL: https://dorinfo.ru/news/obekty-i-proekty/prodolzhaetsya-stroitelstvo-dorogi-kolyma-anadyr-na-chukotke/ (accessed 14 October 2024).

as of the Arctic territories are inaccessible due to the lack of roads. All types of auto tourism are also possible here. It is necessary to expand the road network and monitor the condition of their surfaces, as well as to create roadside service facilities.

The group of *conditionally accessible* regions includes those that auto tourists can reach on roads that have seasonal restrictions, without bridges over rivers, without asphalt pavement in some areas. They have no direct connection with federal highways. They include some Arctic regions of the Arkhangelsk Oblast (Pinezhskiy, Mezenskiy, Leshukonskiy), Ust-Tsilemskiy district and the urban district of Usinsk in the Komi Republic, Nenets and Yamalo-Nenets Autonomous Okrugs. They are potentially accessible for all types of auto tourism in the summer or in the cold season, when the rivers freeze.

The group of *difficult to access regions* includes the Intinskiy and Vorkuta urban districts of the Komi Republic, the Turukhanskiy and Taimyrskiy (Dolgano-Nenets) districts of the Krasnoyarsk Krai, rural settlements of the Ilimpiyskiy group of the Evenki district of the Krasnoyarsk Krai, the Arctic uluses of the Sakha Republic (Yakutia) (Olenekskiy, Anabarskiy, Verkhoyanskiy, Ust-Yanskiy, Bulunskiy, Eveno-Bytantayskiy, Momskiy, Abyyskiy, Allaikhskiy, Verkhnekolymskiy and Srednekolymskiy), and the Chukotka Autonomous Okrug. The conditions here are extreme for travelers, so only group road trips, motor rallies, and jeep tours can be recommended, where tourists are provided with constant support from the rescue service. The Taimyrskiy (Dolgano-Nenets) district of the Krasnoyarsk Krai and the Chukotka Autonomous Okrug are the least connected with the rest of Russia by winter roads. The nearest federal highways are located several thousand kilometers away from them, there is no direct connection. The harsh climate and the lack of roadside service limit their opportunities for the development of automobile tourism. Mass automobile tourism is impossible here.

Conclusion

Thus, automobile tourism in the Arctic zone of the Russian Federation has the greatest prospects in regions connected by federal highways with the rest of the country, especially if they go to the state border. This expands the potential tourist market. First of all, these include the Murmansk Oblast and the Republic of Karelia. There are prospects for the Arkhangelsk Oblast, the Komi Republic and the Nenets Autonomous Okrug. This is also due to the fact that 45% of auto tourists live in the Northwestern Federal District, which includes the named regions. Auto tourists prefer to travel by private car in the warm season, when the Arctic roads are accessible in the most problematic areas without paved roads or bridge crossings over rivers. Car tourists can also use other types of transport if necessary to get to the start of the route or when visiting interesting places far from the road. Many auto tourists visit the Solovetsky Islands, leaving their cars on the shore and transferring to a boat or plane. It is also possible to travel by rented car at the starting point of the route, having arrived there by plane or train. The northern territories are characterized by the sparse location of roadside service facilities, including gas stations. Multifunctional

service centers, created on the roads in the central and southern parts of European Russia, are not found in the Arctic territories. This makes car tourism in the Arctic less comfortable and attractive. A major obstacle to car travel is the lack of bridges on many roads, especially in the off-season, when river ferry services are canceled. Transport accessibility of the Arctic territories of Russia for auto tourists decreases when moving from west to east. In the Asian part of the Arctic, most regions do not have permanent automobile communication with the rest of the country. In cold season, winter roads are built, which usually operate from December to April. In such conditions, the development of auto tourism is problematic.

We have divided all Arctic regions of Russia into four groups based on their accessibility for auto tourists and readiness for developing tourist routes. We classified the territories of the Murmansk Oblast and the Arctic regions of the Republic of Karelia as the most accessible regions, and the Arctic regions of the Arkhangelsk Oblast (Primorskiy, Onega) as accessible regions. It should be noted that the existing road networks cover only part of the named territories. Conditionally accessible regions are some Arctic regions of the Arkhangelsk Oblast (Pinezhskiy, Mezenskiy, Leshukonskiy), the Ust-Tsilemskiy district and the urban district of Usinsk in the Komi Republic, the Nenets and Yamalo-Nenets Autonomous Okrugs. The group of difficult to access regions includes the Intinskiy and Vorkuta urban districts of the Komi Republic, the Turukhanskiy and Taimyrskiy (Dolgano-Nenets) districts of the Krasnoyarsk Krai, rural settlements of the Ilimpiyskiy group of the Evenki district of the Krasnoyarsk Krai, the Arctic uluses of the Sakha Republic (Yakutia) (Olenekskiy, Anabarskiy, Verkhoyanskiy, Ust-Yanskiy, Bulunskiy, Eveno-Bytantayskiy, Momskiy, Abyyskiy, Allaikhskiy, Verkhnekolymskiy and Srednekolymskiy), and the Chukotka Autonomous Okrug.

The group of the most accessible regions is more promising and ready for the development of permanent routes for automobile tourism, since they are best connected with potential places of concentration of auto tourists both in Russia and abroad. The group of accessible regions has great potential, but it is necessary to create an additional road network and maintain high-quality road surfaces. All regions need to create roadside service facilities. The last two groups are problematic for organizing car tours due to their inaccessibility, harsh climate and lack of year-round road communication with the rest of the country. Here it is possible to organize car rallies in columns, off-road (jeeping) tourism arranged by travel agencies with access to the routes by air transport. At the same time, it is important to organize the safety of tourists on all routes.

References

1. Martyshenko N.S., Loksha A.V. Tendencies of Development Trailering in Russia. *Practical Marketing*, 2013, no. 9, pp. 27–36.
2. Valkova T.M., Shabalin A.D., Shabalina N.V. Caravanning Tourism Development in the Russian Federation. *Bulletin of the MSRU. Series: Natural Sciences*, 2019, no. 3, pp. 56–66. DOI: https://doi.org/10.18384/2310-7189-2019-3-56-66
3. Serova N.A., Serova V.A. Critical Tendencies of the Transport Infrastructure Development in the Russian Arctic. *Arktika i Sever* [Arctic and North], 2019, no. 36, pp. 42–56. DOI: https://doi.org/10.17238/issn2221-2698.2019.36.42

4. Mitryukova K.A. The Transport Framework of the Russian Arctic Zone. *Journal of Economics, Entrepreneurship and Law*. 2023, vol. 13, no. 5, pp. 1371–1388. DOI: https://doi.org/10.18334/epp.13.5.117587
5. Kudrevich A.Yu. Transport Accessibility of Tourism Objects in the Murmansk Region. *Russian Arctic*, 2024, vol. 6, no. 2, pp. 5–19. DOI: https://doi.org/10.24412/2658-4255-2024-2-05-19
6. Valkova T.M., Kruzhalin V.I., Shabalina N.V. Caravanning in the Russian Federation. *Vestnik of National Tourism Academy*, 2017, no. 3 (43), pp. 12–15.
7. Pashkevich A., Stjernstrom O. Making Russian Arctic Accessible for Tourists: Analysis of the Institutional. *Polar Geography*, 2014, vol. 37, iss. 2, pp. 137–156. DOI: https://doi.org/10.1080/1088937X.2014.919040
8. Potapov I.A. Methodological Approaches to the Analysis of Transport-Geographical Location of Recreational Objects (The Example of Arkhangelsk Region). *Services in Russia and Abroad*, 2016, vol. 10, no. 4 (65), pp. 43–54. DOI: https://doi.org/10.12737/20182
9. Kuklina V.V., Osipova M.E. The Role of Winter Roads in Provision of Transportation Accessibility for the Arctic and Northern Districts of the Republic of Sakha (Yakutia). *Society. Environment. Development*, 2018, no. 2, pp. 107–112.
10. Barjouei A.S., Gudmestad O.T., Barabady J. Road Transportation Challenges in the Arctic. *WIT Transactions on Engineering Sciences*, 2020, vol. 129, pp. 229–240. DOI: https://doi.org/10.2495/RISK200201

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Cultural Heritage of the Republic of Karelia in the Regional Media on the Example of the Arctic Regions

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Abstract. The article considers the main vectors of changes in the sphere of cultural heritage of the population of the Arctic regions of Karelia, reflected in the media. To date, there are six northern municipalities of the republic among such districts, which differ from each other in terms of territory, population size, as well as ethno-cultural and historical peculiarities of development. The assignment to the Arctic zone is considered as a stimulus to changes or adjustments in the identity of the local population. Analyzing the cultural and historical heritage of these territories, the authors rely on the provisions of the Concept of Socio-Economic Development of the Republic of Karelia until 2022. This policy document contains the main tasks related to historical and cultural heritage. The purpose of the article is to study how the official municipal newspapers cover the solution of these tasks. For this purpose, the issues of six newspapers from the Arctic regions of Karelia for 2021–2022 were analyzed. The results of the study showed that the Arctic programs, which were launched in the republic during these years, did not find wide coverage in the regional press and did not become an incentive to increase attention to cultural and historical heritage. At the same time, a consistently high volume of materials devoted to the Great Patriotic War was noted in all the analyzed newspapers. It occupies a central place in the system of constructing the historical memory of the population of the studied territory. The ethno-cultural specifics are revealed in the materials of newspapers published in those Arctic regions of the republic, where the Karelian language and the national culture of this people continue to play an important role.
Keywords: *Arctic zone, Karelia, mass media, ethno-cultural heritage, Arctic hectare*

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Introduction

Academician D.S. Likhachev argued that “man lives not only in the natural environment, but also in the environment created by the culture of his ancestors and by himself. If nature is necessary for man for his biological life, then the cultural environment is no less necessary for his spiritual, moral life, for his “spiritual sedentarization”, for his attachment to his native places, fol-

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lowing the precepts of his ancestors, for his moral self-discipline and sociality" [1, Likhachev D. S., p. 175]. Preservation of the cultural environment in the northern Arctic territories is actualized by their sparse population and increasing demographic losses [1] of the local [2] and rooted population [2, Yalovitsyna S.].

The threat to the cultural environment, relevant for all globalizing humanity, is also seen in the fact that the transmission of tradition is subject to erosion under the influence of new technologies and lifestyles. The previous model of remembrance transforms, most often quietly and imperceptibly, through the replacement and recoding of both the person himself and his imperatives [3, Sokolov B.G., p. 60].

Under the influence of the historical context, the informational "content" of cultural heritage and historical memory also changes. The same facts and events of the past are interpreted differently, adapting to a certain historical moment [4, Parkhomenko T.A., p. 125]. The media are a good marker for capturing these changes and are used for analysis in many countries [5, Pietikainen S., Hujanen J.].

Methodology

Let us consider the changes using the example of district official media of the Arctic territories of the Republic of Karelia. In 2020, six municipalities [3] of the region became part of the Arctic zone of the Russian Federation. They have begun implementing a number of programs that allow for more active development of these northern and sparsely populated regions: "Hectare in the Arctic", the opportunity to obtain the status of an Arctic resident and the corresponding preferential terms for doing business, Arctic mortgages, etc. It should be noted that the Arctic regions of the republic make up about 40% of its total area. At the same time, the population density of these regions is quite low. In total, only 19.07% of the population of Karelia lives here [4].

The development of the cultural potential of this region is given a place both in regulatory and establishing documents, including in the Concept of Socio-Economic Development of the Republic (hereinafter referred to as the Concept) for the period until 2022 [5], and in recent regulatory documents devoted to the development of the Arctic.

[1] Hereinafter, the statistical data of the 2020 Census are presented on the basis of the electronic website of Rosstat. Results of the 2020 Census. Vol. 5. National composition and language proficiency. URL: https://rosstat.gov.ru/vpn/2020/Tom5_Nacionalnyj_sostav_i_vladenie_yazykami (hereinafter referred to as 2020 Census results).

[2] The share of Karelians in the population of the Republic of Karelia was 4.9% in 2020, decreasing almost twofold in comparison with 1989; the number of Karelians decreased almost threefold during this period.

[3] Loukhskiy, Kalevalskiy, Belomorskiy, Kemskiy, Segezhskiy districts, Kostomuksha urban district.

[4] 2020 Census results. URL: https://rosstat.gov.ru/vpn/2020/Tom1_Chislennost_i_razmeshchenie_naseleniya (accessed 30 May 2024).

[5] On the Concept of Socio-Economic Development of the Republic of Karelia for the period until 2022: Resolution of the Government of the Republic of Karelia of 19 April 2018 No. 621-VI 3C. URL: https://docs.cntd.ru/document/465417297?ysclid=lwtbk2vyuo376378721 (accessed 30 May 2024).

In the Concept for the strategic direction "Social development" [6], the tasks related to the cultural and historical heritage are recorded as follows:

- development and application of the cultural and spiritual potential of the republic;
- development of patriotic education;
- ensuring conditions for ethno-cultural development and inter-ethnic harmony.

The article will focus on the reflection of these tasks in the official municipal media of the Arctic regions of Karelia. It is necessary to answer the question: to what extent the topics formulated in the program documents on the problems of cultural heritage and historical memory find a place in official periodicals, what is the representation of these materials, their genre [5, Dmitrovskiy A.L.].

In search of an answer to this question, the authors studied the materials of the municipal media of the Arctic regions of Karelia for 2021–2022, which fall on the "start" of the Arctic programs, and classified the materials according to the selected tasks. The article presents the main conclusions obtained in the course of this analysis.

The following municipal periodicals were studied [7]:

- "Belomorskaya Tribuna" ["Belomorskaya Tribune"] [8];
- "Sovetskoe Belomorye" ["Soviet Belomorye"] [9];
- "Novosti Kalevaly" ["News of Kalevala"] [10];
- "Nashe Pripolyarye" ["Our Subpolar Region"] [11];
- "Novosti Kostomukshy" ["News of Kostomuksha"] [12];
- "Doverie" ["Trust"] [13].

[6] Here and in the following paragraphs the tasks from the "Concept of Socio-Economic Development of the Republic of Karelia for the period until 2022" on the strategic direction "Social Development" are indicated (see Resolution No. 621-VI of the ZS 19 April 2018).

[7] The list indicates the order in which newspaper materials are presented in the text.

[8] Social and political newspaper of the Belomorskiy district of the Republic of Karelia. Co-founders: Administration of the Belomorskiy municipal district; Information Agency of the Republic of Karelia.

[9] Social and political publication of the Kemskiy district. Co-founders: Administration of the Kemskiy municipal district; Information Agency "Respublika Karelia". The first issue of the newspaper under the name "Sovetskoe Belomorye" was published on 22 August 1930, the press organ of the district committee of the All-Union Communist Party of Bolsheviks (b) and the executive committee of the district Council of Workers' and Peasants' Deputies. The newspaper is published once a week.

[10] Social and political newspaper of the Kalevalskiy national district. Co-founders: Administration of the Kalevalskiy municipal district, Information Agency of the Republic of Karelia. The newspaper is published weekly with a circulation of 1000 copies. It has been published since 30 October 1931. Previous titles: 1931–1935 — "Punainen Uhtua" ["Red Uhta"]; 1935–1952 — "Kalevalan bolsheviikki" ["Bolshevik of Kalevala"]; 1953–1961 — "Kalevalan kommunisti" ["Communist of Kalevala"]; 1961–1990 — "Communist of Kalevala"; since 1991 — the present name.

[11] Social and political newspaper of the Loukhskiy municipal district. Co-founders: Administration of the Loukhskiy municipal district, Information Agency of the Republic of Karelia. It is published weekly with a circulation of 350 copies. Published since 5 January 1934. Previous titles: 1934–1952 — "Louhskiy Bolshevik"; 1952–1990 — "Communist"; 1990–2016 — "Pripolyarye", since 2017 — the present name.

[12] Informational and analytical newspaper. Co-founders: Kostomuksha City district council, Administration of Kostomuksha city district, Information Agency "Respublika Karelia". It is published weekly. The circulation is 600 copies. Published since July 1981. In 1981–1990 it was published under the name "Gornyak Karelii", since 1991 — the present name.

Discussion

The materials were systematized according to three selected tasks. The statistics is presented in Table 1.

Table 1

Number of materials from newspapers of the Arctic regions of Karelia by the directions of the Concept

Year	Belomorskiy	Kalevalskiy	Kemskiy	Kostomuksha	Loukhskiy	Segezhskiy
1. Development and application of the cultural and spiritual potential of the republic						
2021	67	29	29	22	15	38
2022	42	28	49	21	10	35
2. Development of patriotic education						
2021	66	26	14	31	9	37
2022	74	70	23	49	22	24
3. Ensuring conditions for ethno-cultural development and inter-ethnic harmony						
2021	13	2	7	15	6	23
2022	21	7	18	15	3	14

As a result, 974 materials were analyzed. 385 items were assigned to direction 1, 445 units — to direction 2, and 144 units — to direction 3.

Characteristics of newspaper materials in direction 1 "Development and application of the cultural and spiritual potential of the republic"

The analysis included publications related to various ethno-cultural, local history, historical and cultural, religious events in the region, as well as the activities of institutions in this area (museums, cultural centers, tourist centers, church and parish communities, etc.). The materials on the implementation of the Arctic programs, which focus on the preservation of human capital in these northern lands, are considered separately [14]. This is supposed to be achieved through the distribution of the so-called Arctic hectares, by introducing the institution of Arctic residency for individual entrepreneurs, by encouraging initiatives aimed at the preservation and modern development of traditional economic practices (such as fishing, hunting, gathering wild plants, etc.)

"Belomorskaya Tribuna" [15] (Belomorsk)

The materials of this newspaper for 2021–2022 contain mainly informational messages concerning the activities of the Pomor Culture Center, the Belomorskiy district museum of local history "Belomorskie Petroglyphs" and the Belomorskaya centralized library system. The major

[13] Social and political newspaper of Segezhskiy municipal district. Co-founders: Administration of Segezhskiy municipal district; Information Agency of the Republic of Karelia. It is published since 1946, twice a week.

[14] Federal Law "On state support for entrepreneurial activity in the Arctic Zone of the Russian Federation" dated July 13, 2020 No. 193-FZ. URL: https://www.consultant.ru/document/cons_doc_LAW_357078/?ysclid=lwzi0qy33y844254233 (accessed 30 May 2024); Federal Law "On the specifics of providing citizens with land plots in state or municipal ownership and located in the Arctic Zone of the Russian Federation and in other territories of the North, Siberia and the Far East of the Russian Federation, and on amendments to certain legislative acts of the Russian Federation" dated May 1, 2016 No. 119-FZ. URL: https://www.consultant.ru/document/cons_doc_LAW_197427/?ysclid=lwzjz6v638774673210 (accessed 30 May 2024).

[15] 51 newspaper issues for 2021 and 51 issues for 2022 were analyzed.

role of cultural institutions in the development and use of the potential of the spiritual and cultural heritage of the region was previously noted in the scientific literature [7, Lavrushina N.V., p. 33]. Among the publications in this area, there are many reports, but the editors of the newspaper considered it necessary to post problematic articles as well. One of these problems was the annexation of the Pomor Culture Center to the local history museum, which caused an ambiguous reaction among the local population. The interest to the Pomor heritage was expressed in a significant number of notes and articles on traditional fishing, laminaria and fucus harvesting. This topic also included the Arctic segment, as some of the individual entrepreneurs-fishermen planned to obtain the status of an Arctic resident.

In 2022, declared the Year of Cultural Heritage, the newspaper published many articles related to religious traditions. Several articles were devoted to the renaming of the park in the city center, which, according to the results of the residents' vote, was named Troitskiy Park, in honor of the temple. The history of city streets and other places was often reflected in the news items and in the city's public life in general. A separate conference was dedicated to one of the streets, Leninskaya. The Pomor folk choir, the women's organization "Pomorochka", the theater studio "Impulse" and other groups were frequently noted on the pages of the newspaper. The members of the groups themselves wrote about them, forming a detailed idea of the cultural life of the district.

"Sovetskoe Belomorye" [16] (Kem)

Publications on the above-mentioned topics were found in almost all issues, although the genre of the materials varied from information notes to long-read articles.

Among the materials on this topic, the most typical are publications about cultural events that took place in the districts. These include events related to ethno-cultural traditions of Karelians and Pomors; to traditional Russian holidays, such as Maslenitsa; to the festive calendar and dates related to the history of Russia.

The newspaper "Sovetskoe Belomorye" published a series of articles about the museum of Pomor culture, its reconstruction and new expositions due to the competition of presidential grants for the development of rural museums. Ethno-cultural issues were presented by materials about Pomor wedding, restoration of the Uspenskiy Cathedral.

The newspaper does not ignore the problems of tourism in the region. The materials on this topic are of different genres. These are not only information notes, but also problematic articles related to the image of the city and the need to solve long-standing problems of improving places for receiving tourists, since one of the routes to the Solovetsky Islands passes through the city of Kem.

[16] Sovetskoe Belomorye. 2021. Nos. 1–49; 2022. Nos. 1–51.

Only informational materials about the conditions of participation in the programs and Karelian-level reports about the increase in the number of residents of the Arctic programs were devoted to the Arctic theme.

"Novosti Kalevaly" [17] *(Kalevala)*

Some materials in the newspaper are published in the Karelian language (the Karelian dialect), but most are in Russian.

In 2021, the Year of Karelian Runes played an important role in determining the vector of publications of this newspaper. Within its framework, dozens of events were held in the republic, which were aimed at popularizing and preserving this area of the cultural heritage of Karelia. A large number of events organized within the framework of the Year of Karelian Runes is conditioned by the fact that the rune-singing tradition and especially the closely related epic "Kalevala" are the most important basic elements of social and ethno-cultural life in both Soviet and modern Karelia. The special attention of this regional newspaper to covering events within the framework of the Year of Karelian Runes is also explained by the fact that in the territory of the modern Kalevalskiy district there are some villages that are famous for their rune-singing traditions. E. Lönnrot, the compiler of "Kalevala", visited them many times during his trips to the Arkhangelsk province in the first half of the 19th century. Thus, most of the publications in this category in 2021 referred to events dedicated to the preservation of rune-singing traditions and their popularization among the residents of the district. Attention is also paid to events devoted to the Kalevala epic or iconic places in the district center traditionally associated with the name of E. Lönnrot (one of the most popular is "Lönnrot's pine tree" in the center of Kalevala). Among other topics in this area, we note publications about ancient fishing techniques and other traditional Karelian crafts. Traditionally, an important place in the newspaper is given to events related to the Karelian language.

In 2022, the rune-singing theme was not presented in the newspaper as widely as in the previous year. At the same time, events dedicated to the Kalevala epic were still actively covered. In particular, there were materials on the history of its creation, including quizzes and competitions, as well as events (for example, a report on the installation of wooden figures of heroes from "Kalevala" near "Lönnrot's pine tree"). As before, an important place among publications was given to the preservation of the local language environment: quizzes on knowledge of the Karelian language were announced, a dictation was organized, etc. This year's publications paid much attention to the materials related to the traditional Karelian folk sports game Kyykkä.

The problems of organizing hunting, gathering wild plants and fishing (the latter remains an important part of the Karelian identity) were reflected in 9 small articles in 2021. These are resolutions of the regional Ministry of Nature and clarifications of the Hunting Inspection of the Kalevalskiy district. Their main content is the establishment of deadlines, explanation of the changed norms, quotas related to hunting and fishing, as well as berry picking in the forests. In 2022, there

[17] Novosti Kalevaly. 2021. Nos. 1–50; 2022. Nos. 1–51.

were even fewer such publications — only six. Due to the specifics of border location of the district, some of the materials on the rules for conducting commercial and economic activities in the border zone were published by the local border department.

It should be noted that in 2021, only three materials concerning the Arctic zone of Russia were posted on the pages of the newspaper [18]. Two of them explained the benefits of Arctic residency for local entrepreneurs and one contained brief information about the Arctic Hectare program. In 2022, the newspaper did not increase its attention to Arctic issues: three articles about the Arctic Hectare program, investments, as well as the production of several films in Kalevala as part of the project "Children of the Arctic", dedicated to the indigenous peoples of the Arctic region.

"Nashe Pripolyarye" [19] (Loukhi)

The western part of the Loukhskiy district is the territory of traditional Karelian residence. This determines the presence of national component on the pages of the newspaper, as well as the fact that information occasions took place not only in the district center, but also in settlements in the west — Sofporog, Kestenga. The Paanajärvi National Park, for which popularization of the historical and cultural heritage of Karelia is one of the main directions of its activity, is also in the same line.

A large number of materials of this thematic group concerns events related to the Karelian language (Native Language Day, Karelian Language Week, creative evening of the poet S. Yakovlev, who writes poetry in the Karelian language). The newspaper's pages reflect materials devoted to broader national and cultural topics: events dedicated to Karelian runes (most of them are expected to take place in 2021 — the Year of Karelian Runes in the republic), Karelian cuisine, and folk games. Popularization of national culture in the region was conducted in the form of competitions and quests. Thus, the report from the contest "Mistress of the North-2021" shows that one of the tasks for the participants was reading runes (including in the Karelian language), as well as national cuisine.

Topics related to Karelian national culture and language are not presented on the pages of the newspaper as often as in the newspapers of the Kalevalskiy district and the Kostomuksha urban district — other traditional centers of Karelian culture in the republic. It should also be noted that not a single issue has covered a topic related to the Pomor culture over the past two years, although there are settlements in the Loukhskiy district, many of whose inhabitants identify themselves as Pomors.

[18] We do not take into account the republic-wide insert in the newspaper issues. It is prepared in Petrozavodsk, and its content is identical for all regional newspapers in Karelia. These inserts focus on informing residents of the region about the work of the republican executive and legislative authorities. Arctic topics are presented well on the pages of these inserts.

[19] Nashe Pripolyarye. 2021. Nos. 1–52; 2022. Nos. 1–51.

Arctic issues are poorly represented in the newspaper. In one case, the news agenda in 2021 was the registration of the first land plot in Karelia in the Loukhskiy district, granted under the Arctic Hectare program. The second article was devoted to the Arctic Cleanup Cup, an environmental campaign in which residents of the republic's Arctic regions participated. In another case, the newspaper only records the intention of one of the organizations to become an Arctic resident.

Topics related to hunting, fishing, and wild plant collection are also not widely represented on the pages of the newspaper: several invitations to an ice fishing festival, information from the hunting inspection. The materials in this category reflect the border position of the region: in winter, the newspaper contains information about violations of the border regime by fishermen. We note the absence of articles related to sea fishing, which is still an important part of everyday life of the residents of the White Sea coast.

"Novosti Kostomukshy" [20] (Kostomuksha)

In the cultural sphere, one of the leading topics in the newspaper in 2021 was the poetry of Karelian runes. Local creative groups and Karelian national activists prepared and held a number of events aimed at popularizing the folk poetic heritage of Karelia. Emphasizing the contribution of the rune-singing tradition to world art through the epic "Kalevala", the authors of the newspaper materials reasonably draw the attention of readers to the fact that many runes were recorded in the village of Kostomuksha and its surroundings. One of the headlines speaks about this eloquently: "Kostomuksha as the birthplace of runes and a source of inspiration for a poet" [21]. It should be noted that in addition to the epic "Kalevala", as part of the year of Karelian runes in Kostomuksha, it was talked about a lesser-known work by E. Lönnrot — "Kanteletar", which published runes that were not included in the "Kalevala". Many of them are also recorded on the territory of the current Kostomuksha urban district and are perceived by its residents as "... the cultural heritage of the ancestors" [22]. First of all, we are talking about people who are somehow connected with the villages in the north of the urban district. These settlements are the centers of the Karelian national culture in the republic. In the city of Kostomuksha, the Karelian culture is one of many in the multinational urban community [8, Dzhioshvili E.A., Krivonozenko A.F., Litvin Yu.V. et al.].

Some of the newspaper's materials are devoted to the Karelian language, forms of its popularization and preservation. Traditionally, they often write about events related to the study of the epic "Kalevala". Separately, we can highlight a block of articles dedicated to the villages in the north of the Kostomuksha urban district. The history, traditions, monuments, as well as festivals of

[20] Novosti Kostomukshy. 2021. Nos. 1–49; 2022. Nos. 1–50.
[21] Sushitskaya M. Kostomuksha as the birthplace of runes and a source of inspiration for a poet. *Novosti Kostomukshy*, 2021, no. 23, p. 12
[22] Sushitskaya M., Koshkin D. Kostomuksha celebrated the Day of Karelian runes. *Novosti Kostomukshy*, 2021, no. 22, p. 12.

the national culture of Voknavolok, Sudnozero and Pirttiguba are widely covered on the pages of the newspaper.

Fishing, hunting and gathering are hardly mentioned in the issues reviewed. Two short notes about hunting concern organizational issues. Reports from Voknavolok are related to fishing, but it should be taken into account that we are talking about festival events — the ice fishing festival and the vendace festival. In addition, as in other border areas, fishing is presented in the context of law enforcement warnings against violating the border regime.

In 2022, the newspaper began publishing a series of articles to introduce Kostomuksha's religious communities to the city residents. Two articles were published. The first one was about the Church of Christians of Evangelical Faith and the second — one about the Catholic parish. The articles paid attention not only to the history of the formation and development of the communities, but also described in detail the internal structure of the temple.

Behind the emerging sense of well-being in interethnic and religious communication in the urban environment, there are also some difficulties. The newspaper does not ignore them. For example, the issue of allocation of a separate place in the city cemetery to the Muslim community was topical. The local authorities responded with a refusal, motivated by the fact that a multiconfessional city does not prioritize any one religion. "The cemetery in Kostomuksha is also common, there is no division for believers or non-believers, there is no provision for allocating plots for representatives of individual religions" [23]. In the newspaper's materials, activists also spoke about the need for the city district authorities to provide more consistent organizational support to their ethno-cultural associations. The head of the Russian culture society "Northern Lights", N.P. Kasyanov, considered the decision not to invite city national associations to the Centre of cultural development for permanent activities on its basis to be a mistake: "It's a pity. All the city's amateur activities are based on enthusiasts and activists. They should be protected and supported. It will be very sad if their impulse fades and they stop holding their events. We would all become poorer and lose a lot in terms of culture" [24].

The Arctic theme is presented in the newspaper more widely than in the materials of the Kalevala and Loukhi publications. At the same time, it cannot be said that this is a frequent topic. It was touched upon in one form or another in eleven articles only. If the Arctic residency is a business-oriented proposal, then Kostomuksha residents showed great interest in the Arctic Hectare already at the start of the program. The newspaper quoted an explanation from the Minister of Property and Land Relations of Karelia, Ya. Svidskaya, who explained that "... the Arctic Hectare is designed for the resettlement of citizens. A resident of the Kostomuksha urban district will not be able to get land in his district. He can receive a hectare, for example, in the Belomorskiy district"

[23] Press service of the administration of Kostomuksha urban district. Focus on the problems of Kostomuksha residents. *Novosti Kostomukshy*, 2022, no. 30, p. 3.
[24] Sushitskaya M. Wife is the most important thing in life. *Novosti Kostomukshy*, 2021, no. 26, p. 12.

[25]. After the minister's explanation, the newspaper concluded: "The hectare will be given to the resettlers".

"Doverie" [26] (Segezha)

The cultural events highlighted by the newspaper in 2021–2022 are the Valdai Razgulyay village day, the Karelian Rybnik festival, a jazz concert, and performances by the Vdokhnovenie and Devchata folk ensembles. This series alone demonstrates a wide palette of the district's cultural mosaic, which is associated with the composition of its population, the backbone of which was formed during the Soviet Komsomol construction project, which invited immigrants from all over the Soviet Union.

Issues related to the ethno-cultural development of Karelia are widely represented in the 2021–2022 newspaper by materials about the Year of Karelian Runes that took place in Karelia. These are information notes, reports on events. The traditions of the Finno-Ugric peoples are reflected in notes on dictations in the Karelian and Vepsian languages, and an ethnographic dictation.

The large number of significant Arctic residents in the Segezhskiy district also determined the priority of economic topics in covering Arctic programs. The issues of cultural potential, even in the context of tourism projects, were not reflected in the publications. Tourism was more likely to be combined with environmental issues and city improvement topics. At the stage of designing Arctic programs, Karelia often acted as a transit part of the Northern Sea Route. Therefore, some of the materials on Arctic issues comment on the opportunities for Karelia to connect the east and the west [27].

The preservation of traditional activities of the inhabitants of Karelia (mushrooms, berries, fishing, hunting) were reflected in 10 materials for 2021-2022. They often talk about the timing and conditions of this activity (timing for picking berries, catching fish, using nets, etc.), as well as safety issues (ice conditions, etc.). In essence, practical issues are raised, leaving the aspect of preserving "traditionality" outside the scope of analysis.

Several newspaper publications recalled the religious component of Segezha's cultural and historical heritage. The arrival of the ark with a particle of the relics of Blessed Matrona of Moscow to the Trinity Church of Segezha, and the heavenly religious procession on an airplane over Segezha became the reason for small information articles in the periodical.

[25] Seleznyova A. Kostomuksha — live on air. *Novosti Kostomukshy*, 2021, no. 2, p. 1.
[26] Doverie. 2021. Nos. 1–51; 2022. Nos. 1–51.
[27] Kuzicheva I. The road from Arkhangelsk to Finland should pass near the coastal settlements of the Belomorskiy district. *Doverie*, 2021, no. 17, p. 7.

Conclusion on direction 1 "Development and application of the cultural and spiritual potential of the republic"

The district newspapers mainly present informational materials and reports on the topic "Development and application of the cultural and spiritual potential of the republic". Detailed articles on a page or more are rare.

In the topics of all newspapers, the cultural and spiritual potential of the republic is reflected through the presentation of historical and cultural events that took place both in the district (for example, the festival "Kemska volost"), and in a wider geographical scope (for example, the republican "Year of Karelian Runes"). Significant attention in the newspapers is given to all-Russian holidays and events in connection with them.

Nevertheless, the ethno-cultural specificity of the Kalevalskiy, Loukhskiy districts, as well as the Kostomuksha urban district determined the priority of "Karelian" topics in the analyzed media. The Pomor theme was reflected in the discussion of the problem of uniting the local history museum and the Pomor Culture Center, which caused a wide public resonance.

Spiritual traditions were often not reflected in many of the analyzed newspapers. In this sense, the newspaper "Doverie" and "Novosti Kostomukshy" are exceptions to the rule.

Arctic topics (participation in the Arctic development programs that started in 2020) in the context of preserving the traditional way of life were practically not presented in the newspapers or were of a narrow informational nature. Issues of activities (fishing, hunting) were raised on the pages of newspapers, but often in the context of navigation periods or permitted berry picking, fishing or hunting. Preservation and consolidation of residents in their traditional places of residence and demographic losses of the northern republican regions were not the subject of publications.

The informative nature of the newspaper materials leaves a very mosaic impression of the cultural and spiritual potential of the republic. All-Russian calendar dates, marked by state holidays or memorial days, were most often reflected in newspapers, while republican and local issues related to historical and cultural heritage were not regularly commented on by newspapers, but rather as a response to an event.

Characteristics of newspaper materials in direction 2: "Development of patriotic education"

Publications in this direction included materials on the Great Patriotic War and other military conflicts, as well as historical and local history articles concerning the history of the region, its settlements, and residents.

"Sovetskoe Belomorye"

A special feature of the presentation of military-patriotic issues in the Kemskaya newspaper was the theme of "children of war". More than 10 articles are devoted to it, including reports on official events on awarding commemorative badges, stories about their fates.

Local history notes about the Kemskaya volost, which appeared on the pages of the newspaper due to the festival of the same name, became one of the few materials dedicated to the history of the region. The quote from the film "Ivan Vasilyevich Changes Profession" from the Swedish ambassador about the "Kemskaya Volost", which gave the name to several newspaper articles and the festival, have established itself as a brand for Kemi. The historical publications also include a nostalgic review of the pioneer organization for May 19, 2021, and a selection of interesting facts from the history of Russia on the eve of National Unity Day. The role of the railway in the development of the city is visible; the newspaper devotes several pages to it in connection with Railway Worker's Day.

"Belomorskaya Tribuna"

This area is most widely represented in the newspaper (140 articles in two years). In 2021, the reference to the Great Patriotic War, the Afghan and Chechen wars was not a rare phenomenon. The information occasions were Victory Day, June 22, February 23, Internationalist Warrior Day, Combat Veterans Day, Anti-Terrorism Day, and National Guard Day. Publications were often related to the fate of children of war, since during this period the "Children of War" badge was established in the country and the republic, the awarding of which was organized everywhere. In 2022, with the beginning of the SMO, the number of publications dedicated to assistance to the Luhansk and Donetsk regions, collecting parcels for soldiers (for example, "Mother's Heart" and "Letter to a Soldier" campaigns), events expressing support for the front and the families of the dead became significant.

Historical and local history materials included publications on the anniversaries of settlements: Kolezhma, Sumskiy Posad, etc. The editors of the newspaper have repeatedly noted the contribution of specific people to the development of a particular village or district as a whole. Historical and biographical materials about railway workers and ship captains allowed getting an idea of the history of the region through the prism of a person's fate. Unfortunately, there were not so many such publications.

"Novosti Kalevaly"

The newspaper has a permanent small section "Memorable dates in the military history of Russia", which is associated with the national historical context. A significant part of the newspaper's materials is devoted to stories that relate to the preservation of local historical memory. These publications are addressed to local historical events and biographies of fellow villagers. As a rule, these materials are associated with the context of large-scale historical events. As an example, let us cite a series of newspaper publications in 2021 and 2022 based on the results of the implementation of the scientific project "Little Man in the Great War".

The main body of publications in this block is associated with the Great Patriotic War. In the summer of 1941, fierce battles took place in the Kalevalskiy district, as a result of which the

enemy was stopped on the approaches to Ukhta, and the front line was stabilized. A number of villages were under Finnish occupation until 1944, and the rest of the district became a frontline zone. Today, the remains of the defensive line north of Kalevala are one of the key factors in the formation and preservation of local historical memory of the war. It is possible to conditionally distinguish several main topics in publications that are related to the theme of the Great Patriotic War. The first of them is the defensive battles in the summer of 1941 in the Ukhta direction. The second group is "biographical". These are articles dedicated to the biographies of fellow villagers who participated in the war (including the defense of Ukhta), people's memories of the first post-war years in the village, essays about veterans. The third group includes publications that deal with the present day: stories about the findings of search teams at battle sites, excursions in the vicinity of the village to places associated with the war, acquaintance of readers with the work on the improvement of places of memory, reports on the celebration of Victory Day and events dedicated to the Day of Remembrance and Sorrow.

Much attention is given to the dramatic events of the Civil War that took place on the territory of the present-day district. It seems that the interest in them is not only temporary, commemorative in nature. The Civil War is a dramatic milestone in the family history of many residents of the district. This war divided relatives: Karelian peasants who did not support the Soviet government went to Finland. Some families of Karelian refugees were able to start a new life in the neighboring country. Some of those who left returned back. Many of them were later repressed. The newspaper published (in Karelian and Russian) interviews with the author-compiler of the book about the fates of Karelian refugees [9, Usacheva E.V.]. The publications do not ignore the topic of cruelty that accompanied the actions of anti-Bolshevik forces. Its victims were local peasants and representatives of the rural intelligentsia, suspected of sympathizing with the Soviet government.

Other military conflicts were not often in the center of attention on the pages of the newspaper. Thus, the topic of the Afghan war was touched upon only twice in the two years under review. Both publications are timed to coincide with the anniversaries of the withdrawal of Soviet troops.

A significant number of publications are devoted to the history of the settlements of the Kalevalskiy district. Most of them are published in 2022, which is associated with the celebration of the 95th anniversary of the district. Among the publications of this group, there are also articles about disappeared villages. This information resonates with the readers of the newspaper, since descendants of ancient peasant families who once lived in these settlements are among them.

In our opinion, the publication of the book by the Finnish journalist and traveler I.K. Inha "In the Land of Kalevala Songs" on the pages of the newspaper was extremely important for the formation of the local historical memory of the residents of the district. This book was the result of his trip to Belomorskaya Karelia in 1894. The Russian translation was published in 2019 [10, Inha I.K.] The value of this historical source is that the author described in detail the daily life and non-

material culture of the Karelian peasants who lived in the territory of today's Kalevalskiy district 130 years ago. The book contains numerous photographs (also published in the newspaper) that the author took during his trip. They depict the life of peasants, as well as general views of many villages. Thus, for modern residents of the Kalevalskiy district, this book is a well-illustrated guide to the past, to the history of their families and settlements. Reprinting in the newspaper made it possible to significantly expand the availability of the book.

"Nashe Pripolyarye"

General review of the newspaper materials allows hypothesizing that the main goal of the publication is to acquaint readers with current events taking place in the region, economic problems and strategies for solving them. A significant number of materials are interviews with contemporaries — anniversary articles or stories about specific families. If the hypothesis is correct, it explains the relatively small number of materials dedicated to the history of the region. Most of the publications on this topic are related to the Great Patriotic War: coverage of the Victory Day celebrations, the search movement, disposal of ammunition found in the forests, battles in the Karelian Arctic, information about the reburial of the discovered remains of soldiers, repair or installation of new monuments. Articles related to the children of the war are singled out separately. In 2021, this topic did not appear on the pages of the newspaper. In 2022, there were at least four such publications. We associate this with the adoption of a regional law on children of war in 2021.

Among other subjects reflected in the pages of the newspaper, we should mention three large articles (including interviews) about the Afghan war.

Other materials on the history of the district include a group of interviews dedicated to the work biographies of pensioners, golden wedding anniversaries, the history of individual enterprises, and creative teams. The context of these materials reflects the post-war development of the Karelian Arctic. The anniversary of 2022 for the Loukhskiy district was marked by a series of publications of old photographs, as well as copies of newspaper clippings from the 1960s–1980s.

"Novosti Kostomukshy"

Among the materials of this block, as in other district newspapers, many texts related to the Great Patriotic War were published. These are notes, articles based on memoirs or local history works, interviews with veterans. The main narrative of the materials is "we are the descendants of the victors, we will honorably maintain the memory of the war". The newspaper pays considerable attention to the actions of the partisans in the context of the military events that took place in the vicinity of the city. This reflects the interest of local historians and the city's public in the military path and heroic deeds of the partisan detachments "Red Onezhets" and "Boevoy Klich". One of the main places of memory for the people of Kostomuksha is the memorial "Akhvenyarvskie Stones", which immortalized the feat of Soviet partisans from these detachments.

Much attention on the pages of the newspaper is paid to veterans and children of the war. These include publications of detailed interviews with them, as well as short news items.

Other military conflicts are mentioned in the newspaper much less frequently. In the studied issues, information was found only about the Day of Internationalist Warriors.

The newspaper published a lot of materials concerning the history of the Kostomuksha mining and processing plant. An analysis of the issues for only two years does not allow understanding whether this attention is traditional or the abundance of historical materials is connected with a series of anniversary years for the city: in 2022 — the 40th anniversary of commissioning of the first stage of the plant, and in 2023 — the 40th anniversary of receiving the status of a city. The anniversary materials concern, for example, the first flight to Kostomuksha, the beginning of railway communication with Kostomuksha, the dispatch of the first train with the products of the plant, etc. The article about the 30th anniversary of the newspaper itself is also included here.

In our opinion, the unconditional value of these historical materials is connected with the fact that they are prepared by employees of the local municipal archive, less often — of the city museum. The publications are based on excerpts from archival files. The plot diversity of this unofficial column “materials from the archive” is very wide. A significant part of the texts is devoted to the construction of the city and the plant. It is worth noting the “cult” of the pioneers that has formed over the years in a good sense of the word — the people who, together with the builders from Finland, built the city in the remote taiga. This is a manifestation of the clearly expressed local identity of the Kostomuksha residents. Love for the city is also conveyed through respect for the people who stood at its origins. Along with the word “pioneers” [28], which is often found in newspaper articles, we should also note the respectful attitude of the townspeople to A. Kosygin and U. Kekkonen, who are called the founding fathers in the city.

The published memoirs of the city’s builders are an interesting historical source that provides information about the contacts of ordinary Soviet citizens with representatives of Western capitalist society. The memoirs are linked by the idea of an atmosphere of trust that existed between Finnish and Soviet builders. Although communication outside of work was not officially encouraged, such contacts took place semi-officially. For example, one of the authors of the memoirs cites a custom that was surprising for Soviet builders — after the completion of the next object, the Finns would set a table in it and celebrate the event with pea soup. Soviet builders were also present at the celebrations [29]. The published memoirs often emphasized the fundamentally different organization of work, attitude, and technical equipment of the Finnish builders. All these factors were interpreted in favor of their foreign colleagues.

Among other materials on the history of the district, which were published by the local archive, there are articles on the work of the city executive committee in the 1980s, the develop-

[28] We will not be mistaken in assuming that the word is used by analogy with the Pilgrim Fathers, the first English settlers in the North American colonies.
[29] Sokolova E., Seleznyova A. Construction work was completed with pea soup. *Novosti Kostomukshy*, 2022, no. 23, p. 4.

ment of the city, the beginning of wired radio broadcasting, and excerpts from photo albums of archival funds. Post-Soviet history is also presented in this section. Thus, on the 30th anniversary of the attempted coup d'état in August 1991, evidence of the negative attitude of the local authorities and the public to the State Committee on the State of Emergency was published. Of interest are the published letters from Kostomuksha residents to local authorities in the early 1990s, which reflect the rapidly changing socio-economic conditions in the city. In anticipation of the 2021 elections, the municipal archive has prepared a retrospective of local elections since the early 1980s.

"Doverie"

The most frequent publications in this area were those dedicated to Victory Day or other historical events related to World War II (its beginning and end, events on the Karelian Front, etc.), the Afghan War, and the Chechen wars. Among these thematic materials, much attention was paid to the search movement, military-patriotic events, and biographical stories of war witnesses. The fact of vandalism against the monument to the full Cavalier of the Order of Glory Stepan Ldinin caused a great resonance in the district. The newspaper published information about the search for funds for restoration, as well as about lessons at school designed to assess this incident.

In 2022, following the beginning of the SMO, military-patriotic issues began to appear on the pages of newspapers for other reasons: collecting things and funds for volunteers and mobilized soldiers, helping refugees from Ukraine, injuries and deaths of fellow villagers.

The newspaper presents the cultural and historical potential on its pages in a rather multifaceted way. Here one can get acquainted with the history of enterprises and institutions of the district; with people who left a noticeable trace in their activities; with the activities of museums and exhibitions, reflecting, as a rule, the role of the pulp and paper mill in the district historical chronicle. This Soviet bias in the presentation of the district is certainly connected with its history. Among the materials dedicated to personalities, the name s of prisoners of SEGEZhLag are often found.

Conclusion on direction 2 "Development of patriotic education"

The materials selected for analysis in this direction are the most numerous. Most of them are connected with the history of the Second World War. Other military conflicts are mentioned only occasionally. Many of the articles, interviews and reports are of an expanded nature, prepared using archival data, family biographies, etc. The only exceptions are notes about the SMO, which are predominantly practice-oriented (collecting parcels for the front, helping refugees, contract conditions, etc.).

Historical and local history materials often intersect with military issues, but are not limited to them. The history of people, families or dynasties significant for the district, the history of villages and enterprises are the most popular topics for the newspapers analyzed.

Characteristics of newspaper materials in direction 3: "Ensuring conditions for ethno-cultural development and inter-ethnic harmony"

The articles selected to characterize this area are those that give an idea of inter-ethnic relations in the district, the presence of ethno-cultural organizations of various ethnic groups, their activities and interaction. The analysis took into account materials on offences in the sphere of ethno-religious extremism and conflicts in inter-ethnic interaction.

“Sovetskoe Belomorye”

The newspaper had a special section called “Man and the Law”. It published materials prepared by the prosecutor’s office or investigative bodies of the Kemskiy district on cases of extremism, punishment for slander, false statements, etc. There were about 15 such materials in 2021–2022. Official information was presented by data on innovations in migration legislation, on the visit of a delegation from Uzbekistan to the district.

“Belomorskaya Tribuna”

The newspaper’s materials on the topic of migration are very scarce. They are mostly of an official nature (from the Migration Department of the Republic of Kazakhstan), informing about new rules for employers to attract foreign labor, etc. Ethno-cultural issues related to the development of the peoples of Karelia are presented very briefly. The exception is the Pomors, about whom the newspaper publishes a lot of materials due to the fact that the White Sea region is their place of origin.

“Novosti Kalevaly”

Articles of this category are not widely covered in the newspaper. We note small information materials about the meetings of the council on interethnic relations and relations with religious associations under the district administration. The migration situation in the district and the adaptation of migrants are among the topics discussed at the council. The newspaper’s materials indicate that this topic is not a problem in the district. The migration situation remains stable here. The activities of district public ethno-cultural organizations are practically not present in the newspaper. Most of the events related to national cultures are organized in the district by the municipal institution “Kalevalatalo”.

“Nashe Pripolyarye”

Active ethno-cultural organizations operate in the west of the district — in Pyaozerskiy and Sofporog. The newspaper receives most of the materials related to the preservation and development of Karelian culture and language from these settlements. Local activists are united around the public organization “Vienan Virta” and the ethno-cultural center “Karelskaya Izba”.

"Novosti Kostomukshy"

For historical reasons, Kostomuksha is a multinational city. The first residents of Kostomuksha were specialists from different republics of the USSR who came to build the plant and then to work there — internal migrants of the first generation. The city became their second home, but they still have numerous ties with their small homeland. This can explain the popularity of ethno-cultural associations in Kostomuksha, which act as community groups: the Russian Culture Society, the Local National-Cultural Autonomy of Ukrainians, the Tatar-Bashkir Culture Society. Along with the listed associations, the Karelian Culture Society is active in the Kostomuksha urban district; the geography of its events is not limited to ancient Karelian villages and includes Kostomuksha.

The stable dialogue between different cultures and nationalities in Kostomuksha is projected onto a similar nature of relations between national public associations. The inverse dependence should be noted: fruitful cooperation between the ethno-cultural organizations of Kostomuksha, which include the most active public figures, has a positive effect on the harmonious ethno-confessional development in the Kostomuksha urban district.

These trends are also reflected on the pages of the newspaper. The publication dedicated to the National Unity Day contains the generally accepted narrative: "Indeed, Kostomuksha is famous for its ethnic diversity, respect and friendship between different peoples. This is how it was built, by the hands of workers and specialists who came from different parts of the Soviet Union, and this is how we continue to live and work together: Russians and Karelians, Ukrainians and Belarusians, Tatars and Bashkirs, Latvians and Chechens, Azerbaijanis and Finns, Jews and Georgians" [30]. The newspaper publishes reports on events held by national associations. They are often the result of the joint efforts of several ethnic groups. For example, the Sabantuy holiday for schoolchildren was organized by the Tatar-Bashkir society "... together with its loyal friends: the Karelian, Russian, and Ukrainian communities" [31]. At the event in the village of Voknavolok, organized by the Karelian cultural society "Viena", a representative of the Tatar-Bashkir society F.I. Nafigina was a guest. In her speech, she noted: "Kostomuksha is my second homeland, I have lived here for 38 years. Therefore, with all my heart, I am for the purity of the Karelian culture to be preserved, at least in the villages. Every year we take part in the life of Voknavolok, support is our contribution to the important matter of preserving national traditions" [32].

"Doverie"

Several publications were prepared by representatives of the Belarusian and Mari communities in the Segezhskiy district. The Segezhskiy district library has repeatedly organized international events aimed at strengthening interethnic harmony.

[30] Seleznyova A., Gaizetdinova S., Moroz A. There is such a people - Russians! *Novosti Kostomukshy*, 2022, no. 43, p. 1.
[31] Seleznyova A. Sabantuychik in the yard of the library. *Novosti Kostomukshy*, 2021, no. 20, p. 12.
[32] Permya D. And in childhood there was a war... *Novosti Kostomukshy*, 2021, no. 7, p. 3.

The official information includes a note on the approval of the traditional places of residence of the Karelians, on the celebration of the Republic Day, several materials aimed at combating terrorism (03.09.2021, due to the events in Beslan), and in 2022, small articles warning about the appearance of a large amount of fake information in connection with the SMO appeared.

Conclusion on direction 3 "Ensuring conditions for ethno-cultural development and inter-ethnic harmony"

The direction “Ensuring conditions for ethno-cultural development and inter-ethnic harmony” is the most deficient in terms of information. There are practically no national public organizations in the districts surveyed (except for Segezha and Kostomuksha, which are single-industry towns formed from the international composition of the population). The existing organizations rarely present their activities in newspapers, mainly in the context of general events, for example, on the National Unity Day, the Tolerance Day. Materials against ethno-extremism are very rare in newspapers, often prepared by competent authorities and are of a summary or preventive nature.

Conclusion

The years 2021 and 2022 were filled with social challenges that could have an impact on cultural and historical memory, on the attitude towards cultural and historical heritage: this includes the beginning of the implementation of Arctic programs, and the summing up of the population census, which showed a significant population decline, especially in the northern regions, and the beginning of the SMO in February 2022. The article attempts to track the impact of these challenges on the topics and number of publications in official regional media.

As the analysis showed, neither the Arctic program nor the population census (with a high population decline, including Karelians) became triggers for increased attention to cultural and historical heritage. Interest in the past was stimulated most often through publications dedicated to the Great Patriotic War or the ethno-cultural specifics of Karelia (in the newspapers of Kostomuksha and Kalevala).

The number of articles about the war in the examined newspaper issues was high, as well as the volume of the materials and the diversity of authors. As noted in the works examining the significance of the events of World War II for Russians, the topic of historical memory of the Great Patriotic War, reflected in publications as heroic, “allows us to recognize the uniqueness of the Russian civilization among others and to accept ourselves as a separate, unique, definitely self-sufficient and original socio-formation “Russia” and the cultural-identification “Russian world” [11, Kolesnichenko Yu.V., p. 387]. In the same vein, one can consider the few materials about the SMO that began in 2022, in which the main content is focused on helping compatriots — residents of Donbass.

The ethno-cultural specificity of Karelia is most actively presented in the newspapers Novosti Kalevaly, Novosti Kostomukshy and Vestnik Zapolyarya, published in the districts where a segment of the Karelian population is noticeable. It is interesting that the Karelian issues were

mainly revealed through the events of the Year of Karelian Runes. As S. Yu. Zhitenev notes, "in our country there is still no generally recognized concept of preserving and using domestic cultural intangible heritage, and only a narrow segment of preserving domestic intangible heritage in the form of folklore is systematically developing" [12, p. 35]. The newspapers confirm the second part of this statement not only by their attention to the runes, but also by other materials devoted to various kinds of holidays, artistic groups, and language. Without denying the importance of preserving traditions in this area, it is worth noting that traditional culture developed as a result of human economic interaction with the natural environment. For many districts where the analyzed newspapers are published, the importance of traditional activities such as fishing, hunting, berry and mushroom picking remain relevant, but this is almost never reflected in the newspapers.

Mass media in modern society are often considered as a factor of the formation of personal identity [13, Akimova I.A.]. In this context, the materials of the considered district newspapers are focused primarily on the formation of an all-Russian identity, in which significant attention is paid to the Soviet heritage (through the history of enterprises and institutions created during the Soviet period, etc.). The newspapers also contribute to the formation of regional identity, mainly through stories about cultural events associated with the Karelians and Pomors living in the northern regions of the republic. However, issues of preserving and developing regional traditions in the context of modern mobility, wide information field and rapidly changing conditions are rarely raised as problematic.

Cultural heritage, especially intangible, needs constant public attention. Preserving language, crafts, values in the conditions of intercultural diversity and hierarchy of identities is not so simple. The new world will require adaptation of traditions to new realities. The considered media are a demonstration of this search within the framework of the tasks established by regulatory documents.

References

1. Likhachev D.S. *Letters about Good*. Moscow, Nauka Publ., Saint Petersburg, Logos Publ., 2006, 315 p. (In Russ.)
2. Yalovitsyna S. The Karelians: Securing the Right to Preserve Traditional Habitats (Experience of the Republic of Karelia). *E3S Web of Conferences*, 2023, vol. 378, art. 06009. DOI: https://doi.org/10.1051/e3sconf/202337806009
3. Sokolov B.G. The "Project" of the Project and Memory in the New European Culture. In: *Cultural Heritage — from the Past to the Future*. Moscow, Saint Petersburg, Russian Heritage Institute Publ., 2022, pp. 39–61. (In Russ.)
4. Parkhomenko T.A. Cultural Heritage of Russia through the Prism of History, Meanings and Values. In: *Cultural Heritage — from the Past to the Future*. Moscow, Saint Petersburg, Russian Heritage Institute Publ., 2022, pp. 124–140. (In Russ.)
5. Pietikainen S., Hujanen J. At the Crossroads of Ethnicity, Place and Identity: Representations of Northern People and Regions in Finnish News Discourse. *Media, Culture & Society*, 2003, vol. 25, iss. 2, pp. 251–268. DOI: https://doi.org/10.1177/01634437030252007
6. Dmitrovsky A.L. Journalism Genres. *Scientific Notes of Orel State University. Series "Humanities and Social Sciences"*, 2014, no. 4 (60), pp. 149–158.

7. Lavrushina N.V., ed. *Karelia is Open: Inter-Municipal Cooperation in Strengthening Interethnic Relations*. Petrozavodsk, Karelskiy Fond Razvitiya Obshchestvennoy Diplomatii Publ., 2022, 125 p. (In Russ.)
8. Dzhioshvili E.A., Krivonozhenko A.F., Litvin Y.V., Yalovitsyna S.E. Cultural Traditions and Identity of Single Industry Towns' Residents in the "Karelian Arctic" Region: Segezha and Kostomuksha. *Herald of Anthropology*, 2023, no. 3, pp. 7–25. DOI: https://doi.org/10.33876/2311-0546/2023-3/7-25
9. Usacheva E.V. *Karelian Refugees: The Way Home*. Petrozavodsk, Periodika Publ., 2021, 223 p. (In Russ.)
10. Inkha I.K. *In the Land of Kalevala Songs: Lönnroth's Trail on the White Sea Karelia, an Essay about the Land of the White Sea Karelia*. Petrozavodsk, Periodika Publ., Kukhmo, Yuminkeko Publ., 2019, 464 p. (In Russ.)
11. Kolesnichenko Yu.V. Memory of the Great Patriotic War: The Immortal Regiment as a Mirror of the Modern Russian Mentality. In: *Cultural Heritage — from the Past to the Future*. Moscow, Saint Petersburg, Russian Heritage Institute Publ., 2022, pp. 370–387. (In Russ.)
12. Zhitenev S.Yu. Concepts of Cultural Heritage in the System of Cultural Sciences. In: *Cultural Heritage — from the Past to the Future*. Moscow, Saint Petersburg, Russian Heritage Institute Publ., 2022, pp. 22–38. (In Russ.)
13. Akimova I.A. Media as a Socialization and Identity Development Factor. *Service Plus*, 2009, no. 1, pp. 10–14.

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Alexander F. Krivonozhenko — work with sources, processing of statistical data, preparation of part of the text and final conclusions, text design.

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Outcomes of the 6th International Arctic Forum "Arctic: Territory of Dialogue" — 2025

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Abstract. The article summarizes the key outcomes of the 6th International Arctic Forum (IAF, the Forum) "Arctic: Territory of Dialogue", held in Murmansk on March 26–27, 2025. The IAF became a platform for international dialogue on such issues as development of the Northern Sea Route, enhancing investment and entrepreneurial potential in the Arctic Zone, as well as environmental, humanitarian, and cultural cooperation. The Forum primarily focused on discussions of the state policy in the Arctic Zone of the Russian Federation (AZRF), aimed at the comprehensive development of the Far North and improving the well-being of the region's residents.

Keywords: *Russia, Arctic, Roscongress Foundation, Murmansk, AZRF, Northern Sea Route*

Introduction

The 6th International Arctic Forum (IAF, Forum) "Arctic: Territory of Dialogue" was held in Murmansk on March 26–27, 2025. The initiative to hold this event was put forward by the Governor of the Murmansk Oblast A.V. Chibis at the 27th St. Petersburg International Economic Forum, which was held in St. Petersburg on June 5–8, 2024. The decision to hold the event was made at the end of January 2025. The Forum was organized by the Roscongress Foundation with the support of the Russian Government. This event marked the start of the celebration of the 500th anniversary of the beginning of Russia's development of the Northern Sea Route. The International Arctic Forum "Arctic: Territory of Dialogue" has been held since 2010 and is the largest platform for joint discussions with foreign partners of current problems and development prospects for the Arctic region. The previous 5th International Forum "Arctic: Territory of Dialogue" was held six years ago in St. Petersburg in April 2019 [1, Zhuravel V.P.].

The 6th International Arctic Forum was attended by about 1,300 participants and media representatives from 21 countries (Russia, Argentina, Great Britain, Venezuela, Vietnam, Germany, India, Kazakhstan, Qatar, China, UAE, Republic of Belarus, Republic of Korea, USA, Serbia, Singapore, Turkey, Finland, France, Switzerland, Japan), as well as about 230 representatives of Russian and foreign business from more than 110 companies, 305 media representatives from Russia and 9 foreign countries (Great Britain, Venezuela, Vietnam, Germany, Qatar, Serbia, Turkey, Finland,

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France). The co-organizer of the Forum is the State Corporation Rosatom, the strategic partner is PJSC Rosseti, the strategic scientific partner is the National Research Center "Kurchatov Institute", the communications partner is the Media Holding MAER, the business program partners are VTB Bank (PJSC), PJSC NOVATEK, PJSC MMC Norilsk Nickel, PhosAgro, the business partner is VEB.RF. The Forum was held under the motto "To live — in the North!" [1]

The Arctic zone accounts for more than a quarter of the territory of the Russian Federation. Almost two and a half million of our citizens live and work here, making a significant contribution to the country's progress. According to the President of the Russian Federation, "the Arctic accounts for seven percent of Russia's gross domestic product and about eleven percent of exports. The most important area is strengthening the transport and logistics contour of the Arctic" [2].

The IAF has become a platform for international dialogue on such issues as development of the Northern Sea Route, increasing the investment and business potential of the Arctic zone, as well as environmental issues, humanitarian and cultural cooperation. The main focus of the Forum was on discussing state policy in the Arctic zone of the Russian Federation (AZRF), aimed at the comprehensive development of the Far North and increasing the well-being of the region's residents.

This article is a continuation of the scientific articles by the staff of the Institute of Europe of the Russian Academy of Sciences, which provide an annual analytical review of Arctic issues within the framework of the St. Petersburg International Economic Forum [2, Zhuravel V.P.; 3, Zhuravel V.P.; 4, Timoshenko D.S.; 5, Zhuravel V.P.; 6, Nevskaya N.A.] and are published systematically in the journal "Arctic and North".

Business, cultural and sports program

The business program included 20 sessions. Numerous discussions were held within the framework of four thematic blocks: "The Arctic and the NSR: how to win in the competition of global routes", "The Arctic and the NSR: a pole for attracting investments", "The Arctic and the NSR: development of supporting settlements", "International cooperation and ecology". More than 150 speakers from federal and regional authorities, business and expert community — researchers from leading scientific and educational institutions in Moscow, St. Petersburg, Arkhangelsk, Murmansk — took part in the discussions.

An important event at the Forum was a joint meeting of the commissions of the State Council of the Russian Federation on the development of the Arctic and the Northern Sea Route, which united five commissions of the State Council: "The Northern Sea Route and the Arctic", "In-

[1] The results of the International Arctic Forum "Arctic: Territory of Dialogue" - 2025 are summed up. URL: https://www.vedomosti.ru/press_releases/2025/03/28/podvedeni-itogi-mezhdunarodnogo-arkticheskogo-foruma-arktika--territoriya-dialoga--2025 (accessed 30 March 2025).
[2] Vladimir Putin spoke at the plenary session of the 6th International Arctic Forum "Arctic: Territory of Dialogue". URL: http://www.kremlin.ru/events/president/transcripts/76554 (accessed 30 March 2025).

ternational Cooperation and Export", "Energy", "Youth and Children", "Efficient Transport System". There has never been such a practice before.

The session "The Arctic: bridges of cooperation between peoples and states" summarized the results of the 8th International Scientific and Practical Conference "Polar Bear Universe: Effective Cooperation in the Arctic". For the first time, the IAF hosted a special session dedicated to the role of women in the development of northern regions, the "Arctic Living Room".

The cultural and sports programs were rich and varied. The Forum's cultural program focused on demonstrating the uniqueness and achievements of the Arctic regions, as well as Russia's leading role in the development of the Arctic. It combines a historical retrospective, modern trends and the image of the future of the Far North. Special attention is paid to the culture, traditions and customs of the indigenous peoples of the North.

The Forum hosted the "Taste of the Arctic" gastro-festival, where a joint team of restaurateurs and chefs from the subjects of the Arctic Zone of the Russian Federation presented a menu of regional cuisine, which widely uses products from the northern seas and local producers. From March 25 to 30, the event was attended by over 25,000 guests who tried over 12,000 servings of food and over 7,000 drinks [3]. This holiday was organized using extra-budgetary funds invested by the partner companies. There was the "Sami Village" and the "Taste the North" ice bar, which was a 25-meter tunnel with ice engravings dedicated to the 500th anniversary of the development of the Northern Sea Route. There was an Arctic crafts fair. The regional museum of local history offered excursions for the Forum participants, telling about the uniqueness of the Murmansk Oblast. Thematic exhibitions were dedicated to the IAF. There was an exhibition of paintings about the development of the Arctic and the Northern Sea Route from the collections of the Murmansk Regional Art Museum. A ceremony of donating works of art to the Murmansk Oblast and the opening of the exhibition "H2O+. Art about water and more..." took place. In addition, participants had the opportunity to visit the icebreaker "Lenin", the world's first vessel with a nuclear power plant, which provided navigation along the Northern Sea Route for about 30 years. The icebreaker has guided thousands of ships through the Arctic and traveled a total of 654,400 nautical miles. Now it has become a "carte-de-visite" of the Murmansk Oblast and one of the most visited tourist sites. The Murmansk Drama Theatre hosted an Art Cocktail, during which the audience saw the performance "Prologue about the Murmansk Oblast" and a concert by the Pacific Fleet Ensemble. As part of the project "Soul of Russia. Arctic" in partnership with Roskino, seven films were screened, including "North Pole" and "Widows' Village", which were timed to coincide with the Year of the Defender of the Fatherland and the 80th anniversary of the Victory in the Great Patriotic War. Participants discussed the contribution of creative industries to the growth of the economy of the northern territories, the use of the wealth of national cultural traditions to create unique brands.

[3] More than 25 thousand people visited the festival "Taste of the Arctic" in the center of Murmansk. URL: https://b-port.com/news/311422 (accessed 30 March 2025).

The sports program included 8 events. Arctic team building, tie-exercises, ice floating, alpine skiing and snowboarding, snow fights, as well as introduction to traditional sports of the peoples of the North were organized for the Forum participants. The final and largest event of the sports program was the 51st Murmansk Ski Marathon. On March 29 and 30, 2.5 thousand athletes took part in the 25 and 50 km races at the Dolina Uyuta sports complex.

Joint meeting of the commissions of the State Council of the Russian Federation

On the first day of the IAF, a joint meeting of the commissions of the State Council of the Russian Federation was held on the issue "Integrated approach to the development of the Arctic: formation of the national project 'Arctic and the Northern Sea Route'".

It was attended by N.P. Patrushev, Assistant to the President of the Russian Federation, Chairman of the Maritime Board of the Russian Federation; I.E. Levitin, Advisor to the President of the Russian Federation, Special Representative of the President of the Russian Federation for International Cooperation in the Field of Transport; A.G. Dyumin, Assistant to the President of the Russian Federation, Secretary of the State Council of the Russian Federation; A.O. Chekunkov, Minister of the Russian Federation for the Development of the Far East and the Arctic; A.V. Chibis, Governor of the Murmansk Oblast, Chairman of the State Council Commission on the Northern Sea Route and the Arctic; A.V. Tsybulskiy, Governor of the Arkhangelsk Oblast, Chairman of the State Council Commission on International Cooperation and Exports; A.S. Tsydenov, Head of the Republic of Buryatia, Chairman of the State Council Commission on Efficient Transport System; A.S. Nikolaev, Chairman of the State Council Commission on Energy, Head of the Republic of Sakha (Yakutia); D.A. Artyukhov, Governor of the Yamalo-Nenets Autonomous Okrug, Chairman of the State Council Commission on Youth and Children; A.E. Likhachev, General Director of Rosatom State Corporation, as well as heads of regions of the Russian Federation, federal agencies, corporations and companies.

The meeting began with a ceremonial start of the celebration of the 500th anniversary of the beginning of Russia's development of the Northern Sea Route. N.P. Patrushev, Assistant to the President of the Russian Federation, Chairman of the Maritime Board of the Russian Federation handed over to A.V. Chibis and Director General of the Rosatom State Corporation A.E. Likhachev statuette, which during the anniversary year will be consistently passed from region to region, uniting the territories of the Arctic zone of Russia and the Far Eastern Federal District in perpetuating the historical memory of the events of the Great Northern Expedition of Russia, as well as in the design and creation of the Arctic of the future. It will complete its journey in Vladivostok at the Eastern Economic Forum [4].

Key theses of the speakers.

A.G. Dyumin: "The Arctic is a huge resource base and a promising transport corridor. On this basis, it is necessary to determine the prospects, timing, volumes of development of minerals

[4] IAF-2025: participants of the joint session of the Russian State Council support the initiative to create a comprehensive Arctic and Northern Sea Route development project, which may receive national status. URL: https://gov-murman.ru/info/news/543870/?ysclid=m8qbics4zn806281647 (accessed 30 March 2025).

in the Arctic zone, and consider the NSR in conjunction with the development of Arctic territories, promptly respond and redistribute resources to key areas of development that will help Russia consolidate its position as a leader in the development of the Arctic."

N.P. Patrushev: "In the current military and political situation, the Arctic is increasingly acquiring strategic importance for Russia — both for strengthening the international positions of our country and for its internal development."

"Without the introduction of advanced developments in Russian science, the use and development of the Northern Sea Route would be impossible."

"Over the past 30 years, the fleet has become obsolete and has been reduced to a critical minimum. The average age of vessels is about 34 years. The ships are worn out by more than 80%. Their operation is significantly more expensive than modern foreign analogues."

"It is necessary to coordinate the efforts of government bodies, business and society in the most important key areas, including ensuring national security taking into account the development of the international situation, the development of resources and spaces in the Arctic region, the development of the Northern Sea Route as a national transport route and ship management system, the construction of icebreaker and Arctic fleet, the organization of scientific research, ensuring environmental safety and protecting ecosystems in the Arctic zone of the Russian Federation."

I.E. Levitin: "If we want to develop the Arctic zone, develop our production, invite people to live here, then there should be a single project under the auspices of the President of Russia at least until 2050, where private money and investments will be allocated."

A.O. Chekunkov: "... the mechanisms of state support should be improved for the accelerated development of the macro-region, the implementation of investment projects, and the improvement of quality of life. Based on the results of the implementation of the first stage of the Arctic development strategy until 2035, proposals will be prepared to update this fundamental document. The new joint decisions developed during today's meeting will be an important contribution to the further development of the Russian Arctic."

A.V. Chibis: "The trans-Arctic transport corridor already accounts for 15% of GDP, according to the Ministry for the Development of the Russian Far East. And this is definitely the future of our country's economy."

A.V. Tsybulskiy: "...we may need some separate organizational and legal structure that would be the main operator of the entire complex of activities for the development of the Arctic zone. Maybe it will be Rosatom, if they have enough forces for this, so to speak. Maybe it will be the Ministry of Transport. In my opinion, this is important."

Likhachev A.E.: "We should understand that, given the difficult northern conditions and long cycles of project implementation, turning them into purely commercial projects using modern lending principles means putting an end to their development. There should be a whole range of measures aimed at attracting investors and securing companies in different areas of activity."

The speakers noted that the powerful development of the Arctic region requires a clear, comprehensive and understandable long-term plan of measures that should be interconnected, as well as an appropriate structure that will coordinate the development of the Arctic.

President of Russia V.V. Putin "…the northern vector of development is in the foreground, it is our sovereign, historical choice"

The main event of the Forum was the speech of the President of the Russian Federation Vladimir Vladimirovich Putin at the plenary session, where he announced a number of fundamental decisions for the socio-economic development of the Arctic. At the beginning of his speech, he noted the importance of the Forum venue: "Murmansk is the capital of the Russian Arctic, a hero-city that is developing dynamically today, like our other northern cities and regions of the Federation, and launching projects that are significant for the entire country". Speaking about the role of the Arctic in the life of our country, he noted that "the Arctic zone accounts for more than a quarter of the territory of the Russian Federation. Almost two and a half million of our citizens live and work here, making a significant contribution to the country's progress. According to estimates, seven percent of Russia's gross domestic product and about eleven percent of exports are formed in the Arctic. At the same time, we see enormous prospects for the further comprehensive development of the region. The most important area is strengthening the transport and logistics contour of the Arctic." [5] The Murmansk Oblast is noted positively among the Arctic regions for its implementation.

The first part of the presidential report was devoted to issues of international cooperation in the Arctic, where he emphasized that Russia "is ready to work together not only with the Arctic states, but with all those who, like us, share responsibility for a stable, sustainable future for the planet and are capable of making balanced decisions for decades to come".

The speech highlighted the existing problems of international cooperation in the northern latitudes: in previous years, many Western states took a course towards confrontation; economic ties with Russia were severed; scientific, educational and cultural contacts were terminated; dialogue on preserving Arctic ecosystems was curtailed.

The confrontational position of the West has had an extremely negative impact on the situation in the northern latitudes, which previously traditionally remained a space of peace and cooperation, a zone of low tension, outside the political situation [7, Danilov D.A.]. It was noted that the Arctic Council has degraded [8, Usova L.S.]. At the same time, V.V. Putin pointed out that "Russia did not refuse to communicate in this format — it was the choice of our Western partners, Western states. As they say in such cases: if you don't want it, you don't have to. We will work with those who want it." [6] It should be noted that the Chairman of the Committee of Senior Arctic Officials, Norwegian diplomat Morten Høglund addressed the participants of the Arctic Forum with a

[5] Vladimir Putin spoke at the plenary session of the 6th International Arctic Forum "Arctic: Territory of Dialogue". URL: http://www.kremlin.ru/events/president/transcripts/76554 (accessed 30 March 2025).
[6] Ibid.

video message as part of the session “The Arctic: bridges of cooperation between peoples and states”. He emphasized that "the strength of the Arctic Council lies in its unique composition — an association of Arctic states, permanent participants and observers, bound by a common commitment to addressing emerging challenges and seizing new opportunities. The issues facing the Arctic are of global importance, and only through international cooperation and collective action we can achieve a sustainable and bright future for everyone.” [7] While agreeing with such a high assessment of the Arctic Council, it should be noted that during its entire chairmanship (2023–2025), Norway was unable to provide Russia with the conditions for full participation in the events of its chairmanship. V.V. Maslennikov, Director of the Department of European Problems of the Russian Foreign Ministry, senior official from Russia in the Arctic Council, participating in the discussion at the session, noted: “The relevance of establishing a mutually respectful and pragmatic dialogue in the North, building bridges of cooperation between countries remains at any geopolitical situation. Our country has always viewed the Arctic as a territory of peace and cooperation, advocated the absence of dividing lines in high latitudes, the reduction of tension, and the search for responsible political and diplomatic solutions to issues on the regional agenda. Firmly defending its national interests in the North, Russia will continue to maintain its readiness to cooperate with all constructively minded countries, both Arctic and non-Arctic, including our BRICS partners.”

It was noted at the Forum that, along with the growing role and importance of the Arctic for both Russia and the world, unfortunately, geopolitical competition and the struggle for positions in this region are intensifying. This increases the demands on security issues. S.A. Vakhrukov, Head of the Department of the Presidential Administration of the Russian Federation for National Maritime Policy, stated in his speech at a joint meeting of the commissions of the State Council of the Russian Federation that “the struggle for the Arctic is serious, and it will grow. The resources that are concentrated there attract a huge number of countries and states. Interests intersect. It is extremely important and obligatory for us to ensure security in the broad sense of the word.” [8]

The situation in the Arctic is also complicated by the plans of the United States of America to annex Greenland, continuing to keep the issue of the Danish island’s ownership in their field of vision for a long time. At the same time, V.V. Putin indicated that this “concerns two specific states and has nothing to do with us” [9]. But it should be taken into account that the United States is trying to monopolize its influence in the Arctic and become the largest Arctic power. The United States, although not a party to the 1982 UN Convention on the Law of the Sea, nevertheless, using

[7] Morten Høglund, Chair of the Arctic Council's Senior Arctic Officials Committee, sent greetings to the participants of IAF 2025. URL: https://www.mvestnik.ru/newslent/predsedatel-komiteta-starshih-dolzhnostnyh-lic-arkticheskogo-soveta-morten-hglund-napravil-privetstvie-uchastnikam-maf-2025/ (accessed 30 March 2025).

[8] Vakhrukov: Arctic development is possible only if its security is fully ensured. URL: https://tass.ru/politika/23514033?utm_source=yxnews&utm_medium=desktop&utm_referrer=https%3A%2F%2Fdzen.ru%2Fnews%2Fsear (accessed 30 March 2025).

[9] Vladimir Putin spoke at the plenary session of the 6th International Arctic Forum “Arctic: Territory of Dialogue”. URL: http://www.kremlin.ru/events/president/transcripts/76554 (accessed 30 March 2025).

its provisions, lays claims to Arctic territories where there are deposits of oil, gas and rare earth metals.

The President of the Russian Federation expressed concern that NATO countries as a whole are increasingly designating the Far North as a springboard for possible conflicts, practicing the use of troops in these conditions, including by their "new recruits" — Finland and Sweden, with whom Russia had normal relations earlier.

In this regard, the statement of V.V. Putin at the plenary session of the forum "Arctic: Territory of Dialogue" that Russia has never threatened anyone in the Arctic is of fundamental importance, while he said that we are closely monitoring the development of the situation, building an adequate response line, increasing the combat capabilities of the Armed Forces and modernizing military infrastructure facilities [10].

Due to climate change in the territory of the Russian Arctic, biological security risks arise 2–2.5 times faster than in other regions of the Russian Federation due to the release of viruses that are so successfully stored in the depths of permafrost. In these conditions, the prevention of epidemiological threats in the Arctic is an important factor in maintaining the country's biological security.

All sessions at the IAF were related to the Northern Sea Route to one degree or another. Speaking about the growth of cargo traffic along the Northern Sea Route, V.V. Putin set the task for the NSR to become "a key section of the Trans-Arctic Transport Corridor, which will run from St. Petersburg through Murmansk to Vladivostok. It is designed to connect the world's industrial, agricultural, energy centers and consumer markets via a shorter, safer, and more economically advantageous route" [11]. The problem of developing the Trans-Arctic Transport Corridor was clearly and convincingly voiced by the President, which, in our opinion, requires legislative consolidation and active study by representatives of the expert community in modern conditions. At the same time, we should proceed from the President's thesis that the very idea of building the Trans-Siberian Railway across the entire country to the Pacific Ocean serves as an example of a strategic vision of the future, when not only current needs and circumstances are taken into account, but also the interests of the country for centuries to come.

The second part of the speech by Russian President V.V. Putin at the International Arctic Forum was devoted to the priority tasks of developing and exploring the Russian Arctic. Five such problems were identified.

Firstly, the further development of the icebreaker fleet, which is the largest in the world. Here we are talking about the commissioning of new generation icebreakers, including nuclear ones. Four of them — the newest 22220 series — are already performing tasks in the Arctic. It was noted that three more nuclear-powered icebreakers of this series are under construction — Chu-

[10] Russia has never threatened anyone in the Arctic, Putin said. URL: https://ria.ru/20250327/putin-2007785722.html?ysclid=m92mufmdll835976236 (accessed 30 March 2025).
[11] Vladimir Putin spoke at the plenary session of the 6th International Arctic Forum "Arctic: Territory of Dialogue". URL: http://www.kremlin.ru/events/president/transcripts/76554 (accessed 30 March 2025).

kotka, Leningrad, and Stalingrad, as well as the super-powerful 120-megawatt icebreaker Rossiya, which will allow more efficient navigation of large-tonnage vessels in high latitudes throughout the year.

Secondly, Russia, as a sovereign power, needs its own merchant fleet in the Arctic, including cargo and rescue vessels that will provide transportation both along the northern seas and along the inland waterways of the Arctic regions. Only domestic shipbuilding capacities are not enough to fulfil this task. The President recommended "acting in all directions: acquiring and ordering ready-made vessels, establishing cooperation with global manufacturers, and generally building the entire system of Russian shipbuilding based on the strategic tasks that we face". The government needs to support our shipbuilding and ship repair enterprises, which are modernizing and expanding production, building international production chains, and to work out the issue of building new shipyards in Russia, modern, complex, high-tech production facilities.

Thirdly, given that Russian shipping companies that transport oil products and liquefied natural gas are already successfully operating in the northern seas, it is necessary to promptly create conditions for the growth of effective domestic operators that will engage in the transportation of containers, coal, bulk and other cargo through the Arctic. For this purpose, it is possible to create joint ventures; international logistics operators could profitably invest in such companies not only with capital and technology, but also with part of their merchant fleet.

Fourthly, it is necessary to increase the capacity and turnover of our northern ports at an accelerated pace and do this on the basis of modern, environmentally friendly solutions, including unmanned and automated cargo handling technologies. Thus, the capacity of the Murmansk transport hub should be increased by at least three times in the coming years due to the construction of new terminals and the expansion of railway approaches. It is positive that our partners from Belarus, China, the United Arab Emirates and other countries are showing interest in this project and in the development of the Arctic transport infrastructure in general, as this is very interesting work from a business point of view.

The President noted that the plans include the creation of large multimodal hubs that will become key logistics centers of the Trans-Arctic Corridor. They will not only form convoys of ships, handle Russian and foreign cargo, but also, very importantly, will provide industrial sites for manufacturing industrial products. In order to increase the logistics sustainability of the Trans-Arctic Corridor, the Government of the Russian Federation has been instructed to define plans for expanding the capacity of existing seaports in the Arctic, creating new ports on the Arctic coast and intensively developing the adjacent infrastructure, i.e. connecting seaports with the country's railway network.

In this regard, fifthly, by analogy with the Eastern Polygon, which includes the BAM and the Trans-Siberian Railway, it is proposed to implement a project to develop the Arctic Polygon of Railways, including the modernization of the Northern Railway in the Komi Republic and the Yamalo-Nenets Autonomous Okrug. At the same time, the regions of Siberia, the Urals, and the North-

West of Russia will receive direct access to the north, to the Arctic ports, which will make it possible to unload the Trans-Siberian Railway and effectively use sea transportations. In addition, the North-South corridor, which connects us with the states of Central Asia and the Persian Gulf, will have new access points to the Arctic. In order to develop the Trans-Arctic Route, it is necessary to unlock the potential of the inland waterways of the Arctic at a new technological level: Lena, Yenisei, and Ob rivers, which will, among other things, strengthen the "northern delivery" system, so that the Arctic residents will be reliably supplied with food and other goods.

V.V. Putin concluded that to implement these and other major initiatives it is necessary to:

- combine the resources of the state, regions, and businesses, including both state-owned and private banks;
- use the capabilities of the domestic stock market to attract capital to the Arctic infrastructure;
- attract our foreign partners, guarantee them long-term investments with a good return.

It was emphasized that infrastructure projects (icebreakers, merchant ships, ports, large multimodal hubs, railways) are complex, expensive, and have a long payback period, but they are the ones that ensure Russia's transport sovereignty at a new level. Therefore, these projects cannot be postponed for later — they need to be launched and implemented now, as quickly as possible. The Russian government was asked to prepare proposals for the creation of a special project office under the auspices of the VEB development institute, which will be responsible for supporting transport, logistics, and infrastructure projects in the Arctic, as well as urban development projects in the region. It was emphasized that a potential investor should receive the necessary support from these structures by contacting them directly. The President also instructed the Government — with the participation of Rosatom, VEB, and the relevant State Council commission — to approve the financial, economic, and organizational model for the development of the Trans-Arctic Transport Corridor by August 1, 2025.

Using the capacity of the resource base, it is important to open enterprises with deep processing of raw materials in the Arctic regions, preserving the unique nature of the Arctic, to create production with high added value in oil and gas chemistry, in the field of rare earth metals, and in other industries related to mechanical engineering, the production of complex technology and industrial equipment. An example of this approach, according to V.V. Putin, is the Center for the Construction of Large-Capacity Offshore Structures in Belokamenka in the Murmansk Oblast, where localization of technologies for liquefying natural gas is underway, and the most advanced, in-house, developments in this area are used. It should be noted that this project is being implemented by NOVATEK.

It should be noted that the Prirazlomnaya offshore ice-resistant stationary platform is also successfully operating in the Barents Sea, which has produced and shipped 30 million tons of the

unique Arctic Oil (ARCO) since 2013. It is successfully operated on the Arctic shelf at temperatures down to -50℃ [12].

In his speech, the Russian President paid a lot of attention to tourism as a promising area for the development of the Arctic. In 2023, the Arctic received more than 1.2 million guests, 97% of whom were completely satisfied with the trip, and every third of them returns to the Arctic [13]. As new projects, he named an Arctic tourism center with a ski resort in the Yamalo-Nenets Autonomous Okrug and an aqua-thermal resort and an all-season hotel complex in Karelia, and called for support for such initiatives that open up new facets of the Arctic and work to increase interest in this region. He also proposed to include the development of the White Sea tourist infrastructure in the federal project "Five Seas and Lake Baikal".

Undoubtedly, the issue of transport accessibility is important for the development of mass tourism: from the repair and construction of roads to the development of air traffic. V.V. Putin recalled that preferential rates for air tickets to Arctic cities were extended. In 2024, about 800,000 passengers took advantage of this opportunity; this year, subsidized tickets can be purchased for more than seven dozen air routes. He emphasized that the airports of the Far North, especially small ones, need to be updated. In the coming years, 16 airfields in the Arctic zone will be modernized within the framework of the specialized national project, including in Salekhard, Arkhangelsk, Naryan-Mar and Vorkuta. The President set the task of maintaining an extensive airport network in the Arctic: from large and medium-sized airfields to small landing sites. This will ensure year-round accessibility of populated areas and the operation of air ambulances.

In his speech, the Head of State noted the completion of work on the preparation of master plans for the agglomerations of the Arctic zone, which are a comprehensive document of strategic and territorial planning for the socio-economic and spatial development of cities and towns, where the latest urban planning solutions will be applied while preserving the original appearance of populated areas, based on proposals from residents themselves, public associations, including organizations of indigenous peoples of the North. He recalled that these are not only large cities such as Arkhangelsk and Murmansk. The master plans cover Kirovsk, Apatity and Monchegorsk in the Murmansk Oblast, Kem and Belomorsk in Karelia, Vorkuta in the Komi Republic, Bilibino, Pevek in Chukotka, Naryan-Mar in the Nenets Autonomous Okrug, Salekhard, Labytnangi, Novy Urengoy and Noyabrsk in the Yamalo-Nenets Autonomous Okrug, as well as Tiksi and Naiba in Yakutia, Norilsk, Igarka and Dikson in Krasnoyarsk Krai. Their list was previously approved by the Govern-

[12] Prirazlomnaya produced and shipped 30 million tons of oil. URL: https://www.korabel.ru/news/comments/mlsp_prirazlomnaya_dobyla_i_otgruzila_30_mln_tonn_nefti.html?utm_source=yxnews&utm_medium=desktop&utm_referrer=https%3A%2F%2Fdzen.ru%2Fnews%2Fsearc (accessed 30 March 2025).

[13] Development of the Arctic territories is impossible without effective development of their resources. URL: https://rg.ru/2025/03/31/zhit-na-severe.html?utm_source=yxnews&utm_medium=desktop&utm_referrer=https%3A%2F%2Fdzen.ru%2Fnews%2Fsearc (accessed 30 March 2025).

ment of the Russian Federation [14], subsequently, by order of the Government of the Russian Federation dated August 13, 2024, No. 2164-r, two municipalities were added to the list: the city of Polyarnye Zori in the Murmansk Oblast and the Bilibino municipal district of the Chukotka Autonomous Okrug, which will become the basis for the development of mineral resource centers that ensure the development of the metallurgical industry.

In order to successfully continue work on the implementation of master plans for agglomerations, V.V. Putin drew the attention of the Government of the Russian Federation to:

- acceleration of work on adopting a schedule for the implementation of Arctic master plans and their financing;
- inclusion of separate Arctic sections in national projects;
- involvement of business representatives and strategic investors who work in the Arctic or plan to work here in the implementation of master plans;
- creation of special competence centers where municipal and regional employees will improve their skills in the field of urban development and learn the best methods of master planning;
- participation in the all-Russian competition of projects to create a comfortable urban environment, providing budget support for the winners from the Arctic regions for the development of embankments, pedestrian zones and playgrounds, parks, squares, etc.;
- extension of the program for renovation of military towns, closed administrative-territorial entities in the Arctic until 2030 with an annual volume of financial support from the federal budget of at least ten billion rubles, this is also connected with the strengthening of the military component in this region — the number of military personnel here will grow;
- identification of new industries and jobs, including those tied to the Trans-Arctic Corridor, where schools and kindergartens, clinics and hospitals, roads and networks will be built, where residential buildings will be constructed. It is important for the Ministry of Defense, together with the Ministry of Construction and the regions, to work out all these issues on an object-by-object basis, so that it is clear what specific resources should be allocated within what timeframe to support this task;
- taking into account the fact that construction is carried out in conditions of permafrost, which means special requirements for the design, construction of buildings and structures, and their reliability. In view of climate change, it is important to see the dynamics and take into account potential risks. The President proposed creating a special scientific center for monitoring permafrost, involving leading federal and regional institutes in this

[14] Order of the Government of the Russian Federation No. 3377-r dated 28 November 2023. URL: http://publication.pravo.gov.ru/document/0001202312040019?ysclid=lpxylna3k3201068961 (accessed 30 March 2025).

work, so that their research becomes the scientific basis for technologies for adapting Arctic infrastructure to permafrost thawing processes;

- dissemination of the register of best construction practices in the Arctic through Arctic multifunctional centers, when social and administrative institutions, sports complexes, service organizations are located “under a common roof”, in one building;
- taking into account the opinions and requests of citizens, the northerners themselves, on the creation of the so-called service economy in Arctic cities and towns, that is, leisure facilities, places for family recreation and children’s entertainment, cultural and educational sites that need to be developed, including on the initiative of entrepreneurs;
- adjustment of the special program for supporting small and medium-sized businesses in relation to the regions of the Far North, expansion of the list of industries to which it is extended, creation of additional opportunities for small companies to attract preferential loans [9, Leksin V.N.; 10, Pilyasov A.N.; 11, Porfiryev B.N., Eliseev D.O.].

Master plans of supporting settlements could be revised and measures for the resettlement of emergency housing, as well as for the development and modernization of communal and other infrastructure could be added to them. This opinion was expressed by A.N. Lomakin, First Deputy Minister of Construction, Housing and Utilities of the Russian Federation. In particular, it is necessary to update the master plans of the Arkhangelsk Oblast, which have a large volume of tasks to resettle people from dilapidated housing, but this is not provided for [15].

In his speech, V.V. Putin drew attention to the problems of healthcare in the Arctic and ensuring the environmental well-being of its residents. He asked to speed up the preparation of proposals to improve the accessibility of medical services in the North and the development of a special mechanism for financing medical care. In order to preserve the health of residents of the North, it is necessary to use digital technologies, equip mobile paramedic stations with artificial intelligence tools that allow both remotely and directly on site diagnosing a person’s health, identifying certain diseases and giving recommendations for their treatment. At the session “Favorable habitat is the key to successful development of the Arctic”, the Head of Rospotrebnadzor A.Yu. Popova said that the agency is ready to create a standard for preventing diseases among the population of the Arctic [16]. In 2025, a pilot project was launched in the Murmansk Oblast to monitor patients with cardiovascular diseases (the main cause of death in the region) and diates.

[15] What is being talked about at the IAF: a digest of the topics discussed - from master plans and northern imports to the law on permafrost and inventions for the Arctic. URL: https://goarctic.ru/politics/o-chem-govoritsya-na-maf-daydzhest-obsuzhdaemykh-tem-ot-master-planov-i-severnogo-zavoza-do-zakona-o/ (accessed 30 March 2025).

[16] Popova said she is ready to create an Arctic standard of preventive health care. URL: https://tass.ru/obschestvo/23525775?utm_source=yxnews&utm_medium=desktop&utm_referrer=https%3A%2F%2Fdzen.ru%2Fnews%2Fsear (accessed 30 March 2025).

It is expected to help reduce mortality from these diseases by 20% and the number of hospitalizations by 20–25% [17].

In terms of ensuring the environmental well-being of the Arctic region's residents, the President of the Russian Federation positively assessed the activities of the "general cleaning" of the Arctic from scrap metal, residues of fuels and lubricants and other garbage, which united thousands of volunteers and public organizations. He emphasized that we will definitely continue this work, ensure comprehensive environmental protection of the Arctic zone of Russia, including solving such an acute problem as clearing the water areas from sunken ships. We will remove industrial waste and reclaim territories with a focus on tidying up cities and towns, the so-called revitalization of abandoned territories, buildings, lands, that is, their re-involvement in circulation in the interests of residents of Arctic cities. Speaking about these measures, the Head of State emphasized that, in fact, we are repaying the debt to the Arctic, we cannot accumulate new debts to its unique nature, it is very important to ensure a balance between the use of natural resources and the preservation of the environment.

In order to test new nature-saving technologies in the Polar Urals zone, it is planned to create the scientific and educational station "Snezhinka" in the Yamalo-Nenets Autonomous Okrug by the end of 2028. Here, an international team of scientists and researchers will, as they say, work out "green" technologies for the Arctic "in the field", their application in the sphere of life support, telecommunications, medicine and the industry of new materials.

The key, integral goal of Russia's plans in the Arctic is to improve the quality of life for people, to create modern conditions for study and work, for recreation and for raising children in this harsh region, which has an amazingly powerful attraction. The Arctic is a territory of enormous opportunities for specialists of various professions, for entrepreneurs, for young people, for families who have lived here for generations or have only recently moved here and are planning to settle down, buy or build their own home. It should be noted that this task is being actively developed and promoted at the Institute of Europe of the Russian Academy of Sciences, within the framework of the activities of the V.P. Fedorov Arctic Research Center and Arctic Seminars. V.P. Fedorov suggested that resettlement to the Arctic should be organized on a mass scale. He called it the own Russian megaproject "Give us the Arctic!" [12, Fedorov V.P.].

In order to solve the problems of improving the quality and standard of living of people, the Arctic mortgage program at a rate of 2% per annum has been extended until 2030, and the conditions for borrowers have been softened. Thus, pedagogical and medical workers who would like to take out a loan to buy housing are no longer subject to the requirements for work experience in the North. The Arctic mortgage can also be used by participants of special military operations and employees of the defense industry.

[17] 10,000 people in the Arctic will be examined in depth to study adaptation to the North. URL: https://www.murmansk.kp.ru/daily/27678/5067537/?utm_source=yxnews&utm_medium=desktop&utm_referrer=https%3A%2F%2Fdzen.ru%2Fnews%2Fsearch (accessed 30 March 2025).

In order to make the solution to the problem of emergency housing long-term and stable, the President of the country instructed the Government of the Russian Federation to develop a plan of specific actions designed for at least ten years. He also proposed to expand the Affordable Rental Housing program to Arctic supporting settlements to make rental housing more affordable for those who start their working careers in the region and who want to live and work here. The program should start operating in the Arctic as early as 2026. V.V. Putin proposed to extend the Muravyov-Amurskiy — 2030 management training program to the Arctic regions.

The President of Russia proposed to establish special grants in memory of the outstanding researcher, polar explorer and scientist Artur Nikolayevich Chilingarov and to focus them on supporting youth initiatives within the framework of environmental, educational and scientific projects in the Arctic.

Concluding his speech at the IAF plenary session, Vladimir Putin pointed out, "Today, the northern vector of development is in the foreground, it is our sovereign, historical choice. This means that the tasks that we set and solve in the Arctic, the projects that we implement here, should be of an appropriate, historical scale, with a perspective for decades, perhaps even centuries. We will do everything to strengthen Russia's global leadership in the Arctic, and, despite all the current difficulties, complexities, we will ensure the comprehensive development of this region and create a solid foundation for future generations. It is difficult to assess the significance and importance of this address to the residents of the country now, but it will undoubtedly become a call for the development and advancement of the Arctic." [18]

Conclusion

The forum made a significant contribution to a comprehensive understanding of the real situation in the Arctic and the formulation of specific proposals for its development. The country's leadership and governors understand that this region is an important and promising territory of our state. In this regard, systematic work is required to form Arctic consciousness and involvement in great Arctic affairs among Russian citizens. During the event, government officials, renowned scientists and experts comprehensively and substantively discussed the possibilities of ensuring security and cooperation in the region, supporting breakthrough energy, infrastructure and environmental projects, and exchanged views on the prospects for implementing relevant research and cultural programs.

The working visit of Russian President V.V. Putin to Murmansk was extremely eventful. It began with a visit to the memorial complex "To the Defenders of the Arctic", where the Head of State laid flowers at the monument "To the Defenders of the Soviet Arctic during the Great Patriotic War". On the territory of Atomflot, he took part via video link in the ceremonial launch of the new nuclear submarine cruiser Perm, got acquainted with the work of the Headquarters of

[18] Vladimir Putin spoke at the plenary session of the 6th International Arctic Forum "Arctic: Territory of Dialogue". URL: http://www.kremlin.ru/events/president/transcripts/76554 (accessed 30 March 2025).

Marine Operations, which provides support for safe navigation on the Northern Sea Route, talked with the participants of the "Icebreakers of knowledge" — Rosatom's children's scientific and educational expeditions to the North Pole. He held a meeting on the development of the Arctic Zone of the Russian Federation and the Arctic Transport Corridor. During the IAF, the governors of the Murmansk and Arkhangelsk Oblasts, the Yamalo-Nenets Autonomous Okrug and the Krasnoyarsk Krai presented master plans for supporting settlements to V.V. Putin. In the video conference mode, he took part in the ceremony of starting the shipment of the first batch of coal from the Lavna transshipment complex. The President inspected the central command post of the cruiser "Arkhangelsk", the crew cabin and weapons storage areas, and talked with the personnel.

In his speech at the Forum, Russian President V.V. Putin stated that Russia, as the largest Arctic power, supports equal cooperation in the region, including scientific research, biodiversity protection, climate issues, emergency response, and economic and industrial development of the Arctic. Work within the framework of traditional international dialogue platforms in the Arctic, including the Arctic Council, has currently been stopped. Thus, scientific cooperation with the International Council for Science and the International Arctic Science Committee has been significantly limited; in September 2023, Russia withdrew from the Barents/Euro-Arctic Council. Nevertheless, there is potential for both restoring constructive interaction with Arctic countries and expanding cooperation with extra-regional states.

It is important to note the thesis of the Head of State that by maintaining peace and stability in the Arctic, ensuring long-term socio-economic development of the region, improving the quality of life of people and preserving the unique natural environment, Russia will have more opportunities to launch global international projects in the Arctic with the participation of friendly states, and possibly even Western states, if they show interest in working together. The appeal to Western states is an important signal from Russia to normalize international relations and not only on the Arctic track. From another point of view, we are talking about joint large-scale projects in the Arctic. Taking into account the statement of the US President about the interests of their country in the Arctic, it is important to clearly define the format of this participation. The main thing is that environmental standards are observed and this brings Russia additional income from this sector of the economy. It is essential that foreign companies have the appropriate experience, technology, and finances. Given the importance of the Arctic as a special territory and the vulnerability of its ecology, such a decision should be enshrined, in our opinion, in the form of an appropriate draft law.

The motto of the current forum "To Live — in the North!" fully reflects one of the key priorities for the development of Russian Arctic territories — comprehensive renewal, improvement of cities and towns, the quality of people's life. First of all, due to the creation of modern jobs, further growth of the economy and social sphere, improvement of the transport framework of the region, as well as the organization of year-round navigation along the Northern Sea Route.

Currently, the NSR is a key section of the Trans-Arctic Transport Corridor, i.e. it should be safe and profitable for shippers, attractive both in terms of quality of services and price. In particular, the fee for icebreaker escort of vessels should be competitive, justified and acceptable for the market. This should be the most important condition to guarantee the utilization of the route and to make it attractive for business. In recent years, the volume of cargo flow along the Northern Sea Route has been growing. Thus, "in 2024, the volume of cargo transportation amounted to almost 37.9 million tons, which is over 1.6 million tons more than in 2023. It is important to note that cargo traffic along the eastern route of the NSR increased by 69% by the end of 2024, and transit — by 44%." [19]

At the International Arctic Forum, Russia confidently declared its ambitions in the Arctic region. In the foreseeable future, according to experts, economic projects such as Yamal LNG or Arctic LNG-2 will become the main ones. In these conditions, it is important to actively involve our closest allies in the EAEU in the problems of the Arctic.

It was noted at the Forum that the Arctic Zone of the Russian Federation needs a comprehensive project for information support of socio-economic development, which will ensure an influx of residents to the Arctic regions, interest investors, and increase tourist attractiveness [20]. Currently, each region solves such problems separately.

The event became a key platform for discussing topical issues of socio-economic development of the Arctic territories, elaboration of multilateral mechanisms for joint disclosure and effective exploitation of the powerful resource potential of the Arctic region.

Addressing the Government of the Russian Federation and the regional authorities, the Head of State noted that it is necessary not only to propose, and there are many such proposals, especially from the Ministry for the Development of the Russian Far East, but also to effectively fine-tune the tools for supporting investment and business activity in the Arctic, including tax incentives, administrative preferences, infrastructure preparation of land plots, and so on. For example, it is necessary to strictly implement plans for the gasification of the Murmansk Oblast (the work should be completed by 2030), the solution of this problem will mark a move away from fuel oil dependence. Preparations for the IAF were carried out in record time, and the Murmansk Oblast and Murmansk proved that they are capable of hosting international events at the highest level. The IAF brought more than 300 million rubles to the entire sector of the Murmansk Oblast economy during the days of its holding [21].

[19] Freight traffic along the Northern Sea Route set a record high. URL: https://rosatomflot.ru/press-centr/novosti-predpriyatiya/2025/01/09/11644-obem-gruzoperevozok-po-severnomu-morskomu-puti-ustanovil-rekord/?ysclid=m5s56axj7s955086607 (accessed 10 January 2025).

[20] Deputy Director General of TASS: The Arctic needs a comprehensive information project. URL: https://tass.ru/obschestvo/23524993?utm_source=yxnews&utm_medium=desktop&utm_referrer=https%3A%2F%2Fdzen.ru%2Fnews%2Fse (accessed 30 March 2025).

[21] IAF brought more than 300 million rubles to the entire sector of the Murmansk Oblast economy. URL: https://b-port.com/news/311425?utm_source=yxnews&utm_medium=desktop&utm_referrer=https%3A%2F%2Fdzen.ru%2Fnews%2Fsea (accessed 30 March 2025).

Based on the results of the Forum, an analytical report entitled “Results of the International Arctic Forum 2025” will be prepared, which will be available in electronic form in the Information and Analytical System of the Roscongress Foundation roscongress.org.

Expert and analytical support for the Forum was provided by experts representing the country’s leading scientific and educational centers conducting research on a wide range of topics on the Arctic agenda, including the Murmansk Arctic University, the Northern (Arctic) Federal University named after M.V. Lomonosov, the St. Petersburg State University of Economics, the Russian Presidential Academy of National Economy and Public Administration (RANEPA), the NRU Higher School of Economics, the G.P. Luzin Institute for Economic Studies of the FRC Kola Science Centre of the Russian Academy of Sciences, the Institute for Regional Economic Studies of the Russian Academy of Sciences and others.

References

1. Zhuravel V.P. K On Results of the International Forum “Arctic-Territory of Dialogue”. *Scientific and Analytical Herald of IE RAS*, 2019, no. 4, pp. 116–121.
2. Zhuravel V.P. The St. Petersburg International Economic Forum (SPIEF-2022) and Its Arctic Agenda. *Arktika i Sever* [Arctic and North], 2022, no. 48, pp. 244–260. DOI: https://doi.org/10.37482/issn2221-2698.2022.48.244
3. Zhuravel V.P. Arctic Agenda of the St. Petersburg International Economic Forum (SPIEF-2023). *Arktika i Sever* [Arctic and North], 2024, no. 55, pp. 196–207. DOI: https://doi.org/10.37482/issn2221-2698.2024.55.196
4. Timoshenko D.S. Arctic Agenda of SPIEF 2023 — Digital, Economic, Environmental, and Socio-Cultural Aspects. *Arktika i Sever* [Arctic and North], 2024, no. 55, pp. 208–226. DOI: https://doi.org/10.37482/issn2221- 2698.2024.55.208
5. Zhuravel V.P. Arctic Sessions of the St. Petersburg International Economic Forum (SPIEF-2024). *Arktika i Sever* [Arctic and North], 2024, no. 57, pp. 254–266. DOI: https://doi.org/10.37482/issn2221-2698.2024.57.254
6. Nevskaya N.A. Problems of Arctic Region Development at the St. Petersburg International Economic Forum (SPIEF-2024). *Arktika i Sever* [Arctic and North], 2025, no. 58, pp. 226–238. DOI: https://doi.org/10.37482/issn2221-2698.2025.58.226
7. Danilov D.A. NATO in the Arctic: Incentives and Impediments. *Scientific and Analytical Herald of IE RAS*, 2024, no. 5, pp. 7–17. DOI: https://doi.org/10.15211/vestnikieran52024717
8. Usova L.S. The Arctic Council in the Light of Recent Geopolitical Transformations. *National Strategy Issues*, 2024, no. 2 (83), pp. 94–119. DOI: https://doi.org/10.52311/2079-3359_2024_2_94
9. Leksin V.N. The Russian Arctic in 2022–2023. New Solutions. *Federalism*, 2023, vol. 28, no. 3, pp. 5–28. DOI: https://doi.org/10.21686/2073-1051-2023-3-5-28
10. Pilyasov A.N. *Arctic Industry and Industrial Policy: Development Experience in Recent Decades*. Moscow, Smolensk, Universum Publ., 2023, 288 p. (In Russ.)
11. Porfiriev B.N., Eliseev D.O. An Integrated Approach to the Economic Assessment of the Permafrost Degradation Effects on Resilience of the Fixed Assets in the Russian Arctic. *Studies on Russian Economic Development*, 2023, no. 2 (197), pp. 30–43. DOI: https://doi.org/10.47711/0868-6351-197-30-43
12. Fedorov V.P. Arctic Transformations. *Contemporary Europe*, 2018, no. 1, pp. 5–14. DOI: http://dx.doi.org/10.15211/soveurope120180514

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Formation and Promotion of the Territory Brand as an Instrument of Its Development on the Example of the Arkhangelsk Oblast

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Abstract. Territorial development is aimed at identifying and actively using resources, opportunities, and socio-economic potential to improve the quality of life of the population, increase attractiveness among investors, tourists, and representatives of economically active social groups. The complexity of territorial development is that it is necessary to take into account a large number of external factors, such as the political and economic situation in the country and the world, socio-demographic processes, the spread of modern information technologies, and much more. It is impossible to ignore the internal characteristics of the territory: its history, natural and climatic features, level of urbanization, resource potential, dynamics of social processes, etc. The diversity of relationships and contradictions between the external and internal environment of the territory complicates the process of territorial development. To overcome these contradictions, it is necessary to form a holistic image or brand of the territory aimed at the most complete and effective use of the resource potential. This article considers the process of formation and promotion of the territory brand as a tool for its development. The problems hindering the effective branding of the territory have been identified. The SWOT-analysis of the Arkhangelsk Oblast is carried out on the basis of the generalization of statistical data characterizing the socio-economic situation of the region. Proposals aimed at overcoming the problems of territorial brand development, related to the implementation of a targeted program of public involvement in the formation of an attractive image of the region, are developed.

Keywords: *brand of the territory, marketing communications with the population, loyalty, target program, socio-economic development of the region*

Introduction

Territorial brand is defined as a “unique identity of a territory” based on its history, culture, values, lifestyle, features of socio-economic development, innovations, and other special characteristics of a territorial object: a country, a region, a separate settlement [1, p. 3].

In the world management and research practice, there is no unambiguous definition of a territorial brand. Thus, F. Kotler initially defined a territorial brand as the perception of a territory by the population [2], and then as a specific product that allows increasing the value of a territory, developing business ties, attracting investments and tourists [3]. M. Kavaratzis integrated approaches to understanding a territorial brand as a socio-cultural, political and marketing entity and

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proposed to consider a territorial brand as a type of corporate brand that unites residents of a territory, government bodies, social and economic institutions [4]. Alan Malcolm considered a territorial brand as an object of management and a way of effectively using the socio-economic potential of a territory [5]. E. Lonardo suggests studying territorial brands in order to predict the development prospects of cities [6]. Besides, a territorial brand can become a tool for renovating a territory, preventing population outflow, preserving cultural and social identity, especially in sparsely populated areas [7]. The lack of a unified understanding of a territorial brand does not reduce the attractiveness and practical value of this phenomenon for territorial development. The issue of the necessity of branding for small towns as a process of creating a commercial product through the development of the value and quality of the territory and its entire infrastructure is an opportunity to remain relevant and prosperous settlements on the modern map of Russia [8, p. 27].

The formed brand of the territory allows solving a wide range of problems in the economy, politics, the socio-cultural sphere and in the territorial management system as a whole. The importance of a territorial brand for the regional economy is determined by the ability to attract additional financial resources for the implementation of production, social, and infrastructure projects [9].

An attractive territorial brand activates the inbound tourist flow, which in turn activates the work of hospitality, catering, social and cultural services enterprises, ensures the growth of income and tax revenues to the budget [10]. The development of production and commercial sphere contributes to the retention and attraction of labor resources, which positively affects social stability, budget replenishment, and stability of enterprises [11].

The influence of a territorial brand on the political sphere consists in increasing the attractiveness of the territory for interregional and international cooperation, expanding ties, constructive relationships that allow solving urgent problems of territorial development. This is especially relevant in modern conditions, when there are fundamental changes in foreign policy, priorities and areas of cooperation are changing. Responding to the introduction of political and economic sanctions by Western countries, Russia has reoriented itself to the countries of the Asia-Pacific region, strengthening its image as a reliable partner open to interaction. At the same time, the issue of recognizing the tasks of forming and managing the territorial brand as the area of responsibility of territorial authorities remains relevant [12].

The use of territorial image in the socio-cultural sphere ensures the preservation of traditions, culture, national characteristics, and respect for the historical memory of indigenous peoples. The cultural component of the territorial image increases its significance among residents of the territory and tourists, promotes the development of national identity, respect for the culture and history of the country and a particular region [13]. In general, the relevance of the formation and promotion of a territorial brand is determined by the need to effectively use territorial resources to improve the quality of life of the population, attract investment, and comprehensively develop the territory.

The aim of the study of the territorial brand as a tool for territorial development on the example of the Arkhangelsk Oblast is to develop directions for improving the brand of the Arkhangelsk Oblast, based on the results of the analysis of the current state of the brand and the prospects for the development of the region. Within the framework of the study, the tasks related to the systematization of approaches to defining a territorial brand, developing an algorithm for the formation and patterns of promoting a territorial brand, analyzing existing brands of the Arkhangelsk Oblast, identifying problems of territorial branding and determining ways to overcome them were set and solved. The research hypothesis is that regional authorities do not approach the issues of forming and promoting the territorial brand systematically enough, missing the socio-psychological component and the involvement of the population in territorial development processes.

Materials and methods

The methods of analyzing scientific literature, monographs, articles, electronic resources covering issues of territorial branding were used in the study. The systematization method was applied to identify and describe the approaches to understanding the territorial brand and the possibilities of its use for the territory development.

In order to study the brand of the Arkhangelsk Oblast, the methods of description, comparison, generalization, the method of content analysis of reviews of residents of the Arkhangelsk Oblast about their region, as well as the SWOT analysis method, which allows comparing the characteristics of the territory with the possibilities of socio-economic development, were used.

Results

As a result of studying and systematizing the scientific literature on the topic of the research, three main approaches to the structure of the territorial brand were identified.

The first approach is based on the concept of Simon Anholt and consists of identifying six elements of the territorial brand, such as [**Ошибка! Источник ссылки не найден.**]:

- national and ethnic characteristics of the population of the territory or the reputation of ethnic groups, demographic indicators;
- cultural component, including language, beliefs, literature, art;
- economic system and investment attractiveness of the territory;
- political reputation of the region, its foreign and domestic policy;
- trademarks of the region, known beyond its borders;
- tourist infrastructure and potential for tourism development.

The model proposed by Anholt covers key areas and allows for a comprehensive presentation of the image of the region. This model is effective at the stage of initial description of the image of the territory and the development of the ideal, desired image, the image to which one should strive [15].

The practical application of the Anholt's model creates a number of directions of territorial marketing, such as [**Ошибка! Источник ссылки не найден.**]:

- socio-demographic marketing aimed at attracting and retaining the population, creating comfortable living conditions;
- event marketing based on the cultural component of the Anholt's model;
- infrastructure marketing that promotes the development of production and service infrastructure and increases investment attractiveness;
- product marketing that allows creating attractive trade brands and bringing them to the external market;
- marketing of attractions that activates the flow of tourists to the region.

The content of the Anholt's model will differ depending on the target audience which is to be attracted by the territorial brand. Most often, the scientific literature distinguishes the following types of brands by target audience [**Ошибка! Источник ссылки не найден.**]:

- tourist brand focused on individual and group tourists and based on historical, cultural, natural attractions, developed infrastructure, transport accessibility of a region or settlement;
- investment brand aimed at attracting financial institutions, private investors, and entrepreneurs to participate in the implementation of infrastructure and commercial projects that improve the quality of life of the region's residents and generate profits for investors;
- lifestyle brand or socially oriented brand based on the development of the living environment, social infrastructure, and increasing the attractiveness of the region or locality for living.

Another component of the Anholt's model characterizes product brands produced in the region. There is a relationship between the regional brand and the product brand. On the one hand, the geographical location of the region can become the basis for a product brand, and on the other hand, goods produced in the region will contribute to the growth of recognition and attractiveness of the region's brand [17]. For example, fish production and processing in the Arkhangelsk and Murmansk Oblasts contributes to the development of gastronomic tourism.

The second approach to understanding the structure of a territorial brand is based on the concept of the Russian scientist M.S. Kagan. The basis of a territorial brand is formed by a system of three components: material, spiritual and artistic culture. The formation and development of the image of the territory is influenced by natural-geographical, spatial-plastic, artistic and status factors. Spatial-plastic factors were understood by M.S. Kagan as architecture and features of the urban (public) space formation. Artistic factors combined the results of spiritual culture: literature, music, painting, as well as the spiritual way of life of citizens. Status factors characterized the perception of the territory, its status, attractiveness [18].

The concept of M.S. Kagan is actively used in modern studies to identify and analyze the practical role of the territorial brand. For example, D.S. Glotov defines the territorial brand as the result of the interaction of material, spiritual and artistic culture. The territorial brand implements certain functions, such as [19, p. 212]:

- identification function, forming the uniqueness of the territory, attractiveness for residents, tourists coming to the region for business, study or business development;
- emotional function, reflecting the attachment of residents to the region, common interests, and for tourists — the opportunity to feel the atmosphere of the region, its history, culture, identity;
- self-organization and self-government, or civic function, which establishes internal rules of interaction, legal culture of citizens, activities of local authorities, increases the loyalty of the local population, as it creates a sense of involvement of residents in the territory;
- advertising and information function — organizes information flows from the brand carrier (territory) to the potential target audience, transfers the values, mission, slogan of the territory;
- geo-cultural — serves to preserve and enhance cultural values, the history of the region, increases the attractiveness of the region for tourists, creates conditions for the development of creativity, regional, ethnic culture;
- urban function is aimed at improving the quality of life, developing infrastructure, designing and implementing urban development plans that take into account the needs of residents and the strategy of socio-economic development of the territory;
- economic function is associated with an increase in the value of the territorial brand through the implementation of commercial projects, tourism development, creation of new jobs, and increasing the investment attractiveness of the region.

The third approach to structuring a territorial brand is based on the work of the British researcher K. Denny. The territorial brand is considered as a set of four components, namely [**Ошибка! Источник ссылки не найден.**]:

- identity: perception and self-determination of the region's residents;
- goal-setting: what image of the territory do we strive for, what do we want to achieve, what standard of living would be attractive to us;
- communications: what information about our territory do we plan to disseminate, how;
- consistency: how to ensure effective interaction of all participants in events to develop the territory brand.

This approach is characterized by practicality and allows moving from the description of the current state of the territory to the achievement of the desired state [15].

After reviewing theoretical approaches to understanding territorial branding as part of the marketing policy, a structural diagram of the key characteristics of the territory brand was

compiled (Fig. 1).

The functions are aimed at forming a holistic, recognizable, emotionally attractive image of the territory, establishing and maintaining marketing communications with representatives of target groups, developing the territory and culture, economy and infrastructure.

Types of territorial brand are classified depending on the target audience and the scale of production of the regional product. According to the target audience, a distinction is made between tourist, investment and socially oriented brand. Tourist and investment brands are aimed at attracting an external target audience, while socially oriented brand is based on creating comfortable living conditions for the population in the territory, increasing the attractiveness of the region and the loyalty of the population to the place of residence. The classification of the territorial brand allows analyzing the brand components, identifying promising areas of development, and formulating the brand content attractive to the target audience.

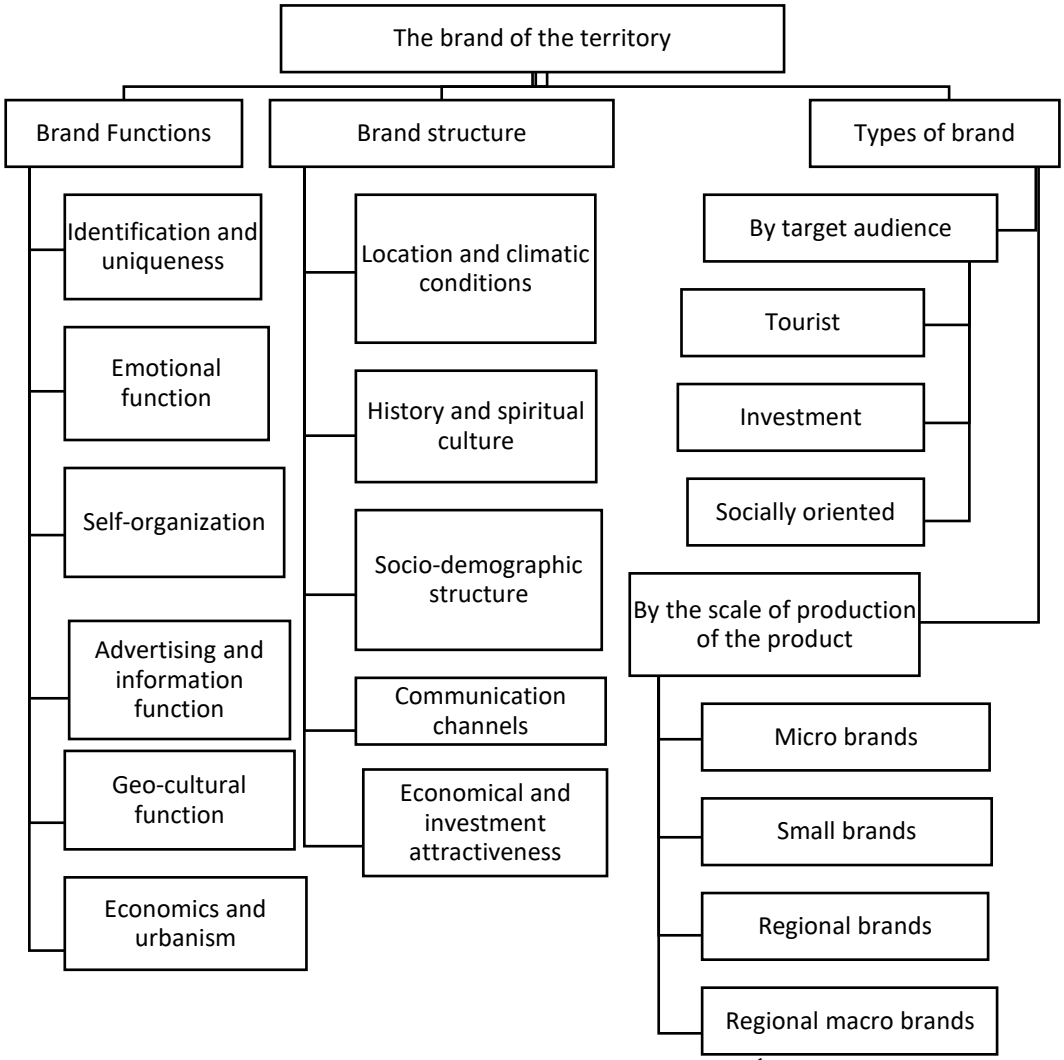

Fig. 1. Characteristics of a territorial brand [1].

The formation and promotion of a territorial brand involves a comprehensive analysis of the current state of the territory, the development and implementation of measures aimed at increasing the attractiveness of the territory among a potential target audience, which can be local

[1] Source: authors' version.

residents and tourists, as well as investors and entrepreneurs [1, p. 10]. The process of forming a territorial brand is presented in Fig. 2.

The first stage of the process of forming a territorial brand is the analysis of the territory. Here, tools for collecting, systematizing and analyzing data are used, such as working with archives, interviews with residents of the territory who have special knowledge, for example, local historians. It is important to systematize and analyze the cultural and historical attractions of the territory, to identify significant objects on the basis of which an attractive and recognizable brand will be created [**Ошибка! Источник ссылки не найден.**].

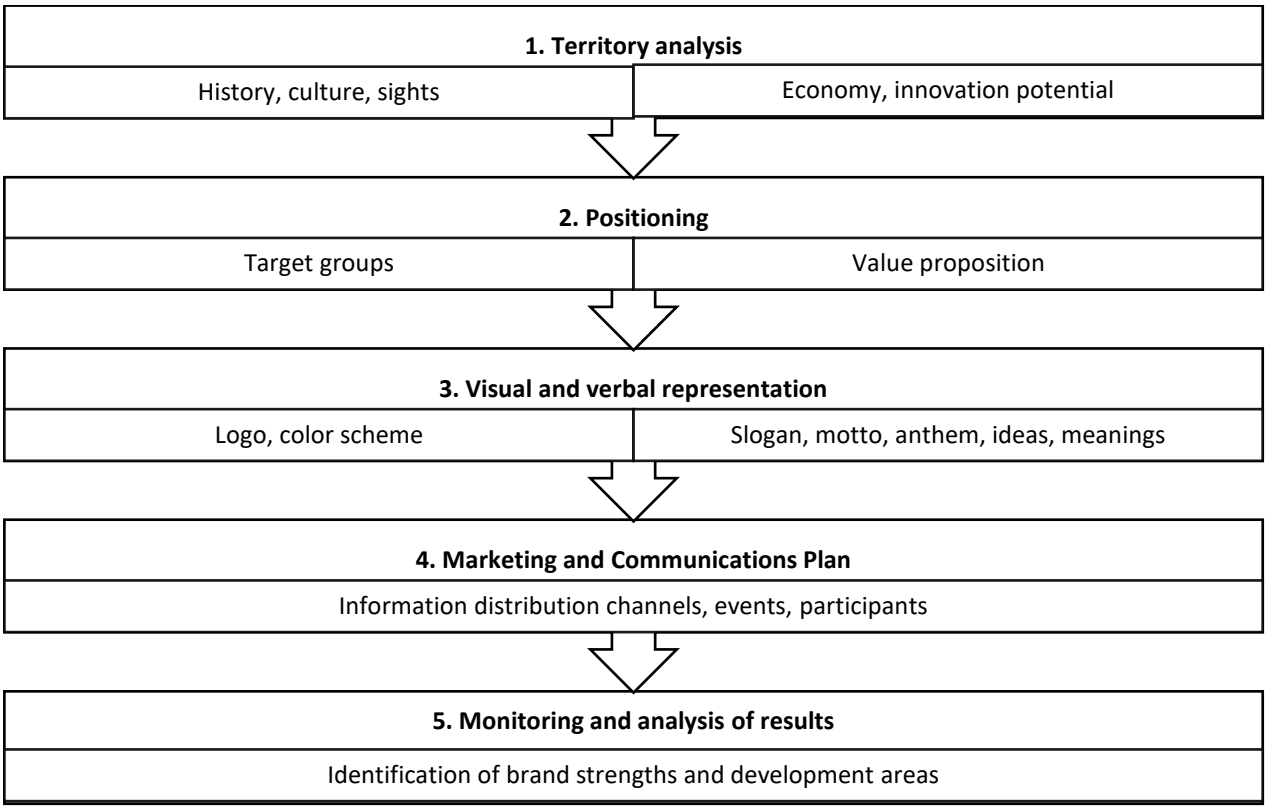

Fig. 2. The process of forming a territorial brand. Source: [21, c. 11].

Most often, such significant objects are:

- special geographic location (on the border between Europe and Asia, beyond the Arctic Circle, etc.);
- unique natural objects (mountains, sea, lakes, waterfalls);
- historical events that took place on the territory or are connected with it (liberation of the territory, military actions, cultural, sporting events);
- outstanding people: writers, artists, politicians;
- industrial and scientific infrastructure: large factories, unique production, research centers, universities;
- socio-cultural systems: theaters, museums, festivals, mass cultural events, holidays.

The second stage of brand formation characterizes the positioning of the territory. At this stage, it is necessary to specify the target groups that will be attracted by the territorial brand. Tourists will be attracted by sightseeing and unique natural objects, as well as transport provision

and development of tourist infrastructure. Investors need information about the economic potential of the region, the possibilities of implementing large infrastructure, production, commercial projects.

The description of the target group allows formulating a value proposition, which is an integral part of the territorial brand. The value proposition combines the characteristics of the territory that are attractive to representatives of the target audience and encourages a certain action, for example, to visit this region or invest in its economy. The main tools of this stage are the design and testing of working hypotheses that allow assessing the reactions of representatives of the target group to the formulations of value propositions.

At the positioning stage, such a marketing tool as 4P is effective. This tool allows specifying the characteristics of the territorial brand according to such parameters as product, place of sale, product price and promotion (product, price, promotion, place). The product is considered to be the brand carrier — city, town, region, country. The place of sale characterizes the methods and forms of communication with potential consumers of the brand: residents of the territory, tourists and investors. The price of the product includes the tangible and intangible value of the brand, its socio-economic and political value for the region and representatives of the target groups that the brand development work is aimed at attracting. Promotion is associated with specific activities to create an attractive image of the territory [16].

The third stage of territorial brand formation is aimed at creating a visual and verbal presentation of the brand. The visual presentation includes a logo, symbols, coat of arms, flag, a certain color scheme used to design messages, documents, and other forms of marketing communication. The verbal presentation is characterized by texts: slogan, ideas, anthem of the territory. The verbal presentation is based on the selected values, significant images of the living space and is aimed at creating a holistic and attractive image of the territory. At this stage, brainstorming tools, semantic analysis (analysis of texts, keywords, meanings), and graphic methods of conveying information are used [11].

The system of graphic forms, visual way of presenting information is defined as identity. Identity researcher E.B. Gladkikh noticed an interesting feature in the visual presentation of brands of cities in the Russian North, such as Arkhangelsk, Murmansk, Vologda. The further the city was from the coast of the northern seas; the warmer colors were used in the visual component. For example, the coat of arms of Vologda is dominated by red, and the coat of arms of the seaside Murmansk is designed in blue tones. Such color features are perceived at a subconscious level, forming an emotional perception and attitude towards the territorial brand [22].

The next stage of forming a territorial brand is the development of a marketing plan and marketing communications. Here it is necessary to determine the channels through which information about the brand will be distributed to representatives of the target audience. The marketing communications plan also includes events that will develop an attractive image of the territory, for example, festivals, exhibitions, business forums, sports competitions, etc. The main

tool of this stage is the marketing plan [**Ошибка! Источник ссылки не найден.**].

An obligatory stage of forming a territorial brand is regular monitoring, analysis of results and adjustment of actions. At this stage, the following control tools are used: reporting, target indicators, percentage of plan fulfillment, as well as tools for collecting and systematizing feedback in the form of reviews, number of participants, results of events held.

The process of forming a territorial brand is implemented according to certain patterns. Thus, branding is considered as part of marketing, therefore it is focused primarily on promoting the brand carrier. This can be a territory, a separate locality, a city, a product, an event. The result of the formed brand should be a stable relationship between the brand carrier and representatives of target segments. Therefore, in the process of creating and developing a brand, it is necessary to constantly study how the brand is perceived by residents of the territory, tourists, investors. This will allow identifying and adjusting problematic aspects in the perception of the brand [23].

Another pattern of forming a territorial brand is determined by the marketing complex. A brand as an element of marketing has objective and subjective characteristics that have different impacts on the attractiveness of the brand. A comprehensive marketing mix, including an accurate description of the territory, its resources, history and culture, values, and promotion channels, increases the efficiency of developing and implementing a territorial brand and contributes to the competitiveness of the territory as a tourist and investment site [9].

A territorial brand is not a stable entity; it is constantly changing and developing. The foundation of the brand, formed by the values, ideas, and meanings that brand developers strive to convey to representatives of the target audience, remains stable. The use of universal values, including historical memory, cultural diversity, production and labor potential, ensures the holistic development of the territorial brand [24].

The main tools of territorial branding, such as an analysis of the current state of the territory, visual image, and positioning, were used to analyze the brand of the Arkhangelsk Oblast.

Arkhangelsk Oblast is a constituent entity of the Russian Federation located in the Northwestern Federal District. Arkhangelsk Oblast includes the Nenets Autonomous Okrug, the islands of Novaya Zemlya and Franz Josef Land. On the mainland, the Arkhangelsk Oblast borders Karelia, the Vologda and Kirov Oblasts, the Yamalo-Nenets Autonomous Okrug, and the Komi Republic. The region has maritime borders with the Murmansk Oblast (via the White Sea) and Krasnoyarsk Krai (via the Kara Sea). In addition to the White and Kara Seas, the territory of the Arkhangelsk Oblast is washed by the Barents Sea. The proximity of the northern seas is reflected in the unofficial name of the region — Pomorye. The geographical location of the Arkhangelsk region allows including a significant part of its territory into the Arctic zone. The total area of the region is 589.9 thousand km^2, including 222.9 thousand km^2 of Arctic territories. The administrative center of the region is the city of Arkhangelsk. There are 67 municipalities on the territory of the region, including 7 urban okrugs, 15 municipal okrugs, 4 municipal districts, 6 urban settlements and 35 rural settlements.

The economy of the Arkhangelsk Oblast is diversified and involves manufacturing enterprises, including enterprises of timber processing complex and shipbuilding, service, transport, education, health care. A number of large-scale infrastructure projects related to the development of Arctic shipping and ship repair are being implemented in the region [25].

Based on the analysis of the indicators of socio-economic development of the region, a SWOT matrix has been compiled, which allows identifying the grounds for brand development [2].

The results of the SWOT analysis will help to determine the priority areas for the development of the territory's brand and ways to increase the attractiveness of the region among residents, tourists, and investors.

Table 1

SWOT analysis of the Arkhangelsk Oblast [3]

		External environment	
		Opportunities	Threats
		1. Development of interregional cooperation 2. Development of the Northern Arctic route 3. Development of domestic tourism	1. Reduction of export revenues due to sanctions 2. Lack of labor resources 3. Decrease in the standard of living, increase in the need for social support of the population
Internal environment	Strengths		
	1. Access to the sea, the northern Arctic route 2. Forest reserves 3.Natural resources (oil, gas, diamonds) 4. Culture and traditions of the Northern peoples 5. Construction of innovation centers	1. Implementation of joint projects with neighboring and metropolitan regions on the development of the Northern Arctic route 2. Development of internal processing of wood and natural resources in order to increase sales revenues 3. Using local traditions, history and culture to attract tourists 4. Development of new technologies and innovative solutions for industry and shipbuilding	1. Reorientation to the domestic market 2. Development of the processing industry 3. Development and implementation of new technologies, automation and mechanization to reduce the need for labor resources 4. Preservation of national culture and culture of the small peoples of the North 5. Creating conditions for the development of entrepreneurship, including innovative one
	Weaknesses		
	1. Population decline 2. Presence of dilapidated housing 3. Dependence on exports to European countries 4. Poor condition of roads	1. Increasing the attractiveness of the region for residents of neighboring regions by providing benefits for the purchase and rental of housing 2. Strengthening control measures for the implementation of targeted programs in the field of housing and communal	1. Reorientation to the domestic market 2. Development of the processing industry 3. Creating conditions for the development of entrepreneurship and the implementation of social initiatives in the region

[2] Socio-economic indicators of the Arkhangelsk Oblast for 2023. URL: https://29.rosstat.gov.ru/storage/mediabank/2023_AO.pdf (accessed 18 April 2024).

[3] Source: compiled by the authors on the basis of: Socio-economic indicators of the Arkhangelsk Oblast for 2023. URL: https://29.rosstat.gov.ru/storage/mediabank/2023_AO.pdf (accessed 18 April 2024).

		services and road construction 3. Development and implementation of modern housing construction technologies	

The main development opportunities for the Arkhangelsk Oblast are associated with the expansion of interregional cooperation. This will make it possible to implement large-scale infrastructure, innovation, educational and cultural projects, to increase the attractiveness of the Arkhangelsk Oblast among the residents of neighboring regions. Taking into account the threat caused by the lack of labor resources and population decline in the Arkhangelsk Oblast, it is necessary to create such living and working conditions in order to attract qualified personnel from other regions. The strengths of the Arkhangelsk Oblast are: access to the northern Arctic route, natural resources, including forests, an interesting history and culture, as well as a vector for innovative development. The use of these strengths in combination with the opportunities of the external environment opens up such development areas for the region as the implementation of joint projects for the development of the Northern Sea Route, the development of new technologies for the construction of roads and housing, shipbuilding and ship repair. It is also important to ensure the preservation of national culture and history, including the culture of small peoples of the North, which contributes to the growth of the attractiveness of the region for tourists [26].

The most problematic areas of the Arkhangelsk Oblast are the demographic situation, the need to resettle dilapidated and hazardous housing, dependence on the export of resources, in particular timber and sawn timber, to European countries, as well as the unsatisfactory condition of roads. The above-mentioned problems not only reduce the standard of living in the region, but also negatively affect its attractiveness for investors and tourists. The solution to these problems is related to the reorientation to the domestic market, development of the processing industry, creation of conditions for the development of entrepreneurship and implementation of social initiatives in the region.

As a result of the analysis of the socio-economic situation of the Arkhangelsk Oblast, the strengths and weaknesses of the region, affecting its brand and perception among residents, tourists and investors, were identified. The Arkhangelsk Oblast has extensive potential in terms of natural resources and minerals, developed material and production base in the field of shipbuilding and ship repair, as well as access to the Northern Sea Route, which makes the region attractive to investors.

The features of the region, its strengths were used in the development of the brand. The formation of the new brand began in 2015 at the discussion platform of the International Tourism Forum in Arkhangelsk. Then 5 strategic sessions were held with representatives of municipalities of the Arkhangelsk Oblast, namely: Onezhskiy and Konoshskiy districts, the city of Kargopol, representatives of the tourism industry and higher professional education. More than 15

interviews with representatives of the administration and entrepreneurs of the Arkhangelsk Oblast were conducted for a more detailed study of the current situation in the region.

The final version of the visual component of the Arkhangelsk Oblast brand was developed by the Moscow company “Point. Tochka razvitiya”. The image of a wooden bird of happiness, a traditional for the Arkhangelsk Oblast craft made of wood chips, was taken as the basis for the visual component of the brand. The developers of the brand combined the image of the bird of happiness with symbols associated with the Arkhangelsk Oblast, such as a snowflake, a star, a church vault, a rocket and the sky. The full-color brand of the Arkhangelsk Oblast is presented on the website https://asmysl.com [4].

Fig. 3. Tourist brand of the Arkhangelsk Oblast [5].

Additionally, pictograms reflecting the main tourist attractions of the region’s districts have been developed. For example, the Plesetsk Cosmodrome is depicted as a schematic rocket, the city of Severodvinsk, where shipbuilding and ship repair enterprises are located, is presented in the form of a submarine. A popular tourist destination, the Malye Korely Museum of Wooden Architecture, is depicted as a windmill.

Natural-geographical and cultural-historical motifs can be traced in the corporate font developed as part of the Arkhangelsk Oblast brand concept. Visually, it seems that the letters of the corporate font are carved out of wood. Emotionally, this font reflects severity, northern character and man-made nature [6].

In addition to the main brand of the Arkhangelsk Oblast, there are also brands of individual territories that are part of it. For example, in 2017–2018, the Severnoe Trekhrechye brand was developed, uniting six municipalities in the south of the Arkhangelsk Oblast. The territory of Severnoe Trekhrechye includes Kotlas and the Kotlasskiy district, Koryazhma, Lenskiy, Vilegodskiy,

[4] Arkhangelsk Oblast brand and projects to promote it on the territory. URL: https://asmysl.com/#arkhangelsk (accessed 13 November 2023).
[5] Source: Arkhangelsk Oblast. Tourism brand identity. URL: https://www.ivanvetrov.ru/arkhangelsk (accessed 04 April 2024).
[6] Ibid. URL: https://www.ivanvetrov.ru/arkhangelsk (accessed 04 April 2024).

Krasnoborskiy districts. The idea to unite these municipalities into the brand “Severnoe Trekhrechye” is based on the territorial location between three rivers of the Arkhangelsk Oblast: Viled, Vychegda and Malaya Severnaya Dvina. The concept of “Severnoe Trekhrechye” was invented by the residents of this territory, so it organically integrated into the concept of the brand. The visual representation of the brand — three rivers in the form of a tree (a symbol of the region as a whole) with cranberries — is a reference to the northern territory. Figure 4 shows the brand of Severnoe Trekhrechye.

Fig. 4. Brand of individual municipalities of the Arkhangelsk Oblast, united by the name “Severnoe Trekhrechye” [7].

While maintaining the key idea —location between three rivers — the brand “Severnoe Trekhrechye” has been used for branding individual territories. For example, the brand of the city of Krasnoborsk is an image of the bird of paradise Sirin, made in the style typical of northern peoples (Fig. 5).

Fig. 5. Brand of the municipality of Krasnoborsk in the Arkhangelsk Oblast [8].

Employees of the local museum and residents of the municipality were involved in the development of the Krasnoborsk brand, which helped to reduce resistance to the introduction of a new image of the territory.

In 2020–2021, an attempt was made to develop the brand of Solvychegodsk, also part of

[7] Source: Severnoe Trekhrechye Brand. URL: https://asmysl.com/arkh-trioriver (accessed 04 April 2024).
[8] Source: Krasnoborsk Brand. URL: https://asmysl.com/arkh-trioriver-krasnoborsk (accessed 04 April 2024).

the “Severnoe Trekhrechye”. The city is known for its architecture, including religious worship, as well as for the extraction of natural mineral water and balneotherapy (treatment with mineral water and mud) [9].

Another striking example of branding a municipality in the Arkhangelsk Oblast is the development of the Pinega brand — the territory united by the Pinega River, namely: the village of Pinega and the village of Karpogory (Fig. 6). Despite the fact that the settlements are located in the same municipality, there is no direct connection between them, and the road across the Pinega River is accessible only in winter.

Fig. 6. The brand of the Pinega territory, uniting Pinega and Karpogory [10].

The developers of the Pinega brand faced cultural, social and economic contradictions of the two settlements included in the territory of Pinega. The village of Karpogory is an example of traditionally provincial rural life focused on spirituality. Pinega used to be a district town. Old brick buildings have been preserved here, forming the historical “Volodinskiy quarter”. The road to the White Sea and the Mezen River passes through Pinega, so trade has always developed here. Despite significant differences, the settlements of Pinega have much in common. For example, a special Pinega dialect, the Pinega River, traditional knitted crafts. The dissemination of folk crafts is used in the slogan of the Pinega brand: “Everything will be tied” — this is not only about knitted things, but also about the opportunity to connect with each other, be closer, create a common present and future.

The given examples confirm the interest of the local community in the formation and promotion of the territory brand, which will activate the tourist flow and increase the loyalty of the region’s residents, reduce the outflow of population. At the same time, the presence of the developed visual brand does not guarantee the effectiveness of its use in the form of socio-economic changes. Therefore, the brands of the Arkhangelsk Oblast need further promotion and development.

[9] Solvycherodsk Brand. URL: https://asmysl.com/arkh-solvychegodsk-brand (accessed 04 April 2024).
[10] Source: Pinezhye Brand. URL: https://asmysl.com/arkh-pinega (accessed 04 April 2024).

Discussion

During the discussion of the research results, it was revealed that in the process of formation and development of territorial brand there are problems of socio-psychological, administrative, financial nature that reduce the effectiveness of brand development activities (Fig. 7).

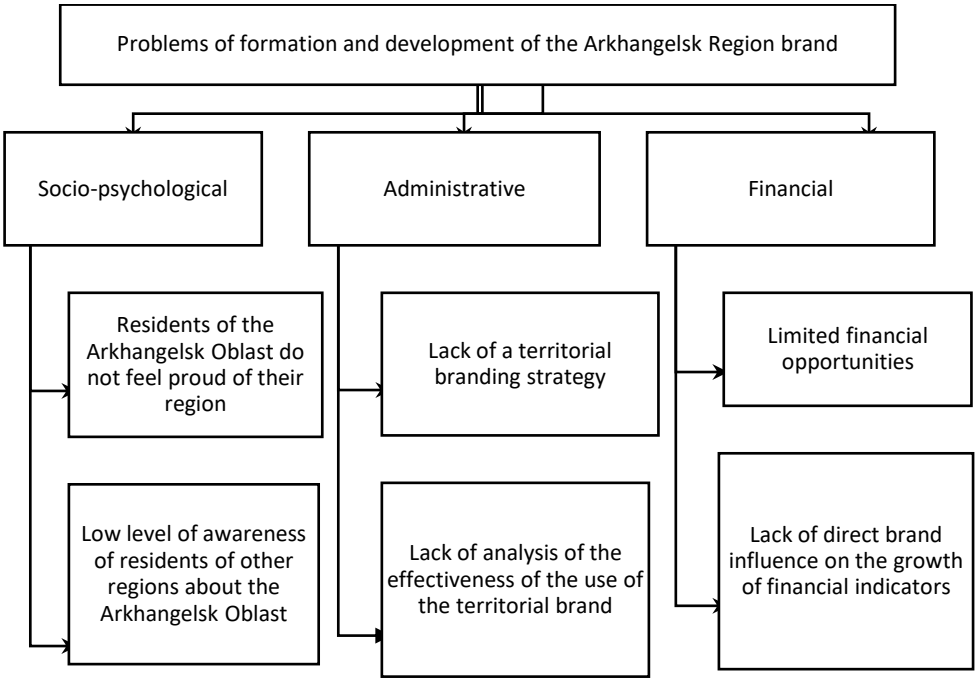

Fig. 7. Problems of branding the territory of the Arkhangelsk Oblast [11].

Socio-psychological problems of territorial branding are associated with the peculiarities of perception of the territorial brand by individual social groups (population, tourists, investors). The specialists of the marketing agency "Asmysl", who took part in the development of the tourist brand of the Arkhangelsk Oblast, identified a number of socio-psychological problems of the internal and external perception of the region, which hinder the creation of a holistic and attractive image. The main problem of the internal perception of the brand was that the residents of the Arkhangelsk Oblast do not feel proud of their region, they are aware of the problems and difficulties that prevent them from seeing the positive and attractive characteristics of the region [12]. At the same time, the visual representation of the Arkhangelsk Oblast brand, developed by representatives of the Moscow organization, caused an extremely negative reaction. Residents cited primitivism, superficiality, and discrepancy between the cost of developing the brand and its value and significance for the region as arguments for negative brand assessments [13].

[11] Source: developed by the authors.
[12] Arkhangelsk Oblast. Corporate identity of the Arkhangelsk Oblast. URL: https://asmysl.com/arkh-brand (accessed 04 April 2024).
[13] Sokolov V. The new symbol of the Arkhangelsk Oblast was perceived quite ambiguously by the public. URL: https://arh.mk.ru/articles/2016/02/24/novyy-simvol-arkhangelskoy-oblasti-vosprinyalsya-obshhestvennostyu-krayne-neodnoznachno.html (accessed 04 April 2024).

In support of the position on the low level of involvement and loyalty of the Arkhangelsk Oblast population both to the territory of residence and to the territorial brand, a content analysis of the residents' reviews was conducted. The content analysis used reviews presented on the "Where to Move" website [14]. The content analysis method for studying public opinion seems to be more reliable than a survey and questionnaire, since it is difficult to exclude the emergence of socially desirable or neutral responses when conducting a survey. Content analysis examines materials already written by users, and when users shared their opinions, they did not know that their opinion would be analyzed.

For the convenience of the analysis, emotional evaluation was taken into account: "positive", "negative" and "neutral" as well as the number of opinions on socially significant aspects of life in the region. A total of 93 reviews were analyzed.

Most of the socially significant aspects of life in the region are assessed negatively and neutrally by residents of the Arkhangelsk Oblast. Thus, 74.8% of reviewers (69 people) negatively assessed the standard of living in the region, 61.3% of reviewers (57 people) are dissatisfied with the state of roads, 58.4% (55 people) noted the unfavorable climate, insufficient level of wages and lack of recommendations for moving. At the same time, 47.2% of reviewers (43 people) positively assessed the availability of recreation areas: parks, squares, sports and cultural institutions. 51.6% of reviewers (48 people) noted interesting history and culture of the region, work of public transport. 44 people (47.2%) neutrally assessed the territorial position of the region, its environmental situation. 58 people (62.3%) did not note interest in history and culture of the region. The presented results of the analysis of the feedback from residents of the Arkhangelsk Oblast confirm the lack of pride in their region, which affects the outflow of population, and indirectly — the perception of the region by residents of other regions, including tourists.

The problems of the external perception of the Arkhangelsk Oblast brand by residents of other regions of Russia include [15]:

- lack of a single, recognizable idea, image of the territory;
- lack of information and low level of knowledge of the region, lack of understanding of the scale of the Arkhangelsk Oblast as the largest region of the European part of Russia;
- diversity of municipalities included in the Arkhangelsk Oblast and having their own culture, history, attractions;
- consonant confusion of the names of the Arkhangelsk and Astrakhan Oblasts, lack of a clear understanding of where the region is located, what it is famous for.

[14] Is it worth moving to Arkhangelsk (Arkhangelsk Oblast). URL: https://kuda-pereehat.com/f-o/severo-zapadnyij-federalnyij-okrug/arxangelskaya-oblast/arxangelsk/ (accessed 04 April 2024).
[15] Arkhangelsk Oblast. Corporate identity of the Arkhangelsk Oblast. URL: https://asmysl.com/arkh-brand (accessed 04 April 2024).

The low level of awareness of residents of other regions about the advantages of the Arkhangelsk Oblast negatively affects the tourist flow, which in turn hinders the growth of income and budget revenues from tourism development.

The next block of problems in developing the territorial brand is of an administrative nature and consists of the absence of a single concept or strategy for developing the brand adopted at the level of regional authorities. Despite the resistance and misunderstanding on the part of the public, the Arkhangelsk Oblast brand, developed by the company "Point. Tochka razvitiya", is used to design information and presentation materials, booklets, advertising brochures, tourism industry materials, as well as to design exhibitions in which enterprises and authorities of the Arkhangelsk Oblast participate.

The second problem of administrative nature is related to the lack of analysis of the territorial brand effectiveness. Seven years have passed since the updated brand was used (since 2016), but there is no understanding of how it affected the development of tourism, attracting investment, and increasing the loyalty of the population to the territory. Some facts indicate that the brand has not had a significant impact on the socio-economic development of the territory, since the outflow of population continues, and the growth in tourism income is most likely due to restrictions on foreign tourism and the need to travel around the country [25, p. 13].

The third block of problems in the formation and development of the Arkhangelsk Oblast brand relates to the efficiency of using financial resources to develop and promote the brand. Thus, one of the main reasons for the dissatisfaction of citizens with the new visual component of the Arkhangelsk Oblast brand was the amount of money spent on its production. Residents of the region believe that 250 thousand rubles allocated from the regional budget to pay for services for the development of the territorial brand in 2016 could have been used more effectively [16]. Examples of municipalities' brand development, when more interesting brands reflecting regional specifics were created for a smaller amount of money, are cited as evidence [17].

There is also no confirmation of the direct impact of the brand on the financial indicators of the socio-economic development of the region. This is due to the limited use of the visual image of the territorial brand in the commercial sphere. Thus, in 2021, the logo of the project "Made in Arkhangelsk Oblast" was launched, aimed at supporting locally produced products [18]. The logo was developed taking into account the visual component of the Arkhangelsk Oblast brand — the image of the "bird of happiness". The use of a single symbol in the regional brand and to designate products manufactured in the region will strengthen the idea of Arkhangelsk, its products, and services in the minds of the region's residents. At the same time, there is no clear action plan for the im-

[16] Sokolov V. The new symbol of the Arkhangelsk Oblast was perceived quite ambiguously by the public. URL: https://arh.mk.ru/articles/2016/02/24/novyy-simvol-arkhangelskoy-oblasti-vosprinyalsya-obshhestvennostyu-krayne-neodnoznachno.html (accessed 04 April 2024).

[17] Arkhangelsk Oblast brand and projects to promote it on the territory. URL: https://asmysl.com/#arkhangelsk (accessed 04 April 2024).

[18] The Pomor bird of happiness was chosen as the symbol of the Arkhangelsk Oblasts's trademark. URL: https://tass.ru/obschestvo/13039701 (accessed 04 April 2024).

plementation and use of the “Made in Arkhangelsk Oblast” logo, as well as the Arkhangelsk Oblast brand at the regional level.

In order to overcome the above-mentioned problems, it is necessary to carry out comprehensive work to increase the attractiveness of the territorial brand of the Arkhangelsk Oblast, primarily among the region’s residents, since it is the population that forms and ensures the development of the territory. Therefore, it is proposed to develop and implement a target regional program aimed at increasing the recognition and loyalty of the population to the Arkhangelsk Oblast brand. The main event of the target program is the use of the visual image of the territorial brand in the design of buildings and presentation materials of government bodies, educational, cultural and healthcare institutions. It is equally important to broadcast the main idea of the territorial brand aimed at creating maximum positive impressions among the participants of tourist activity.

Conclusions

As a result of the study, the author’s definition was developed, according to which the territorial brand is a holistic, unique image of the territory, based on history, culture, natural and climatic conditions, peculiarities of the socio-economic and political system. For the effective formation and development of the territorial brand, a comprehensive marketing policy is necessary, including the analysis of the current image of the territory, the definition and implementation of the territorial brand development strategy.

The review of existing brands of the Arkhangelsk Oblast showed that territorial-geographical and cultural-historical grounds associated with the Russian North, rivers, and natural resources are used in brand development. The main brand is stylized as a “bird of happiness” and is based on the association of the most striking images of the Arkhangelsk Oblast, such as a rocket (Plesetsk Cosmodrome), a wooden sculpture (Malye Korely Museum), and a snowflake. The practical use of the developed brands is complicated by the lack of a unified strategy for promoting territorial brands.

The analysis of the Arkhangelsk Oblast brand formation process revealed the problems of socio-psychological, administrative, and financial nature. The socio-psychological problems include the low degree of involvement and loyalty of the Arkhangelsk Oblast population to the region of residence, as well as the low level of awareness of residents of other regions about the Arkhangelsk Oblast. Administrative problems are associated with the lack of a unified strategy for promoting the brand and a systematic analysis of the effectiveness of its use for the socio-economic development of the region. Financial problems are caused by local budget restrictions and lack of funds for the implementation of activities to promote both the brand of the region as a whole and of individual municipalities. The solution to these problems lies in the development and implementation of a regional target program aimed at increasing the recognition and loyalty of the population to the territorial brand, which in turn can positively influence the sustainable development of the region and improve the quality of life of its population.

References

1. Aleshnikova V.I., Steblyakova L.P., Petrenko E.S. Russian Practice of Supporting and Promotion of Regional Brands. *Economics and Management: Problems, Solutions*, 2023, vol. 5, no. 10 (139), pp. 128–136. DOI: https://doi.org/10.36871/ek.up.p.r.2023.10.05.013
2. Kotler P., Gertner D. Country as Brand, Product, and Beyond: A Place Marketing and Brand Management Perspective. *Journal of Brand Management*, 2022, vol. 9, no. 4–5, pp. 249–261. DOI: https://doi.org/10.1057/palgrave.bm.2540076
3. Kotler P., Asplund C., Rein I., Heider D. *Marketing Places Europe: Attracting Investments, Industries, Residents and Visitors to European Cities, Communities, Regions and Nations*. London, Pearson Education Ltd, 1999, 317 p.
4. Kavaratzis M. Place Branding: A Review of Trends and Conceptual Models. *The Marketing Review,* 2005, vol. 5, no. 4, pp. 329–342. DOI: https://doi.org/10.1362/146934705775186854
5. Kaefer F. Malcolm Allan on City Branding and Placemaking in Great Britain. In: *An Insider's Guide to Place Branding. Management for Professionals*. Springer, Cham, 2021, pp. 217–219. DOI: https://doi.org/10.1007/978-3-030-67144-0_40
6. Lonardo E. Reading the Current Cities to Anticipate Their Changes. In: *Conscious Dwelling. Springer Series in Design and Innovation*. Springer, Cham, 2022, vol. 20, pp. 59–74. DOI: https://doi.org/10.1007/978-3-030-97974-4_4
7. Gulisova B., Horbel C., Noe E. Rural Place Branding from a Multi-Level Perspective: A Danish Example. *Place Branding and Public Diplomacy*, 2021, vol. 17, pp. 231–248. DOI: https://doi.org/10.1057/s41254-021-00204-8
8. Minina M.V., Fedotovskih A.V. The Small Cities Branding for the Formation of Agglomerations in Russian North and Siberia. *Vestnik Gosudarstvennoy Polyarnoy Akademii*, 2014, no. 2 (19), pp. 27–37.
9. Kireeva U.A., Kireev O.F. The Brand of Territories in Increasing the Competitiveness of the Regions of the Russian Federation. *Communicology: Online Scientific Journal*, 2023, vol. 8, no. 2, pp. 79–86.
10. Almeida G.G.F., Almeida P. Images of Territory in the Power Relations from Territorial Brand: An Intercultural Discussion. *GeoJournal*, 2024, vol. 89, art. 20. DOI: https://doi.org/10.1007/s10708-024-11024-7
11. Gondim Mariutti F., Strehlau V.I., Loomis J.J., Herrero E. When Place Brand and Place Logo Matches: VRIO Applied to Place Branding. *Place Branding Public Diplomacy*, 2024, vol. 20, pp. 335–349. DOI: https://doi.org/10.1057/s41254-024-00332-x
12. Potapovs M. Place Branding: Is It Public Policy, or Isn't It? *Place Branding Public Diplomacy*, 2024, vol. 20, pp. 275–292. DOI: https://doi.org/10.1057/s41254-024-00327-8
13. Popova V.N. Territory Brand: "The Myth" between the Past and the Future. *Managing of Culture*, 2023, no. 4 (8), pp. 12–17.
14. Anholt S. *Brand New Justice: The Upside of Global Branding*. Boston, Butterworth-Heinemann, 2003, 180 p.
15. Belyaeva M.A. Structure of a Territorial Brand. *Managing of Culture*, 2023, no. 4 (8), pp. 3–11.
16. Genenko O.N., Miroshnichenko O.N., Ryadnova S.A. Tools for Effective Branding of Territories: Theoretical Aspect, *Business. Education. Right*, 2023, no. 1 (62), pp. 109–114. DOI: https://doi.org/10.25683/VOLBI.2023.62.543
17. Conejo F. Simon Anholt, The Good Country Equation: How We Can Repair the World in One Generation. *Place Branding Public Diplomacy*, 2021, vol. 17, pp. 420–421. DOI: https://doi.org/10.1057/s41254-020-00184-1
18. Kagan M.S. *Grad Petrov in the History of Russian Culture: Textbook for Universities*. Moscow, Urait Publ., 2020, 515 p. (In Russ.)
19. Glotov D.S. Analysis of Territories Brand Functions. *Herald of the Belgorod University of Cooperation, Economics and Law,* 2023, no. 4 (101), pp. 212–219. DOI: https://doi.org/10.21295/2223-5639-2023-4-212-219
20. Dinni K. *Territory Branding: Best Global Practices*. Moscow, MIF Publ., 2013, 376 p. (In Russ.)

21. Belousova M.V., Kulik A.A. Creating a Brand of Territories as a Tool for Their Promotion. *Economy and Business: Theory and Practice*, 2023, no. 8 (102), pp. 10–13. DOI: https://doi.org/10.24412/2411-0450-2038-8-10-13
22. Gladkikh E.B. Visual Identity of the Cities of the Russian North. *Bulletin of Saint Petersburg State University of Culture,* 2023, no. 1 (54), pp. 17–23. DOI: https://doi.org/10.30725/2619-0303-2023-1-17-23
23. Starikova M.S., Ponomarev I.N. Correlation between Branding, Promotion and Marketing of Territories as Economic Categories. *Russian Economic Bulletin*, 2023, vol. 6, no. 4, pp. 387–392.
24. Kazantseva S.M., Shumilova Yu.A., Sharapova T.V. Value-Based Management of the Territory Brand. *Journal of Economics, Entrepreneurship and Law*, 2023, vol. 13, no. 2, pp. 317–330. DOI: https://doi.org/10.18334/epp.13.2.117192
25. Current State and Prospects of Socio-Economic Development of the Arkhangelsk Region (Based on the Results of the Days of the Arkhangelsk Region in the Federation Council). *Analytical Bulletin of the Federation Council*, 2023, no. 2 (822), 49 p.

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Reflections on Reading: India's Arctic Policy Perspectives

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Abstract. The review examines the prospects of cooperation between India and Russia in the Arctic based on the analysis of the monograph by Indian scientists. The cooperation between the two countries, on the one hand, is based on long-standing friendly traditions dating back to Soviet times. On the other hand, modern India has a higher status in international relations and pursues a pragmatic foreign policy course. The US has objectively become a more important partner for India in international politics than Russia, given their common desire to contain China. This means that India's Arctic policy will take into account the US position, balancing secondary sanctions with the benefits of cooperation with Russia. At the same time, India views the rapprochement between China and Russia in the Arctic painfully seeking to realize its own interests in the region.

Keywords: *Arctic, India's strategy, international cooperation, Russian-Indian relations*

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The development of international cooperation in the Arctic is a priority for Russia after the imposition of numerous sanctions and the boycott of Russia in the Arctic Council, organized by the West. The inclusion of Finland and Sweden in NATO has outlined a course for further confrontation between Russia and the coastal Arctic states [1, Konyshev V.N., Sergunin A.A.]. How and when the return to cooperation with Russia on regional and global issues will restart remains in question. In this regard, the turn of Russia's Arctic policy towards non-Arctic states, on the one hand, allows solving the problems of developing the Arctic Zone of the Russian Federation (AZRF), on the other hand, meets the vital interests of non-Arctic states in access to the rich resources of the Arctic and polar transport routes. If this turn takes place, the boycott of Russia will become a problem for the West itself, since the AZRF occupies about half of the Arctic spaces.

India, due to its historically good relations with Russia, has preferential opportunities for active participation in various cooperation programs in the Arctic Zone of the Russian Federation. However, in practice, this cooperation does not correspond to the existing political, scientific, technological and economic potential. Why is this happening?

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The search for answers should begin with identifying India's interests and capabilities in the Arctic. The book by Indian experts Jawahar Bhagwat and Anurag Bisen is devoted to the evolution of the Arctic policy of modern India. A distinctive feature of this study is the unique experience of the authors, based on practical, government and scientific activities. Both of them are veteran submariners, participants in military-technical cooperation projects between India and Russia, who commanded Russian-made submarines for many years. After retiring, J. Bhagwat received a PhD from the University of Mumbai (India) and the St. Petersburg State University (Russia). He has publications in leading Russian and foreign professional journals [2, Bhagwat D.V.; 3, Bhagwat D.; 4, Shaparov A., Sokolova F., Magomedov A.K. and others]. A. Bisen worked in the Secretariat of the National Security Council of the Government of India. He participated in the development of the Arctic Policy of India (published in March 2022). Now A. Bisen is a senior fellow at the Vivekananda International Foundation, one of the leading think tanks in India influencing the foreign policy decisions of the state [5, Bisen A.].

The book by J. Bhagwat and A. Bisen [6, Bhagwat J., Bisen A.] offers a comprehensive vision of the prospects for India's Arctic policy. According to the Arctic Strategy of the state, the priorities are scientific research, climate and environmental protection, socio-economic cooperation, transport and communications, international cooperation and governance, building India's capacity in the Arctic [6, p. 250]. The central question of the study is: what does the Arctic mean for India in geopolitical and geo-economic dimensions? The authors believe that the official strategy should be expanded to ensure India's energy security. Its demand exceeds actual gas supplies by more than 4 times and oil supplies by 1.6 times [6, p. 260]. Despite the diversification of supplies, India benefits from discounts in the case of long-term contracts for energy supplies from the Russian Arctic. India needs to gain a foothold in the Arctic, where there are significant oil and gas reserves, through investment, [6, pp. 261–262]. The prospect of Russia's excessive dependence on China in the Arctic does not meet India's geostrategic interests. Finally, India's presence on the Northern Sea Route is essential because it is becoming an important alternative to the Suez Canal in the context of political instability in the region [6, p. 280].

The authors show that India's general approach to Arctic policy is similar to Russia's vision, which creates the potential for productive cooperation. India supports the Arctic Council's return to resuming interaction with Russia. Like Russia, India is interested in creating a more transparent, inclusive, fair, equitable and multilateral Arctic policy. The authors emphasize that the Arctic should not become hostage to great power rivalry.

The authors analyze the evolution of India's strategic interests in the Arctic, the main areas of Arctic activity, relations with Arctic and non-Arctic states and international organizations. The authors touch upon many Arctic issues, such as the legal status of the Northern Sea Route, global issues and their importance for India, environmental issues and the conservation of biodiversity in the Arctic region. So far, these topics have been considered fragmentarily by Indian authors, and the prospect was seen mainly in the continuation of scientific activity.

This narrow vision can be partly explained by the stereotype associated with Antarctica, where only scientific activities are allowed. India has been conducting research on this continent for a long time, and for many researchers and politicians, Arctic activities are perceived as an extension or analogue of Antarctic ones. Funding for research in Antarctica is twice as much as investment in the Arctic [6, p. 273].

The narrow perspective of Arctic policy is also related to the insufficient study of the Arctic by Indian scientists. They have only one small Himadri station on Spitsbergen, which does not provide year-round research, as well as the experience of several expeditions and projects with Norway and Canada [6, p. 131, 271–272]. As a result, the authors argue that although India has made progress in Arctic research, it lags behind other Asian countries in terms of infrastructure, research potential, and the level of international cooperation in the Arctic.

The authors identify interesting features of India's Arctic policy that are of interest to Russian readers.

Firstly, the Arctic is perceived in India as a source of global prosperity. This position differs from the popular concept of the "global commons", which is considered by the authors to be a failure [6, p. 259]. While the latter is used to challenge the rights of coastal Arctic states, India recognizes the special rights of coastal states, including Russia. Most Indian experts view Arctic policy through the prism of the idea of "One Earth, One Family, One Future", which means the interconnection between the Arctic and the rest of the world. Incidentally, this explains why India pays so much attention to environmental issues when it comes to any activity in the Arctic. In India, the global vision of the Arctic is actually mediated by the experience of Antarctic cooperation, where science is the only permitted activity. Therefore, according to J. Bhagwat and A. Bisen, India can play a constructive role in supporting stable multilateral governance and sustainable development in the Arctic.

Secondly, the authors of the book believe that so far, India's overall activities in the Arctic have been very modest and corresponded neither to its capabilities nor to its national interests [6, p. 272]. The Arctic region has been underestimated by both experts and political elites of India. In particular, this concerns the insufficient attention paid to China's economic activism in the Arctic and the clearly growing interest of Japan, South Korea, and Singapore. India still adheres to a traditional foreign policy course, in which political aspects of relations prevail. Of all the departments, the Ministry of Foreign Affairs still dominates in Arctic policy. However, there is a gradual realization that the state's Arctic policy should combine different areas: trade, commerce, technology, research, environment, health, and culture. According to the authors, this logic dictates the need to reorganize the management of India's Arctic policy at the state level, which is currently scattered across various departments.

Thirdly, the authors are optimistic about Russia's resilience to the political, financial, and technological challenges associated with Western sanctions due to the Special Military Operation in Ukraine. The authors also note Russia's strong positions in the Arctic and the declarative nature

of the US military strategies adopted in recent years, which have not been fully implemented. In fact, the US is lagging behind Russia in ensuring a military presence in the region. At the same time, the United States is seeking to compensate for this by increasing the number of NATO exercises in the Arctic, patrolling nuclear submarines in the Barents Sea, using satellite capabilities and unmanned technologies [6, p. 127]. The United States has significantly improved its military-strategic positions by gaining access to military bases in Norway, Denmark, Sweden and Finland following the signing of bilateral security agreements in 2021–2023.

Fourthly, Indian experts recognize that Russia's national security interests in the Arctic require the presence of advanced naval, air and army forces. They also agree that Russia's military strategy is defensive rather than offensive in the context of the increasing militarization of the Arctic [6, pp. 113–114]. The authors note that the number of Russian armed forces in the Arctic and the Northern Fleet is significantly smaller than during the Cold War. The authors point out that while Russia conducts military exercises in its exclusive economic zone, NATO conducts exercises close to Russia's borders, sometimes without notifying Russian authorities, thereby provoking Russia.

Fifthly, the authors explain that India is dissatisfied with the overly closed ties between Russia and China, as this contradicts the principle of a multipolar Arctic policy. But a deeper concern is that China and India, despite some normalization of relations, are in a state of hostility. At the same time, J. Bhagwat and A. Bisen believe that India and China can cooperate in the Arctic through multilateral mechanisms, as New Delhi and Beijing find common ground and interact in international forums such as BRICS, G20, SCO and climate change conferences. Both countries are using their overlapping interests to shape the rules of international trade to ensure their continued domestic development and economic growth. As the authors note, it was largely China's Arctic activity that prompted India to formulate its own position in the Arctic Strategy 2022 to counterbalance China.

Sixthly, the authors address a number of Arctic policy issues. They believe that the boycott of Russia in the Arctic Council has led to negative consequences for the study of global problems. In particular, the prohibitions on data exchange between Russian and foreign scientists prevent the use of computer models that predict the dynamics and consequences of climate change, including permafrost thawing [6, pp. 86–87]. The authors believe that the Western boycott should not apply to scientific cooperation with Russia [6, p. 127]. In the political dimension, the boycott of Russia by the West has led to its rapid rapprochement with China, which the authors consider a serious challenge to India's strategic interests. The authors express confidence that India, like other non-Arctic states, is objectively interested in cooperation with Russia, since due to the blocking of the Arctic Council, they have virtually no choice but to cooperate directly with the coastal Arctic states. Hence their interest in various projects, including joint scientific research, development of the Northern Sea Route infrastructure, and development of mineral resources. In the current circumstances, the authors believe that it is necessary to raise the status of observer states in the

Arctic Council so that they can independently conduct scientific activities in the Arctic. The authors believe that in order to promote this idea, India needs to actively participate in organizations such as the High-Level Trilateral Dialogue (established in 2015), which unites China, Japan, and South Korea. In addition, it is necessary to develop bilateral ties with Russia, Japan, and the Scandinavian countries [6, p. 288].

However, the authors only cautiously touch upon the problem of secondary US sanctions, which directly hinders cooperation between India and Russia, including even in the scientific sphere. But in this regard, they note that "India does not always manage to balance between Russia and the United States" [6, pp. 137–139]. The desire for balancing is consistent with the traditions of the state's foreign policy, but does not correspond to India's actual strategic interests. According to the authors, Indian companies may well expand investment in Russia's oil and gas sector, avoiding US sanctions, because "India is a major importer of oil and gas from the US" and "the US has selectively lifted sanctions for its allies and partners" [6, p. 261]. The authors' optimism can only be welcomed, but it remains unclear why the US would encourage Russia as a competitor. Moreover, the US is actively displacing Russia from other areas of Indian import, for example, from the arms trade and military-technical cooperation.

India's "bifurcation" between the US and Russia, correctly noted by the authors, deserves a more in-depth study and attention from political decision-makers in Russia. This trend, apparently, is of a deeper nature and concerns not only the Arctic, but also the entire range of bilateral relations. Given the observed shift in N. Modi's policy towards pragmatism, should we re-evaluate the traditional friendly relations between India and Russia as a factor in deepening bilateral cooperation in the Arctic?

After reading the book, it becomes obvious that India and Russia have impressive potential for cooperation in the Arctic. Why is it progressing so slowly? The authors cite some institutional problems as an obstacle. The main actors in the Arctic region are the Ministry of Earth and Natural Sciences, the National Center for Polar and Oceanic Research and the Ministry of External Affairs. However, only the latter interacts with the Arctic Council and other international organizations. The National Security Council is responsible for the overall coordination of India's Arctic policy. However, there is no overall national approach to developing India's Arctic policy. A special interdepartmental working group at the ministerial level is needed, but the authors do not undertake to assess how soon it can be created, given that, for example, the draft energy policy of India has been under discussion since 2017 and there is still no final document [6, p. 262].

The authors believe that it is time to develop a roadmap for India's Arctic policy. The immediate step is to increase public investment in this area to develop expertise in the maritime, legal, environmental, social, political and governance aspects of Arctic policy. Obviously, Russia should be more active in offering various forms of dialogue and cooperation in all these areas.

Overall, the book presents an original vision of how India's polar policy can be developed to better match India's growing influence in global politics. The authors' analysis appears to be

very balanced and free from ideological bias. The book will be useful to anyone interested in India's contemporary Arctic policy. This study contributes to a deeper understanding of Indian perceptions of the Arctic and moves India-Russia relations towards further dialogue.

References

1. Konyshev V.N., Sergunin A.A. Military Security in the Arctic: New Threats to Russia. *Lomonosov World Politics Journal*, 2024, vol. 16 (3), pp. 127–152. DOI: https://doi.org/10.48015/2076-7404-2024-16-3-127-152
2. Bhagwat J.V. Maritime Shipping in the Arctic: Challenges and Opportunities to Improve Safety Must Be Reflected in the State's Transport Policy. *Arktika i Sever* [Arctic and North], 2023, no. 50, pp. 109–126. DOI: https://doi.org/10.37482/issn2221-2698.2023.50.109
3. Bhagwat J.V. State Policy for the Development of the Maritime Silk Road. Opportunities for Russia (Example of the Northern Sea Route). *RSUH/RGGU Bulletin. "Political Science. History. International Relations" Series*, 2022, no. 2, pp. 75–89. DOI: https://doi.org/10.28995/2073-6339-2022-2-75-89
4. Shaparov A., Sokolova F., Magomedov A.K., Bhagwat J. Population Migration in the Supporting Regions of the Russian Arctic to Improve International Competiveness of the Northern Sea Route. *Polar Record*, 2022, vol. 58 (4), pp. 1–14. DOI: https://doi.org/10.1017/S0032247421000711
5. Bisen A. *BRICS, Russia and the Arctic: India's Options*. VIF Briefs, 2024, 29 p.
6. Bhagwat J., Bisen A. *Evolution of India's Polar Policy*. Cham, Palgrave Macmillan, 2024, 297 p. DOI: https://doi.org/10.1007/978-3-031-76124-9

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Arctic Forecasting: Formation of a Research Field

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Abstract. In the domestic literature, there are still not enough works devoted to a comprehensive description of the phenomenon of Arctic forecasting. This article distinguishes it from the general socio-economic context. The analysis of foreign studies on Arctic forecasting technologies and key factors allowed us to reveal the research question: can Arctic forecasting be considered a highly specific area? The work has examined physical-geographical and resource factors: climate, maritime transport, ice cover, oil production and others. Studies demonstrating the interrelation of factors were widely used: for example, climate and energy, social and economic changes. Based on the authors' approaches, a typology of Arctic forecast models has been developed, taking into account the number of variables considered and the quantitative-qualitative nature of the specifications. In the course of analyzing the dynamics of the research agenda of the European symposium "The Future of the Arctic", the evolutionary formation of the topic of Arctic forecasting is shown. The main feature is its reliance on resources as the basic essence of the Arctic economy. It is shown that the involvement of Arctic resources in the economic turnover depends on the world technological dynamics: through natural resources the Arctic economy is connected with the world economic processes. The phenomenon of Arctic forecasting includes a more merged, multitasking nature of natural-climatic and economic modelling than standard models for studies of environmental dynamics, with forecasting of positive and adverse social and economic consequences. The presented results structure the phenomenon of Arctic forecasting for the development of methodological approaches to substantiate the prospects for the development of polar and northern regions. The considered factors will be useful in developing state policy measures in relation to the Arctic zone of the Russian Federation.
Keywords: *Arctic, forecasting, regions, development scenarios, mineral deposits, shipping, climate*

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Introduction: specifics of Arctic forecasting

The future of the Arctic and its resources is becoming the subject of scientific research and the application of forecasting methodologies more and more often [1, Brekhuntsov A.M.; 2, Grigoriev M.N., 3, Skufina T.P., Korchak E.A.]. The essential part in the surveys is related to the reduction of uncertainty that follows any scenario forecast about both present and future changes in the Arctic [4, Kryukov, Kryukov]. This comprehensive ambiguity is often discussed in regard to the

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so-called turning points: definitions of critical thresholds when changes in Arctic territorial systems become irreversible [5, Evengård B., Larsen J., Paasche N.Ø.; 6, Sosa-Nunez G., Atkins E.]. Competition between different options passes through these turning points [7, Wormbs N.].

Extreme weather conditions and the impact of climate change make the Arctic one of the most rapidly changing regions, which qualitatively complicates forecasting techniques. These conditions require specialized methods and models for Arctic regions, including consideration of seasonality, probabilistic factors, hierarchical structure of connections (establishing links at the pan-Arctic, national and regional levels), models of environmental "responses" to rapid warming and the deployment of new types of economic activity. Increased demand for reducing uncertainty leads to a request for integrated, "connected" forecasting that includes climate, energy, economics, and shipping.

The current nature of complex Arctic processes requires consideration of various factors in forecasting. For example, modelling the dynamics of Arctic sea ice should include a complex combination of different phases, scales of area cover and time periods. Traditionally, physical-geographical forecasting is highly complex, which may use coupled models of the atmosphere, sea ice and ocean dynamics, even on a short-term horizon; and a certain type of connections between polar and mid-latitudes and the strength of their interaction in forecasting the physical-geographical environment can be introduced. The cohesion of the natural and socio-economic Arctic components is manifested in forecasting the current and future dynamics of permafrost soil, which affects the investment plans of resource companies for the introduction of new capacities, the urgency of repairing existing buildings and structures [8, Porfiryev B.N., Eliseev D.O., Streletskiy D.A.].

Against the background of these individual examples, the purpose of this article is to form an idea of Arctic forecasting as an independent phenomenon. Due to its specificity, it will differ from the approaches used for other territories because of the inclusion of a number of factors that are not typical of common methods. It is expected to fully reveal the trends associated with seasonal natural Arctic variability, predominantly resource-oriented economic activity, increased costs and the high-risk nature of the transport sector. The study is organized as follows: first, the factors determining the content of most Arctic models are considered. Then, their typology is developed, taking into account the scale and predominantly physical-geographical or socio-economic focus. The second part of the article discusses the evolutionary development of the Arctic forecasting within the framework of an institutionalized platform — the annual Brussels International Seminar on the Future of Polar Territories — and describes the directions of development of Arctic forecasting approaches.

Theoretical foundations of the Arctic forecasting phenomenon

The works on Arctic forecasting have so far been mainly focused on the prospects of resource extraction, climate change, geopolitics, and economic and social development as key fac-

tors shaping the future of the Arctic [9, Andrew R.]. In the work [10, Arbo P., Iversen A. Knol M. et al.], prospective Arctic researches in recent years are conceptualized on the basis of a sample of more than 50 publications. Similar reviews were conducted in [11, Mazo J.; 12, Young O.], but based on a much smaller number of works and a narrower thematic coverage.

An overview of scenario studies on the concepts and methodologies used is considered in [13, Erokhin D., Rovenskaya E.], where the key factors of the Arctic are grouped into several "baskets": climate and environment, extraction, supply and demand of resources, trade and economic issues; transport, shipping and infrastructure; indigenous peoples; governance and geopolitical issues, technological development. The wide range of potential scenarios for the Arctic's economic future depends primarily on regional investment conditions and global commodity prices. Rising temperatures and melting sea ice are exposing previously commercially inaccessible sources of hydrocarbons and other minerals, opening up new fishing grounds and opportunities for the use of new energy sources.

The role of climate is decisive in Arctic forecasting. The effects of climate change are nowhere on Earth more dramatic or more rapid than in the Polar regions. As a result, both biological and anthropogenic systems in the region are undergoing rapid transformation [14, Young O.].

The reduction of ice cover leads to the emergence of new economically and technically feasible trans-Arctic sea routes, simultaneously with the growth of industrial development. This is followed by the development and densification of infrastructure networks, increasing anthropogenic pressure on Arctic ecosystems, which can lead to an aggravation of relations between the Arctic states and large extra-regional states.

Since the type of impacts, their scale and rate of change have a profound impact on ecosystems and society, understanding of changes in the mechanisms of climate formation in the Arctic is required. Some specialized studies on natural adaptations also contain a detailed analysis of current and future changes in temperature, precipitation, etc. [15, Øseth E.]. Similarly, many reports on Arctic shipping consider changes in the area and thickness of sea ice as one of the conditions for increasing Arctic shipping [16, Brunstad B.; 17, Stephenson S.R., Smith L.C., Agnew J.A.]. Economic development is a major topic oriented towards Arctic forecasting, where the oil and gas industry is particularly highlighted [18, Anderson A.; 19, Harsem Ø., Eide A., Heen K.]. The following types of work can be classified as feasibility studies: [20, Mejlænder-Larsen M.; 21, Niini M., Arpiainen M., Kiili R.].

Despite the recurrence of many factors in determining the Arctic future, there are significant differences in how exactly and by what methods ideas about it are presented in predictive studies. Some works focus on the main trends that will shape the future, but do not present clearly outlined images. The weakness of such approaches is that they tend to assume that the future is entirely an extrapolation of the past. This often downplays uncertainty, leaving little opportunity for being prepared for possible "black swans". Visions project what can come true under a chosen

mosaic of conditions, either as a desired situation or as an outcome that should be avoided. Typical of this group of works is that they consider the future as a fixed point.

The most common group of approaches — scenarios — are usually aimed at identifying drivers, trends and critical events, defining opportunities, threats and obstacles. Many scenarios are based on high or low thresholds for key parameters. A common practice is to complement two different scenarios with a "middle path" option that appears to be the most realistic. An alternative approach is to emphasize trends and drivers that can have a large impact, but which can also lead to high variability. In this case, scenarios are built around aspects of the implicit future, rather than the most likely trends. Modelling scenarios can also be developed on the basis of complex formal models that require significant amounts of data, primarily climate data.

The majority of publications consider a time horizon of 20 years or more, up to 2045–2050. Some works present the future as a whole, without mentioning any specific time horizon. Variations are also great in terms of thematic and geographical coverage. It is equally common to find studies that focus on individual sectors and specific countries and regions and on cross-sectoral issues where the Arctic is considered in a broader context. It is worth noting the inherent nonlinearity of Arctic forecasting. Change processes in the Arctic rarely occur without bifurcations. Large oil spills, maritime disasters, foreign ships entering national territorial waters without consent, conflicts in other parts of the world related to national interests in the Arctic, terrorist attacks, etc. can change the situation. Such events can be included in the economic development scenarios.

Typology of Arctic forecasting works

In the available literature, we found no attempts to categorize Arctic forecasting works. In this regard, we distinguish four types, describing the maximum number of published studies on the basis of the connections between the number of factors under consideration and the vision of the future. The presented division distinguishes single- and multi-factor approaches based on consideration of a single object of forecasting (climate, maritime transport, ice cover, oil production) or objects acting in interconnection (forecast of socio-economic changes; interrelation of climate and energy changes) [22, Pilyasov A.N., Kotov A.V.]. From another perspective, it is important to distinguish the type of the future under consideration: is it formed in connection with quantitative scenarios or purely qualitative? Based on these assumptions, we can talk about four classes of studies: "A" — single-factor quantitative; "B" — single-factor qualitative; "C" — multi-factor quantitative; "D" — multi-factor qualitative.

These forecasting trajectories are examples of the creation of an interconnected variety of methodological developments based on different capabilities of statistical data and the comprehensiveness of considering the Arctic as an independent object of research. It is important to emphasize the possibilities of transition between groups and the ability to begin forecasting based on

any of the combinations (A–G) or their combination in structural modeling of different spatial levels (see Table 1).

Table 1

Classification of Arctic development forecasting works [1]

Specification		Description of the future	
		Quantitative	Qualitative
Models	Single-factor	**A:** Øseth (2011), Brunstad (2007), Bair, Müller-Stoffels (2019), Rabinowitz (2009), Dale (2018), Lindholt, Glomsrød (2011), Brigham (2007)	**B:** Coates, Holroyd (2019), Tsukerman, Ivanov (2013), Heininen et al (2019), Seidler (2009)
	Multi-factor	**C:** Andrew (2014), Stephenson, Smith, Agnew (2011); Harsem , Eide, Heen (2011)	**D:** Young (2021), Anderson (2009), Emmerson (2011, 2012), (2019), Duhaime, Caron (2006) Middleton et al (2021), Scolkovo (2020), Pilyasov, Kotov (2015), Haavisto et al (2016), Petrov et al (2021) Conley (2020), Kauppila, Kopra (2022), Lovecraft (2019), Brigham (2007), Mineev, Bourmistrov, Mellemvik (2022), Heininen(2008), Zaikov (2019); Myllylä et al (2016)

The type “A — single-factor quantitative models” combines developments primarily of a physical-geographical focus. They are devoted to the types of natural impacts (their scale and rate of change) on Arctic ecosystems and society. Some specialized studies on climate adaptation also contain detailed analyses of current and future changes in temperature, precipitation, etc. [15, Øseth E.].

An important part of the economic topics direction focuses on the marine sector of the economy. The sources are studies of the Intergovernmental Panel on Climate Change (for global climate forecasts). In Russia, the climate forecast section is based on assessment reports on climate change developed by Roshydromet. In recent decades, the service has noted a decrease in the number and duration of extremely cold periods and an increase in extremely high temperatures in the Arctic. At the same time, the frequency and intensity of events associated with heavy precipitation, flooding of inland water bodies, and destruction of sea coasts is growing, which complicates economic activity [2]. We should also note the works carried out as part of the assessment of marine shipping by the Arctic Council: [23, Bair B., Müller-Stoffels M.; 16, Brunstad B.; 24, Rabinowitz S.; 25, Seidler C.]. The development of maritime infrastructure and major investments (in communications technology, mapping and hydrography, search and rescue operations, environmental response, ice and weather forecasting, navigation aids, key regional ports) by Europe-

[1] Source: compiled by the author.
[2] The third assessment report of Roshydromet on climate change and its consequences on the territory of the Russian Federation. St. Petersburg, Science-Intensive Technologies Publ., 2022, 124 p.

an, Asian and North American business interest groups contribute to the growth of maritime activity [26, Brigham L.].

Type “B — single-factor qualitative models” differs from the previous one by the low prevalence of the calculated indicators. For example, the factor of the key non-renewable resource, which is usually oil and gas, is singled out, but without calculations, only indicating its role in the structural transformation of the regional economy as a whole [27, Coates K.S., Holroyd C.]. The work [28, Tsukerman V.A., Ivanov, S.V.] presents two qualitative scenarios for life support systems in the Arctic zone of Russia depending on the prospects of scientific and technological potential for an optimistic and conservative trajectory. An example of climate consideration in Arctic geopolitics is the work on comparative analysis of state Arctic strategies [29, Heininen L., Everett K., Padrtova B., Reissell A.]. Climate change — due to rapid changes in fragile ecosystems and, consequently, improved access to Arctic reserves — stimulates resource use and economic activity in extractive industries in the public and private sectors and maintains the leading role of states in the development of the region.

The “C — multi-factor quantitative models” type includes a small group of works devoted to complex prospects for resource extraction, climate change, geopolitics, as well as economic and social development as key factors shaping the future of the Arctic [9, Andrew R.]. A characteristic feature is the interrelationship of research questions: for example, changes in the area and thickness of sea ice and the possible increase in Arctic shipping [17, Stephenson S.R., Smith L.C., Agnew J.A.], factors influencing the development of the oil and gas industry in the region [19, Harsem Ø., Eide A., Heen K.].

The type “D — qualitative multi-factor models” is the most representative. They result in well-developed schemes aimed at identifying driving forces, trends, defining opportunities, threats and obstacles. Scenarios are built around various aspects of uncertainty, rather than the most probable trends.

In this group, the prospects of the Arctic economy are closely interconnected with a group of geopolitical options that take into account one or another degree of intensification of international cooperation in the Arctic [30, Pilyasov A.N., Kotov A.V.]. For example, in [31, Lovecraft A.L.], the “Northern harmony” scenario predicts a close international partnership in which countries share responsibility for sustainable development, environmental protection and Arctic regional security. In the “Business as usual” scenario, the Arctic Council helps to promote further cooperation in the macro-region, but national interests and political actions outside the Arctic lead to tense relations between states in various sectors. In the “Dangerous world” scenario, the Arctic countries focus on their own national policies with an emphasis on resource development and national security.

We note the constructiveness of the “D”-type models of understanding the Arctic macro-region as a dynamic frontier due to the synergistic influence of global climate change, increased transport accessibility and intensified development of minerals. The study [32, Mineev A., Bourmistrov A., Mellemvik F.] complements this body of knowledge by paying more attention to the

dynamics of international policy and cooperation, including incentives in favor of the transition to a "green" economy.

In this group, the most significant part of the works is devoted to the development of the Russian Arctic, taking into account the role of market forces [33, Myllylä Y., Kaivo-oja J., Juga, J.], physical and geographical features, the dynamics of the world economy and the demand for hydrocarbon resources [34, Zaikov K.S., Kondratov N.A., Kudryashova E.V., Lipina S.A., Chistobaev A.I.]. In general, the driving forces determined for the Russian and global Arctic as a whole are similar, but differ in their priority action from the driving forces described for foreign Arctic regions. In particular, in Russian practice, special attention was paid to international relations, technology, domestic policy (management), climate, human capital, culture and economy of indigenous peoples, resource market conditions and environmental protection. Thus, according to A.N. Petrov and co-authors [35], within the framework of developing a comprehensive vision of the Russian Arctic development until 2050, the influence of heterogeneous factors was concentrated within the following ***scenarios***:

- "Harmonious Arctic", according to which external conditions are favorable, government policy encourages "bottom-up" movement. Innovation and creativity are, among other things, due to maximizing the regional ripple effect of Arctic megaprojects.
- "Self-reliant Arctic", which assumes strong domestic policies aimed at developing the region despite unfavorable resource, international and/or technological conditions, mainly by stimulating new enterprises not related to resource extraction.
- "Resource-dependent Arctic", which assumes active international cooperation, development of new technologies and high global demand for Arctic materials, combined with weak domestic policies that turn the region into a strong net supplier of resources.
- "Forgotten Arctic", according to which unfavorable external conditions are further aggravated by weak domestic policy, which leads to comprehensive stagnation and mass depopulation.

It should be noted that the topic under consideration has been extended to scenario forecasting of socio-economic development of the Eurasian Arctic [36, Haavisto R., Pilli-Sihvola K., Harjanne A. et al.]. The study covered a long-term horizon (up to 2040). Scenarios are proposed along three dichotomous axes (openness — closeness; public — private sector; ecologically problematic — clean region) to explain political, economic, social, technological and environmental characteristics.

Forming the topics of current forecasts: the example of the research agenda of the symposium "Arctic Futures"

Among the permanent international expert platforms, the Brussels symposium "Arctic Futures" [3] deserves attention, where various stakeholders met regularly during 2010–2023 to discuss

[3] Arctic Futures Symposium. URL: https://www.arcticfutures.org/ (accessed 23 June 2024).

Arctic prospects related to the economy and management. From the beginning of its work (2010), the goals of the symposium were:

- stimulating an open and frank dialogue among Arctic stakeholders on environmental, economic and social issues;
- selecting examples of Arctic cooperation in the field of research and management and replicating successful practices;
- analyzing the positions of various economic entities and promoting closer cooperation on vital strategic issues;
- providing an opportunity for the scientific community to demonstrate their research in order to select the best practices for managing the environment and resources of the region while preserving the traditions and way of life of indigenous peoples;
- discussing ways to use scientific information, research infrastructure and technologies to develop governance schemes.

In the report of the Director of the Arctic Economic Council M.K. Frederiksen in 2021, a number of global megatrends were mentioned that could become factors for the development of scenarios: urbanization, demographic dynamics, climate change, development of digital technologies and communications. Acceleration of economic changes in the Arctic is associated with cooperation between industry and university structures. Thus, the manager of the Northern Norway cluster Monica Paulsen pointed out that the Arctic cluster team (a public-private company) accelerates the dynamics of innovation and supports industry in this part of the country through the development of specialization industries: seafood production and processing of minerals and metals for European markets. Another example of innovation that has a strong impact on structural economic change is the development of the battery industry in the Norwegian Arctic. The territorial-industrial hub will consist of five gigafactories for the production of battery cells. Developing such a capacity would enable Norway to become one of the largest suppliers of these storage units in the EU and an important part of the global energy storage value chain [4]. Since the infrastructure already exists, supporting other industries, the construction of these plants seems to be an effective and efficient measure for the Norwegian authorities. Their biggest challenge will be to encourage their fellow citizens to move to the Arctic regions to work in these new “green” industries.

It should be noted that forecasting is related to determining the development potential of the basic industries. L. Raderschall and A. Sanabria showed at the Symposium in 2020 how the mining industry in northern Sweden contributes to regional economic development and how mining can become a more sustainable activity in the Arctic [5]. The benefits of mining for regional development include high-paying jobs, innovation and investment in infrastructure and social infra-

[4] The Battery Company Freyr Cuts in Giga Arctic Investment. URL: https://www.highnorthnews.com/en/battery-company-freyr-cuts-giga-arctic-investment (accessed 16 July 2024).
[5] Arctic Futures Symposium 2021 Executive Summary. URL: https://www.arcticfutures.org/uploads/archives_files/AFS21_Summary.pdf (accessed 16 July 2024).

structure, although it also comes with instability in regional growth and negative environmental consequences.

The symposia discussed key topics related to the climate, energy, economy and transport in the Arctic, which affect the prospects for the region's development. For example, in 2010, the key report was made by A. Levermann (Potsdam Institute for Climate Impact Research) on the patterns of global warming affecting the region as a whole. The author noted that the levels of carbon dioxide (CO2) and other greenhouse gases (nitrogen oxide and methane) have increased over the past century. The report also discussed the process of thinning and reducing the ability of winter sea ice to compensate for the melting of summer ice cover [6].

The section of Arctic forecasts from the perspective of the interaction between the physics of the Arctic environment and the life of biota can be illustrated by the materials of the report by O. Varpe (Norwegian Polar Institute), which assessed the relationships between the parameters of the state of sea ice, cloudiness, temperature and wind [7]. According to the expert, changes in sea ice are associated with most processes occurring on a global scale, including changes in the light regime, which is accompanied by a decrease in sea ice.

In the socio-economic aspect, marine spatial planning occupies one of the leading places. C. Ehler (President of the Ocean Visions organization) positioned it as a way to manage marine areas and ecosystems in the Arctic in order to avoid conflicts as the ice melts and industrial activity intensifies [8]. Such work develops ecosystem-based long-term management in the Arctic, which should be based on an integrated approach in all sectors of the economy, taking into account the associated impact of various activities. The first steps in creating a marine spatial planning regime include the identification of ecologically and biologically significant areas of the ocean, which are important sources of biodiversity.

Norway and, to some extent, Canada have similar management schemes (in the Barents Sea and the Beaufort Sea, respectively), which combine the needs of various sectors (oil and gas, fisheries, transport and ecosystems) within a single regulatory regime that ensures sustainable use of resources. In Russia, the prospects for marine spatial planning should be linked to the creation of the Marine Collegium, where it is planned to create a council for the protection of Russia's interests in the Arctic [9].

A traditional topic is the debate on the expansion of continental shelves, international borders and sovereign rights over natural resources in the Arctic. Thus, M. Takin (Center for Global Energy Studies) noted that longer summer melting seasons could lead to increased geological exploration and the discovery of new sea routes, such as the Northeast Passage and the Northern Sea

[6] Arctic Futures Symposium Executive Summar 2010. URL: https://www.arcticfutures.org/uploads/archives_files/afs_2010_executive_summary.pdf (accessed 16 July 2024).
[7] Ibid.
[8] Ibid.
[9] Putin instructed to create the Marine Collegium of Russia. URL: https://www.kommersant.ru/doc/6863685 (accessed 06 August 2024).

Route. Military-strategic issues are of great importance in this regard, but as a rule, they are not discussed in detail at the symposium.

Special attention is paid to forecasting the future of individual Arctic territories. For example, a unique feature of Greenland is its small settlements and isolated territories. It is important for socio-economic forecasting that the region is gradually taking steps towards independence from Denmark, having concluded a self-government agreement giving it the right to manage its own natural resources. The territory is an example of an Arctic space that is at a crossroads between an economy based on the traditional agro-industrial sector and the desire to move towards independence by using the economic opportunities of mineral resources.

It is important to distinguish between current forecasting in the economically viable Arctic and in "another" one — with resources of a more distant future. As a rule, economic development scenarios reflect assessments of the feasibility of key infrastructure projects. One such investment initiative is the Arctic Corridor, which could connect Finland and continental Europe with the deep-water ports of the Arctic Ocean, major oil and gas production areas, and the western end of the Northern Sea Route. An important project in the European Arctic is the North Bothnia Line, a high-speed rail line between the cities of Umeå and Luleå in Sweden [10]. For the European Union, the promotion of these projects is associated with increasing influence in the Arctic.

A major theme that has unfolded in recent years (2022–2023) and will influence Arctic forecasting in the long term is the growing demand for rare earth raw materials found in the Arctic. The European Union has established partnerships with its closest partners to adequately mitigate commodity security issues. Following the discovery of a rare earth deposit in northern Sweden (near Kiruna), it became clear that the Arctic could play an important role in supporting the "green transition", renewable energy sources, and the solution to the problem of abandoning fossil fuels and creating spatially distributed value chains. The most recent (November 2023) workshop highlighted the increasing availability of resources in the Arctic due to climate change, which triggered a discussion on the environmental, social and economic costs associated with access to these resources.

Conclusion: directions for further development of Arctic forecasting

The unconditional specificity of Arctic forecasting (in comparison with the forecasting of the development of a regular temperate zone territory) consists in the leading role of complex interacting factors: climate change; permafrost degradation; global demand for resource assets; development of transport and logistics infrastructure in combination with the physical and geographical conditions of the passage of sea arteries; geo-economic competition between polar countries.

[10] North Bothnia High-Speed Railway Line, Sweden. URL: https://www.railway-technology.com/projects/north-bothnia-high-speed-railway-line-swe-den/#:~:text=North%20Bothnia%2C%20also%20known%20as,northernmost%20counties%2C%20Norrbotten%20and%20Vasterbotten (accessed 16 July 2024).

At different hierarchical levels, factors of global demand for natural resources are of particular importance — other factors are recognized as changing less radically in this relatively short period. The development of Arctic forecasting work can be facilitated by taking into account the role of technologies in the new global technological order, which determines the demand for new natural resources, and in modern projects implemented through new technologies for the extraction and processing of raw materials.

In scientific forecasting of economic development, these processes are transferred to forecasting the development of the economy of the Arctic regions as coastal territories, taking into account the factor of the proximity of the sea and land. The parameters of climate forecasts determine the assessment of the availability for economic development of confirmed and promising hydrocarbon resources, the mobility of the migration attractiveness of regions and the fluctuation of their territorial labor markets.

The combination of natural and economic factors forms options for a “green” economic transition in the Arctic, including forecasting the development of oil and gas resource extraction technologies, the sustainability of energy supply, and the differentiation of demand for electricity in remote isolated settlements. Their transport topography is complex, and it is necessary to develop methods for more complex deep learning of neural networks or probabilistic models for forecasting the use of renewable energy sources (wind generation).

The shifts from single-factor to multi-factor forecast models in the Arctic shows that the basis of state policy in the region should be the prevention of a narrow-sector approach to the development of support measures. Currently, at the early stages of implementation of large investment projects influenced by sanctions, it is necessary to forecast the development of individual factors and their interaction. This is important for the formation of instruments for the structural coherence of investments — their conjugation, targeted improvement of the economic structure of the Arctic territories. The potential for developing investment measures by federal institutions should be more clearly correlated with the capabilities of the Arctic territories, the diverse composition of the mineral resource base, taking into account the different transport accessibility, the variability of combinations of promising economic specializations and energy resources.

The combination of qualitatively heterogeneous data sources (from geodynamics and geoeconomics — ice, remote sensing, transport, general economic) allows Arctic models to acquire the property of “pulsation”. Their various combinations can forecast the “opening and closing” of windows of opportunities for increasing the volume of maritime trade, the favorable implementation of major investment projects, and adjusting the service life of social and household infrastructure. The skills of taking into account the creation of predictive models in the “Arctic version” directly affect the development of intelligent analysis systems, digital twin models (monitoring snow cover or cargo delivery to Arctic territories), self-adjusting algorithms (selection of energy supply options for villages or ice routes).

References

1. Brekhuntsov A., Mullin A., Petrov Yu., Proskurin G. Arctic 2050: Doctrinal Development Prospects. *Energy Policy*, 2021, no. 11 (165), pp. 96–103. DOI: https://doi.org/10.46920/2409-5516_2021_11165_96
2. Grigoryev M. Forecast of Development of Mineral Resource Centres of Oil and Gas in the Arctic Zone with a Marine Transportation Scheme. *Neftegaz.RU*, 2018, no. 5 (77), pp. 50–57.
3. Skufina T.P., Korchak E.A., eds. *Socio-Economic Dynamics and Development Prospects of the Russian Arctic Taking into Account Geopolitical, Macroeconomic, Environmental and Mineral and Raw Material Factors*. Apatity, KSC RAS Publ., 2021, 209 p. (In Russ.) DOI: https://doi.org/10.37614/978.5.91137.458.7
4. Kryukov V.A., Kryukov Ya.V. The Economy of the Arctic in the Modern Coordinate System. *Outlines of Global Transformations: Politics, Economics, Law*, 2019, vol. 12, no. 5, pp. 25–52. DOI: https://doi.org/10.23932/2542-0240-2019-12-5-25-52
5. Evengård B., Larsen J., Paasche N.Ø., eds. *The New Arctic*. Springer, 2015, 362 p.
6. Sosa-Nunez G., Atkins E., eds. *Environment, Climate Change and International Relations*. Bristol, England, 2016, 250 p.
7. Wormbs N., ed. *Competing Arctic Futures. Historical and Contemporary Perspectives*. Palgrave Studies in the History of Science and Technology, 2018, 281 p. DOI: https://doi.org/10.1007/978-3-319-91617-0
8. Porfiriev B.N., Eliseev D.O., Streletskiy D.A. Economic Assessment of Permafrost Degradation Effects on Healthcare Facilities in the Russian Arctic. *Herald of the Russian Academy of Sciences*, 2021, vol. 91, no. 12, pp. 1125–1136. DOI: https://doi.org/10.31857/S0869587321120112
9. Andrew R. Socio-Economic Drivers of Change in the Arctic. *AMAP Technical Report,* 2014, no. 9. Arctic Monitoring and Assessment Programme (AMAP), 2014, 42 p.
10. Arbo P., Iversen A., Knol M., Ringholm T., Sander G. Arctic Futures: Conceptualizations and Images of a Changing Arctic. *Polar Geography,* 2013, vol. 36 (3), pp. 163–182. DOI: https://doi.org/10.1080/1088937X.2012.724462
11. Mazo J. Cold Comfort. *Survival*, 2010, vol. 52 (6), pp. 151–160. DOI: https://doi.org/10.1080/00396338.2010.540788
12. Young O.R. The Future of the Arctic: Cauldron of Conflict or Zone of Peace? *International Affairs*, 2011, vol. 87 (1), pp. 185–193. DOI: https://doi.org/10.1111/j.1468-2346.2011.00967.x
13. Erokhin D., Rovenskaya E. *Regional Scenarios of the Arctic Futures: A Review. IASA Working Paper*. Laxenburg, Austria, WP-20-013, 2020, 28 p.
14. Young O. Arctic Futures–Future Arctics? *Sustainability*, 2021, vol. 13, art. 9420. DOI: https://doi.org/10.3390/su13169420
15. Øseth E. Climate Changes in the Norwegian Arctic: Consequences for Life in the North. *Norwegian Polar Institute Report Series 136*, 2011, 138 p.
16. Brunstad. B., ed. *Arctic Shipping 2030: From Russia with Oil, Stormy Passage, or Arctic Great Game? Report 2007-070.*
17. Smith L.C., Agnew J.A., Stephenson S.R. Divergent Long-Term Trajectories of Human Access to the Arctic. *Nature Climate Change,* 2011, vol. 1 (3), pp. 156–160. DOI: https://doi.org/10.1038/nclimate1120
18. Anderson A. *After the Ice: Life, Death and Politics in the New Arctic*. London, Virgin Books, 2009, 304 p.
19. Harsem Ø., Eide A., Heen K. Factors Influencing Future Oil and Gas Prospects in the Arctic. *Energy Policy*, 2011, vol. 39 (12), pp. 8037–8045. DOI: https://doi.org/10.1016/j.enpol.2011.09.058
20. Mejlaender-Larsen M. ARCON — Arctic Container. *DNV Container Ship Update*, 2009, vol. 2, pp. 9–11.
21. Niini M., Arpiainen M., Kiili R. *Arctic Shuttle Container Link From Alaska US to Europe*. Helsinki, Aker Arctic Technology Inc, AARC Report K632006, 2014, 39 p.
22. Pilyasov A.N., Kotov A.V. Russian Arctic-2035: Multi-Scale Forecast. *Economy of Regions*, 2024, vol. 20 (2), pp. 369–394. DOI: https://doi.org/10.17059/ekon.reg.2024-2-3

23. Bair B., Müller-Stoffels M. *Maritime Futures 2035: The Arctic Region. Workshop Report & Technical Documentation*. Denmark, Copenhagen, Danish Meteorological Institute, 2019, 88 p.
24. Rabinowitz S. *Three Scenarios for US Energy Policy in the Arctic Region. Senior Thesis*. Haverford, Haverford College, 2009, 67 p.
25. Seidler C. *Arktisches Monopoly: Der Kampf um die Rohstoffe der Polarregion*. München, Deutsche Verlags-Anstalt, 2009, 288 S.
26. Brigham L. Future Perspective: The Maritime Arctic in 2050. *The Fletcher Forum of World Affairs,* 2015, vol. 39 (1), pp. 109–120.
27. Coates K.S., Holroyd C., eds. *The Palgrave Handbook of Arctic Policy and Politics*. Palgrave Macmillan, 2019, 568 p. DOI: https://doi.org/10.1007/978-3-030-20557-7
28. Tsukerman V.A., Ivanov S.V. Scenarios for the Development and Improvement of the Life Support Systems of the Arctic Zone of Russia. In: *TMS Annual Meeting. REWAS 2013: Enabling Materials Resource Sustainability — Held During the TMS 2013 Annual Meeting and Exhibition,* 2013, pp. 404–410. DOI: https://doi.org/10.1007/978-3-319-48763-2_44
29. Heininen L., Everett K., Padrtova B., Reissell A. *Arctic Policies and Strategies — Analysis, Synthesis, and Trends*. Laxenburg, International Institute for Applied Systems Analysis, 2019, 265 p. DOI: https://doi.org/10.22022/AFI/11-2019.16175
30. Pelyasov A.N., Kotov A.V. *The Russian Arctic: Potential for International Cooperation. Report no. 17*. Moscow, Spetskniga Publ., 2015, 120 p. (In Russ.)
31. Lovecraft A.L. Arctic Futures 2050: Scenarios Narratives. Report on the SEARCH Scenarios Project. *Study of Environmental Arctic Change*, 2019. 20 p.
32. Mineev A., Bourmistrov A., Mellemvik F., eds. *Global Development in the Arctic*. Abingdon, Routledge, 2022, 315 p.
33. Myllylä Y., Kaivo-oja J., Juga J. Strong Prospective Trends in the Arctic and Future Opportunities in Logistics. *Polar Geography*, 2016, vol. 39 (3), pp. 145–164. DOI: https://doi.org/10.1080/1088937X.2016.1184723
34. Zaikov K.S., Kondratov N.A., Kudryashova E.V., Lipina S.A., Chistobaev A.I. Scenarios for the Development of the Arctic Region (2020–2035). *Arktika i Sever* [Arctic and North], 2019, no. 35, pp. 4–19. DOI: https://doi.org/10.17238/issn2221-2698.2019.35.5
35. Petrov A.N., Rozanova M.S., Klyuchnikova E.M., et al. Contours of the Russia's Arctic Futures: Expereince of Integrated Scenario-Building till 2050. *Proceedings of the Russian State Hydrometeorological University*, 2018, no. 53, pp. 156–171.
36. Haavisto R., Pilli-Sihvola K., Harjanne A., Perrels A. *Socio-Economic Scenarios for the Eurasian Arctic by 2040*. Finish Meteorological Institute, 2016, no. 1, pp. 1–65.

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Elements of the Cognitive Sovereignty Strategy in Arctic Socio-Humanitarian Research

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Abstract. The article discusses the elements of the concept of "cognitive sovereignty" in relation to the practice of building a unified Russian strategy in Arctic socio-humanitarian research. Based on the problem field of various types of sovereignty, the general outlines of a strategy for creating an integrated mechanism for independent examination of existing and future scientific concepts that define thematic, problematic and methodological diversity in Arctic socio-humanitarian research are highlighted. The proposed strategy explicates the close relationship between the level of formation of cognitive sovereignty in the Russian humanitarian scientific community and the possibilities of developing the domestic potential of a cognitive resource in the social sciences. The authors are of the opinion that the production, functioning and transformation of the content of knowledge are socially determined; therefore, cognitive sovereignty is considered as a tool that prevents the ideological and informational manipulation of cognitive intents of Russian science. The practical significance of the proposed strategy lies in the possibility of applying its provisions in the development, planning and implementation of socio-humanitarian scientific research, providing Russia with the opportunity to create not only innovative ideas and products, but also to make them globally competitive. The latter is a guarantee of an independently manageable and understandable future, defense capability, economic power and the possibility of successful competition in the Arctic region.
Keywords: *cognitive sovereignty, humanitarian geography, cultural identity, scientific discourse, Arkhangelsk Oblast, Russian Arctic*

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«Sapere aude! — Have the courage to use your own reason!
I. Kant

Relevance of the cognitive sovereignty strategy

In the current geopolitical situation, the ability of countries to reproduce the genetic foundations of their own culture, based on the understanding of fundamental historically determined strategies of adaptation, preservation and progress of intellectual potentials embedded in a particular culture, is of great importance. The results of social forecasting and foresight studies [1, Lishuan G.] indicate the emergence and spread of situations that entail the future revision of traditional mechanisms [1] for the reproduction of cultural identity in all its diversity and manifestations [2, Permilovskiy M.S.]. Russian mentality, gravitating toward the traditional mechanisms of its own reproduction, as well as seeking a competitive place for itself in the global world and developing optimal ways to respond to the challenges of modernity, needs an explication of semantic heuristics, scientific and philosophical justification of new concepts that have application to specific macro-regions of the Russian Federation [3, Reznik Yu.M.]. One of the promising directions for responding to the challenges of our time is the formation of a system of cognitive sovereignty [4, Selezneva I.E.], the production of which will be carried out by scientists, researchers, representatives of the academic and expert community in various disciplinary areas of social and humanitarian profile. The specific task that the strategy is aimed at solving is to develop a conceptual model of cognitive sovereignty and justify its use to develop new approaches to the formation of Russia's cognitive sovereignty in the Arctic. The scale of the task is determined by the need to ensure Russia's sovereignty in the world and the search for new approaches to the integrated development of the Arctic. The complexity of the task lies in the broad coverage of the phenomena under study: from various theories and approaches to the development of northern spaces to the concept of sovereignty as a multidimensional interdisciplinary phenomenon.

The scientific problem is related to the search for new approaches to the formation of cognitive sovereignty of the Arctic Zone of the Russian Federation and the resulting need for philosophical-methodological and socio-epistemological reflection of the concept of "cognitive sovereignty" based on the scientific and publication discourse on Arctic issues. Reproduction of the genetic foundations of one's own culture and the development of one's own, rather than globalist, forms of enlightenment [5, Ignatyeva O.A.] is not possible without understanding the fundamental historically determined strategies of adaptation, preservation and progress of intellectual potentials embedded in a particular culture. After the collapse of the USSR, Russia experienced a fundamental social transformation, the consequence of which was the destruction of the integrity of a single socio-economic system and the network of institutionalized social exchange based on it.

[1] Decree of the President of the Russian Federation of 09.11.2022 No. 809 "On approval of the fundamentals of state policy for the preservation and strengthening of traditional Russian spiritual and moral values" URL: https://www.consultant.ru/document/cons_doc_LAW_430906/ (accessed 05 February 2024).

The strategy implies a mechanism for creating national instruments for ensuring cognitive sovereignty on the example of the Arctic zone of the Russian Federation. The scientific novelty of the strategy lies in the development of a conceptual model of cognitive sovereignty in the segment of scientific and published discourse on the Arctic, description and explication of mechanisms and algorithms of its use not only at the regional level, but also for the solution of federal tasks aimed at the formation and protection of cognitive sovereignty of the Russian Federation.

Expected results of the strategy and their significance

The expected results are as follows:

- construction of a cognitive sovereignty model;
- identification of mechanisms of cognitive sovereignty formation;
- creation of a unique digital database on the problem of cognitive sovereignty with the possibility of its analysis, compacting and visualization of the obtained conclusions, as well as extraction of non-trivial information about the phenomenon under study within the declared area — Arctic humanitarian research on the example of the scientific discourse of the Arkhangelsk Oblast.

The possibility of transferring the general algorithm of creating the declared database to other regions with their own specifics and problems of competitive reproduction of science and innovative business in the invention–innovation chain is assumed. The social significance lies in the possibility of formulating scientifically grounded proposals for the development of social sphere of the Arkhangelsk Oblast as a whole, the education and science system in the region in particular, as well as assistance in the work of government bodies on the issues of cognitive sovereignty in a specific area. The main task of the digital database on the problem of cognitive sovereignty is in solving the current problem, the dilemma of the inventor-innovator [6, Graham L.], i.e., on the one hand, in the search for workable links between creativity and invention, on the other hand, in the implementation of discoveries, inventions and innovations in the spheres of production, science and technology, social sphere, education. The application of the findings of this knowledge base will allow finding gaps and barriers in the processes of implementing innovations in a specific region.

Possibilities of using the results of the strategy

The results of the strategy can be used in the development of programs for the implementation of innovations at enterprises by restructuring the professional consciousness of entrepreneurs, enterprise managers and employees, in particular, reorienting from consciousness founded on the so-called “colonial thinking” to professional thinking based on the concept of cognitive sovereignty. Approbation of the concept of cognitive sovereignty in a specific region could become an experimental platform for the tasks faced by the social development of the Russian Federation as a competitive player in the international arena. The Arctic region, given its difficult climatic condi-

tions and sparse population, seems to be a convenient and safe platform for testing the model, since the risk of unplanned social effects from the implementation of the model is reduced compared to, for example, larger social platforms (megalopolises, etc.).

Discussion issues and paradigms substantiating the relevance of the strategy

In the context of the declared challenges of Industry 4.0 [7, Schwab K.], as well as forecasts about the transition of the world from an "empty" state to a "full" one (Report of the Club of Rome 2018 "New Enlightenment" [8, Yanitskiy O.N.]), the ability of countries to protect their own cultural and genetic potentials is of particular importance. Disruptive innovations (the so-called "disruptive" technologies) predetermine the disappearance of many professions, the displacement of people from various production and intellectual chains, the creation of the Internet of Things (IoT), the widespread introduction of robotic systems in the processes of making not only technical, but also ethical decisions (machine ethics or machine morality). Thus, the preconditions are being created for a total revision and cancellation of traditional mechanisms of reproduction of cultural identity in all its diversity and manifestations. The Russian strategy needs an explication of new semantic heuristics. The latter is impossible without studying the phenomenon of cognitive sovereignty and the problem of cognitive import substitution. Scientists note the formation of a generation (millennials, Z) as a consequence of the neoliberal withdrawal of the modernist humanistic ideal of human development from the idea of the state. After the second collapse of statehood at the end of the 20th century, Russia experienced a fundamental social transformation, the consequence of which was the destruction of the integrity of a single socio-political-economic system and the network of institutionalized social exchange based on it. Serious challenges arose for national security [9, Kokoshin A.]. The structures of continuity of social experience and scientific knowledge were torn apart. In the information-cognitive field, which came under external control, a single rule was established: all achievements of Russian civilization were actually declared insignificant or borrowed; the assessment of errors was unilaterally hypertrophied and hyperbolized. The cognitive war (mental war, "brain war") unleashed by the West against Russia played an important role [10, Medushevskiy A.N.]. The result is a generation whose world is defined by the "absence of a recognizable and understandable future", overflowing with contradictions, the solution of which is supposedly impossible within the framework of their own country, conflicts, psychological vulnerability and ideological socio-cognitive-civilizational inferiority. The lack of support in the form of successful strategies for achieving serious civilizational goals, ideals, moral standards, behavior patterns, successful innovations, which traditionally serve as a model for building a personal, civic identity, has manifested itself in the emergence of a rift in social communication between the generation that sets standards and carries the civilizational baton, and the generation that accepts and develops the heritage at a new level of historical development. In the modern information society, cognitive sovereignty is produced by scientists, researchers, representatives of the academic and expert community in various disciplinary areas of

the social and humanitarian profile. The comprehension of social development and the formation of mechanisms of cultural identity take place in the course of search, analytical activity, in which the above-mentioned representatives of the academic community are involved. The results of this activity are expressed in scientific publications. The latter are an important communication tool in the public space. Being a criterion for the effectiveness of the work of representatives of the academic community, today scientific publications also reflect the areas in which knowledge-intensive activities are carried out. Thus, in scientific publications we find coverage of pressing problems of modern society and attempts to solve them by the authors of the articles. Since the main space for the formation of cognitive sovereignty is the field of education, it would not be an exaggeration to say that the production of cognitive sovereignty in society is carried out by kindergarten teachers, school teachers, and lecturers of secondary specialized schools and universities. All these personnel are engaged in research activities to one degree or another and, at their level, transmit the results of their search to the public space. Obviously, representatives of the education sector are making attempts to create innovative solutions [11, Zhernov E.E.]. However, in general, publications describe the state of affairs that has already developed in the public space. Thus, scientific publications are a mirror reflection of the epistemological situation in which modern society finds itself and what cognitive patterns are used in the field of the modern academic community in general and education in particular. Discussion of certain issues and problematic areas in scientific articles indicates the thematic blocks responsible for the formation of the cognitive status of the subjects of education. Thus, the domestic scientific community plays a critically important role in building relations between the ideological and political course of the Russian state-civilization on the one hand and the younger generation on the other [12, Belyaeva L.A.].

Objectives of the strategy, its scale and complexity

The specific objective that the strategy is aimed at is to develop a conceptual model of cognitive sovereignty and justify the use of this model to develop new approaches and recommendations for the formation of Russia's national sovereignty in the Arctic. The scale of the task is determined by the need to ensure Russia's sovereignty in the world and the search for new approaches to the integrated development of the Arctic. The applied task is to develop algorithms that help to overcome the effects of external reflexive management [13, Lefebvre V.; 14, Novikov D.A., Chkhartishvili A.G.] by cognitive discourses of Russian social and humanitarian research. The complexity of the task lies in the broad coverage of the phenomena under study: from various theories and approaches to the development of the northern and Arctic spaces of the Russian Federation to the concept of sovereignty as a multidimensional and interdisciplinary phenomenon.

Global paradigms and the problem of cognitive sovereignty

The current state of research on this problem varies in the global agenda by several fundamental interdisciplinary problem and thematic areas related to the socio-humanitarian para-

digms (projects) of the world social order: the first is the liberal model of economic, political, cultural, scientific, creative, ethical-aesthetic and ideological hegemony of Western civilization, built on the following principle: technologically advanced metropolis (core, "golden billion" [2]) vs. raw material colonies (resource periphery). According to this position, the hegemony of Western civilization is an axiom accepted as a justification for the "end of history", which means the final victory of Western liberal civilization in the modern world and, as a consequence, the exclusion of other alternatives of the socio-cultural, spiritual and ideological development of mankind from the historical process. This model implies the so-called zero-sum game — a complete and final victory of the liberal model with a complete loss of all other alternatives (i.e. controlled preservation of safe and disarmed in every sense alternatives for the needs, requirements and demands of the metropolis). Such a system, in essence, is a closed non-democratic network organization of financial and real power, the power structures of Western civilization, using the rest of the world to solve their own problems related to the preservation and increase of their power and influence. The second paradigm, which puts forward the multi-polarity of the world as a dominant factor in its stability, assumes non-linearity and non-equilibrium of predictive-civilizational prospects, open for development, the complexity of cultural-genetic systems of response to external and internal challenges. In the regional agenda, the research issues are formed and substantiated by the logic of the concept of the "Russian world" and an attempt to find cognitive, socio-epistemological, communicative mechanisms for safe and sustainable development of Russian civilization through "soft power", internal cultural and genetic reserves, codes and information flows, as well as a constructive and competitive response to the global challenges of Industry 4.0 and the disruptive technologies and innovations associated with it.

Proposed methods and approaches, general plan for the first stage of the strategy implementation

Cognitive sovereignty is a concept, the semantic heuristics of which are actualized under the influence of global changes and challenges of the modern world. At the same time, the concept of cognitive sovereignty within the framework of the proposed strategy is considered as an unchanging conceptual core of collective consciousness, founded on history, culture, cognitive picture of the world and multinational identity of the Russian civilization. The multidimensionality of the concept of cognitive sovereignty, its socio-cultural and political significance determine the choice of approaches and methods of scientific research.

Since it is impossible to review all stages of the strategy within the framework of one article, we will consider specific activities for the implementation of its first stage.

At the first stage, using integrated and interdisciplinary approaches, the multidimensionality of semantic heuristics of the concept of "cognitive sovereignty" in modern social and humanitarian knowledge will be studied. As a result, the conceptual sphere (D.S. Likhachev) of the con-

[2] "Putin called the idea of the "golden billion" neocolonialist and racist" Forum "Strong ideas for a new time". URL: https://tass.ru/politika/15264159 (accessed 05 January 2024).

cept of “cognitive sovereignty” will be described. The next stage of the study will consist in the analysis of the existential forms of the concept of “cognitive sovereignty” in modern social and humanitarian scientific discourse. The results of this stage of the study will include:

- analysis of the semantic and content structure of the “cognitive sovereignty” concept;
- cultural and anthropological interpretation of the content of the “cognitive sovereignty” concept;
- epistemological interpretation of the “cognitive sovereignty” concept;
- analysis of the reflection of the elements of the “cognitive sovereignty” concept in the scientific and publication discourse on the Arctic using articles of socio-humanitarian orientation;
- cultural-anthropological and epistemological analysis of the “cognitive sovereignty” concept of the Russian Arctic on the example of the scientific discourse of the Arkhangelsk Oblast.

To elaborate the theoretical aspects of the topic, the following tools will be used:

- method of accumulating initial theoretical material with its subsequent primary generalization on the main aspects of the problem;
- comparative analysis of Russian and foreign scientific literature on the topic of the project using an interdisciplinary approach;
- general logical method of analyzing the “cognitive sovereignty” concept;
- method of explication of semantic heuristics of the “cognitive sovereignty” concept from scientific texts of social and humanitarian focus on Arctic topics;
- method of visual-digital modeling of the “cognitive sovereignty of the Russian Arctic” concept;
- digital processing of the obtained databases, data mining (deep data analysis).

Systemic content analysis will be used to analyze texts of social and humanitarian focus. In the traditions of the hermeneutic approach, scientific works published in journals of the social and humanitarian profile of the scientific metric database RSCI (Russian Science Citation Index) over the past 15 years (2010–2024) will be studied.

The following practical steps are planned:

- development of criteria for selecting journals of social, humanitarian and interdisciplinary profile in the thematic area “Arctic. Arctic Research” to study the issue of the cognitive status of the Russian Arctic;
- selection of journals of social and humanitarian and interdisciplinary profile in the thematic area “Arctic. Arctic Research”;
- selection of keywords for a sample of articles suitable for text and logical analysis of the cognitive status of Arctic territories;
- selection of at least 200 articles of social and humanitarian profile by keywords;

- systematic content analysis of the selected articles for understanding the cognitive status of the Russian Arctic in the scientific discourse of the Arkhangelsk Oblast;
- description of the cognitive status of the population of the Arctic region by researchers of the Arkhangelsk Oblast in dynamics over the past 15 years (2010–2024). To develop a model of the "cognitive sovereignty" concept, methods of scientific modeling and visualization of the obtained data will be used.

The work plan for 2025–2026 includes:

- analysis of the experience of foreign and domestic researchers in studying the theory of development of northern and Arctic territories, the concept of sovereignty and the concept of "cognitive sovereignty of the Russian Arctic";
- development of tools for semantic analysis of texts of social and humanitarian orientation on the problem of cognitive sovereignty of the Russian Arctic;
- explication of semantic heuristics of the "cognitive sovereignty of the Russian Arctic" concept from the corpus of scientific texts of social and humanitarian orientation.

Conclusion

The task of developing and implementing a conceptual model of "cognitive sovereignty" in Arctic social and humanitarian research can only be solved using an integrated and interdisciplinary approach. The results obtained can be used to prepare recommendations for the development of strategies for the formation of cognitive sovereignty of the Russian Arctic, as well as new theoretical approaches to the development of northern spaces. The feasibility of solving the set task and the possibility of obtaining the expected results is determined by the creation of an information and analytical base with its subsequent processing using digital visualization methods (big data visualization) with the ability of extracting new data and knowledge from the obtained arrays of information.

References

1. Lishuang G. Rethinking and Reviving: The Modern Fate of Traditional Russian Values. *Voprosy Filosofii*, 2023, no. 3, pp. 58–69. DOI: https://doi.org/10.21146/0042-8744-2023-3-58-69
2. Permilovsky M.S. Traditional Russian Spiritual and Moral Values and Russian Constitutional Values: The Dogmatic Correlation. *State Power and Local Self-Government*, 2023, no. 11, pp. 20–24. DOI: https://doi.org/10.18572/1813-1247-2023-11-20-24
3. Reznik Yu.M. Value Bases of Civilisational Existence of Man in Modern Russia. *Scientific Almanac Questions of the Social Theory*, 2021, vol. 13, pp. 73–103. DOI: https://doi.org/10.30936/2227_7951_2021_13_73_103
4. Selezneva I.E. Formation of Innovative Development Strategies in the New Reality of the Russian Economy. *Drukerovskij Vestnik*, 2022, no. 4 (48), pp. 4–14. DOI: https://doi.org/10.17213/2312-6469-2022-4-4-14
5. Ignatieva O.A. Formation of Cognitive and Technological Sovereignty in the Context of the Concept of Islandization. In: *Political Challenges and Political Dialogue in Conditions of Global Turbulence: Materials of the All-Russian RAPN Conference with International Participation*. Moscow, Aspekt Press Publ., 2022, pp. 182–183.

6. Graham L. *Can Russia Compete? History of Innovations in Tsarist, Soviet and Modern Russia*. Moscow, Mann, Ivanov i Ferber Publ., 2014, 254 p. (In Russ.)
7. Schwab K. *The Fourth Industrial Revolution*. Moscow, E Publ., 2016, 209 p. (In Russ.)
8. Yanitsky O.N. A New Report to the Roman Club for the 50th Anniversary of Its Foundation: Pluses and Minuses. *Vlast',* 2018, no. 2, pp. 19–25.
9. Kokoshin A. National Interests, Real Sovereignty and National Security. *Voprosy Filosofii*, 2015, no. 10, pp. 5–19.
10. Medushevskiy A.N. Cognitive Warfare: Social Control, Meaning-Making and the Instrument of the Global Dominance (Part 2). *Issues of Economic Theory*, 2023, no. 3, pp. 92–107. DOI: https://doi.org/10.52342/2587-7666VTE_2023_3_92_107
11. Zhernov E.E. Technological and Humanistic Sovereignties: Search for a New Vector of Education. In: *65 Years of DonSTU. Science and Practice. Actual Issues and Innovations: Collection of Abstracts of Reports of the Anniversary International Scientific and Technical Conference*. Alchevsk, DonSTU Publ., 2022, pp. 77–80.
12. Belyaeva L.A. Russian Youth in Times of Change: Structural Changes and New Challenges to Political Socialization. *Voprosy Filosofii*, 2020, no. 10, pp. 17–27. DOI: https://doi.org/10.21146/0042-8744-2020-10-17-27
13. Lefebvre V.A. *Lectures on the Theory of Reflexive Games*. Moscow, Kogito-Tsentr Publ., 2009, 218 p. (In Russ.)
14. Novikov D.A., Chkhartishvili A.G. *Reflexive Games*. Moscow, SINTEG Publ., 2003, 149 p. (In Russ.)

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"Gold-Boiling" Mangazeya — A Legendary City of the Russian Arctic

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Abstract. For centuries, the Russians have been persistently developing the northern territories, moving further and further eastwards both by land and by sailing across the northern seas. The main goal of these journeys was furs, the trade of which brought huge profits to both industrialists and the state, being the main export item. Gradually, as reserves were depleted, the center of production shifted to the north and east, where enterprising industrialists actively penetrated, followed by the sovereign's people, who taxed local tribes. At the end of the 16th century, the state, represented by Tsar Boris Godunov, realized the need to establish control over the territories beyond the Ob River, which were called Mangazeya, where Pomor merchants and industrialists were uncontrollably extracting furs. For this purpose, by Godunov's decree of 1600, the city of Mangazeya was founded on the Taz River, which for several decades became the main stronghold and capital of the vast Mangazeya district. A huge flow of "soft gold" passed through the city, bringing income to the treasury and enriching enterprising people. From Mangazeya, detachments of industrialists and Cossacks went further east, to the Yenisei and Lena rivers, founding new strongholds, securing Siberian lands for the Russian state. The wealth of the northern territories attracted the interest of foreign invaders, who planned to seize these lands under various pretexts, taking advantage of the weakening of the Russian state during the Time of Troubles.
Keywords: *Mangazeya, fur trade, Siberia, polar navigation, Russian pioneers, Time of Troubles*

Introduction

The Arctic zone became an integral part of the Old Russian state in the 9th century. The first Russian seafarers arrived on the coast of the Cold Sea in the 9th–12th centuries. The movement of Novgorodians into this zone began from the area of Ladoga (753), the first capital of the Russian state, and Novgorod (859). The first settlements appeared in the middle of the 11th century in the area of the Northern Dvina River, on the shores of the Onega Bay and the Kandalaksha Gulf. Merchants and industrialists went there to hunt furs, sea animals, and fish, spending there several months, and sometimes even years [1, Belov M.I.]. They moved along rivers and lakes on ships, and dragged them overland if they could not pass. Having collected the goods, the merchants returned to Novgorod, where they sold them (Fig. 1 a, b, c).

All these Novgorod volosts were called "Zavolochye". From here, Novgorodians, and in later centuries — merchants of the Muscovite state, exported furs (sable, marten, beaver, ermine,

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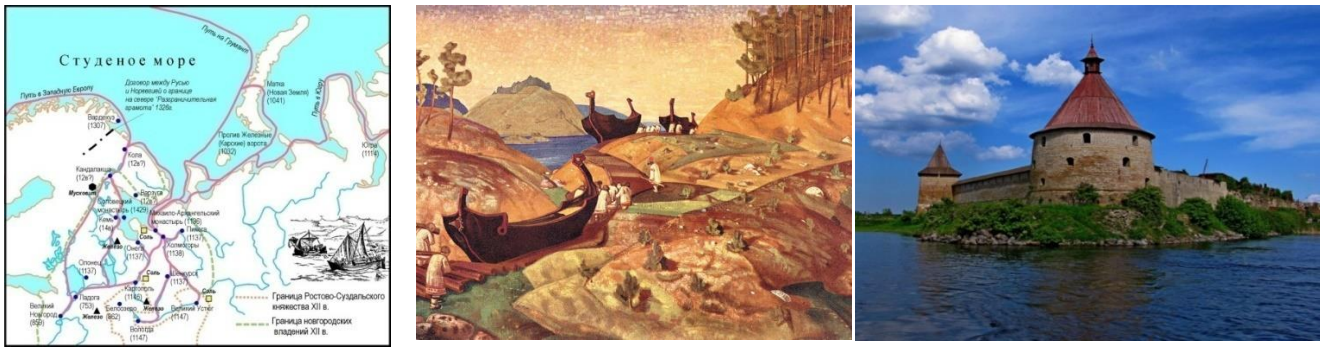
squirrel), fish and fish oil, walrus and seal fat, walrus tusks ("fish tooth"), skins of marine animals, and whale products.



(a) (b) (c)

Fig. 1. The routes of Novgorodians to the North (a), "Volok", artist N. Roerich (b), the first capital of Rus' — Ladoga (c).

As a result of the development of sea coastal voyages of Novgorodians from the mouth of the Northern Dvina westwards to the borders with Norway and eastwards to the Novaya Zemlya straits, previously isolated areas of the seas were connected. Druzhiny were regularly sent to the north to collect furs and to develop sea trades. These semi-industrial, semi-military groups settled temporarily and then permanently on the banks of rivers flowing into the seas. The local Karelian-Lopar and Nenets population submitted to the Novgorod power. In the 12th century, Novgorod forts and winter huts turned into cities on all trade routes in Pomorie and on the Kola Peninsula, as was indicated in Russian and Scandinavian chronicles [1, Belov M.I.].

Due to the harsh climate and low soil fertility, the main occupation of the newcomers was fishing, salt and fur hunting. They also mined bog iron ore, and river pearls were extracted on the northern rivers. The northern monasteries became important centers for the development of these territories: Mikhailo-Arkhangelskiy, Solovetskiy, Pechengskiy and others, which appeared here in the 12th–15th centuries.

The earliest written mention of the Novgorodians' voyages to the northern seas can be found in the Novgorodskaya Sofiyskaya First Chronicle, which tells that the Novgorod posadnik Uleb went to the "Iron Gate" as early as 1032 [2]. Novgorodians penetrated into the Kara Sea in the first half of the 11th century. In 1147, Vologda was founded in the area where the waterways from Novgorod and the Volga crossed the Northern Dvina. In 1218, Velikiy Ustyug was founded on the Sukhona. In the treaty of 1264 between Novgorod and the Tver Prince Yaroslav Yaroslavovich, Vologda and Tre were also named as Novgorod's subordinate regions in addition to Pechora, Yugra, Zavolochye. The territories to the west and east of the Northern Dvina were developed; in the 12th century, settlements were built on the banks of the rivers flowing into the Studenoe (White and Barents) Sea. The development of the Trans-Urals and Yugra began. In the 16th century, a sea route was laid to Western Europe and Siberia. The Pomors played a decisive role in the development of natural resources in the new territories of Siberia [3, Tsiporukha M.I.].

Sailing to the northwest, Novgorodians met the Norwegians, who disputed the Russians' right to collect tribute from the local Karelian-Lopar population. Confrontations between them

continued for several centuries. In a persistent struggle, Novgorodians defended the Russian lands beyond the Arctic Circle and in 1326 concluded a treaty "Delimitation Charter" on the western border of the possessions [1, Belov M.I.]. The exact date of the foundation of Kola on the Murmansk coast is unknown, but it is first mentioned in the Norwegian chronicle in 1210, and in the Russian — in 1264. Since 1200, the Norwegians had to maintain a permanent naval guard to protect against the raids of Novgorod freebooters, and in 1307, they even built the fortress of Vardehuz in the extreme north-east of Norway.

Seafaring to the west of the mouth of the Northern Dvina received new development after 1478, when the possessions of Novgorod, together with Pomorie, became part of the Muscovite state. In the same years, the sea route to Western Europe from the Northern Dvina was opened. Following the Russians, the Danes began to use it. The beginning of sea voyages from the Northern Dvina to the east was laid by the voyage of Novgorodians to the Iron (Kara) Gate [4, Okladnikov N.A.]. The first connections of Rus' with the Urals and Trans-Urals date back to the 7th–8th centuries, and these lands were called Yugra. In the 12th century, Novgorod imposed tribute on Yugra. The struggle for possession of this territory, rich in sable and other fur animals, continued for a long time. By the beginning of the 16th century, a sea route had been laid along the sea coasts, connecting the mouths of the Kola, Onega, Northern Dvina, Pechora, and Ob Rivers [5, Lobanov K.V.].

Novgorod colonization of the northern lands played an exceptionally important role in the economic development of the White and Barents Sea coasts, in the development of shipbuilding and navigation in the region. At first, this region was called Zavolochye, and from the 16th century, the name Pomorie was established for it. From the 12th century, Kholmogory became its center (1138).

Search for the North-Eastern passage in the Studenoe Sea

As northern navigation developed, the route from the White Sea to Western Europe began to be explored. In 1492, a caravan of ships with grain departed from Kholmogory by sea for sale in European markets. In 1525, Dmitriy Gerasimov, the clerk of Grand Duke Vasiliy III, made a sea voyage from the Northern Dvina to Western Europe. In Rome, in a conversation with cartographer Paolo Giovio, he suggested the possibility of a sea route from Europe to China (Fig. 2a). "The Dvina, carrying away countless rivers, rushes in a swift current to the North... the sea there has such a huge extent that, according to a very probable assumption, keeping to the right bank, from there one can reach the country of China by ship, if no land is encountered in the interval" [6, Herberstein S.].

D. Gerasimov's project was published in Rome in 1525 and was accepted with great interest by European countries, especially England, Holland and Denmark, since the southern routes were controlled by Spain and Portugal at that time [1, Belov M.I.]. In the 16th–17th centuries, European navigators made several voyages to the north, trying to find a sea route to the east.

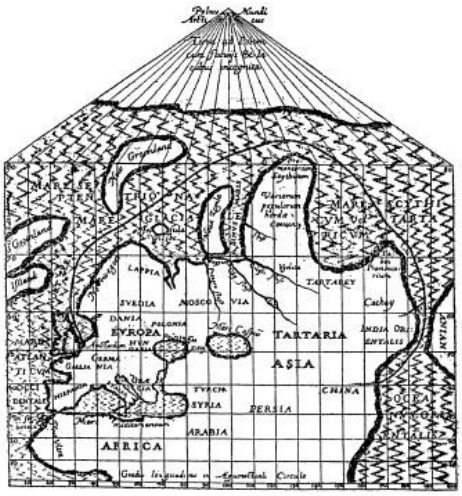


Fig. 2. The North-Eastern route to China (1611) (a) [7, Alekseev M.P.].

The route of the English expedition, R. Chancellor's ship (b).

Reception of R. Chancellor by Ivan the Terrible in Moscow (c) (Illustrated Chronicle).

In 1553, the first English expedition was organized to search for the North-Eastern sea passage to China, led by H. Willoughby and R. Chancellor (Fig. 2 b, c). The English first set foot on Russian land on August 24, 1553. The ship "Edward Bonaventure", captained by Richard Chancellor, entered the mouth of the Northern Dvina and moored near the Nikolo-Korelskiy Monastery, 35 km from Arkhangelsk. From there, Chancellor went to Kholmogory, and then to Moscow, where he gave Ivan the Terrible a letter from King Edward IV. From that moment, the Tsar allowed the English to trade in Russia. In 1555, they opened their office in the capital — the English Court. At the same time, it turned into the Moscow Company.

English factories appeared in Kholmogory, Vologda and Moscow. In 1569, the company received maximum rights: duty-free trade throughout the Muscovite state; trade with the Middle East through Russia; opening of iron and rope factories in the country; circulation of English coins in Moscow, Novgorod and Pskov. The English actively exported flax, hemp, ropes, resin, tar, lard, mast wood, furs, wax, honey, skins, leather, potash, oil and caviar from the Russian North. Ivan the Terrible wanted to turn England into his strategic partner, which is why he was so hospitable. With the beginning of the Livonian War, the ships of the Moscow Company supplied saltpeter, sulfur, lead, and tin to Russia. English engineers and doctors arrived in the country on them.

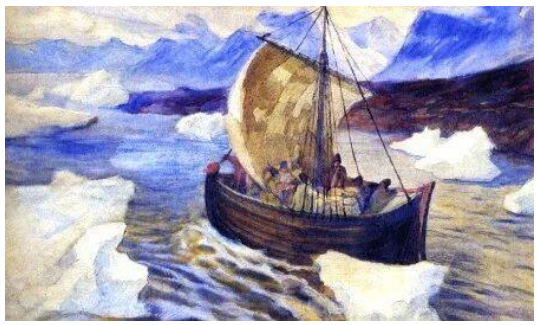
After the Livonian War, other foreigners also received permission to trade in the north of Russia. But the English could no longer freely cross Russian territory on their way to Persia and China. Nevertheless, the Moscow Company had the right to broad duty-free trade until the middle of the 17th century.

In 1556, the voyage of Stephen Barrow took place; he was the first foreigner to see Novaya Zemlya. In 1564, the Dane Dietmar Blefken sailed to Novaya Zemlya to find a passage to China, and in 1580, the English expedition of Pet and Jackman took place. In 1594, three Dutch expeditions led by J. Rijp, J. Gemskerk, Nye, Totgales and Willem Barents set out to find this route. In

1608, the English expedition of Hudson reached Novaya Zemlya, and in 1620, the Danish merchants Clement Bloom and Marleduk tried to reach the Novaya Zemlya straits, but were detained by the Kola authorities. In 1668, the expeditions of the Dutchman Willem Fleming and in 1676, the English captain John Wood reached Novaya Zemlya.

All European expeditions encountered insurmountable difficulties when sailing in the Studenoe Sea and could not go further than Novaya Zemlya due to the lack of experience and suitable vessels for such expeditions (Fig. 3 a). At the same time, the Pomors made regular voyages along the northern coast and went fishing on the Arctic islands. Over the long period of sailing in the Arctic zone, the Pomors created vessels that were best suited for travel in the northern seas and were known under the general name of "Koch". These were single-deck sail-and-oar vessels with one mast, on which there was one sail (Fig. 3 b).

Fig. 3. English ships in the ice (a), engraving of 1876.



Artist I. Meshalkin "Koch in the ice" (b).

A characteristic design feature of the kochs was the spoon-shaped hull and reinforced double plating of the sides, which allowed them to move confidently among floating ice and gave the ability to be squeezed to the surface in case of strong ice compression. Relatively small kochs with a lifting capacity of 500–700 poods were used for navigation in the Arctic zone. Kochs with a displacement of 20 to 50 tons were built for sea voyages. The small draught of these vessels made it possible to move along the shallow waters along the coast, where there was no heavy ice, and their small dimensions and weight made it possible to pass along rivers and portages, thereby shortening the route and bypassing places with heavy ice conditions. The use of kochs allowed the Pomors to penetrate into areas inaccessible to European sailors on larger vessels.

Kochs were built in different sizes. Small vessels were used for coastal voyages. Larger ships were used to sail to Novaya Zemlya, Grumant (Spitsbergen), and to develop the coast of Siberia. For several centuries, kochs became a universal tool, with the help of which Russian people managed to conquer vast areas of Siberia and the Far East and the Arctic seas washing them [8, Lobanov K.V.].

Furs — oil and gas of medieval Rus'

The fur trade in Rus' has a long history. Due to the geographical features and climate, the central and northern regions of the Russian Plain were the habitat of fur animals. Since ancient

times, the peoples living on the lands of the central and northern parts of the Russian Plain were engaged in the extraction of fur animals and supplied furs to the countries of southern Europe. Furs were an integral part of the trade of the Slavic peoples with Byzantium, which was carried out along the trade route from the Varangians to the Greeks. Furs also played a major role in the trade of the ancient Russian principalities (Kyiv, Novgorod, etc.), being the basis of their prosperity. For a long time, Novgorod's trade competitor was the Volga city of Bulgar, from where furs were also exported: marten, sable, squirrel, ermine, fox, beaver, hare. It should be noted that at that time, furs were practically the only material for making warm clothes for all strata of the population.

Furs were considered a valuable gift on par with precious metals and stones. The Radziwiłł Chronicle describes the meeting of Prince Igor with the Byzantine ambassadors in 945 as follows: "Igor, having confirmed peace with the Greeks, sent the ambassadors away, having gifted them with furs, servants, and wax, and let them go..." (Fig. 4) [1]. When Yaroslav the Wise's daughter Anna was married to the French King Henry I in the mid-11th century, her father-in-law not only dressed the entire foreign delegation in furs, but also sent his son-in-law several cartloads of "soft junk" as a dowry. Princess Olga promised the Byzantine Emperor Constantine VII Porphyrogenitus gifts — "servants, wax and fur", which she herself delivered to Constantinople in 957. Furs were also used to pay tribute by the subject peoples.

Fig. 4. Tribute in furs [9].

Fig. 5. Processing of furs (according to Olaus Magnus). Ring "bunts", skin "kozki" and stitching of separate skins into large cloths can be seen.

After the Mongol conquest, when both Bulgar and Kiev fell into decline, the hunting grounds in the territories of western Rus' came under the control of the Grand Duchy of Lithuania. Moscow was just beginning to gather Russian lands around itself, and Novgorod at that time effectively monopolized the export of furs. Taking advantage of its extensive trade relations with the cities of the Hanseatic League, Novgorod supplied large quantities of furs to the markets of Western Europe (Fig. 6). Thus, in 1405, three ships belonging to 107 Riga and Dorpat merchants arrived from Riga to Bruges. They brought 450 thousand skins, valued at 3,300 pounds groats. There are no documentary data on the total volume of fur exports from Novgorod, but based on the turnover of the largest merchants, the total amount of furs can be estimated at 500,000 pieces. At the

[1] Radziwiłł Chronicle. URL: http://radzivilovskaya-letopis.ru/ (accessed 20 July 2024).

same time, the number of processed skins and products made from them was small, since European merchants insisted on selling raw furs. Such trade policy restrained the development of furrier craft in Novgorod.

Furs were brought to procurement points scattered throughout the territory of the Novgorod Republic by means of willow rods tied into special ring-shaped "bunts". These furs arrived in Novgorod already packed in special "kozki" bags made from a whole skin removed like a stocking and opening at the top and bottom (Fig. 5, 6 b). In such bags, the skins, packed very tightly, almost did not rub against each other and did not lose their marketable condition. Already in Novgorod, the Hanseatic merchants packed furs into large wooden barrels for sea transportation and sent them to Germany and Flanders. A barrel contained from 5 to 7 thousand skins (small squirrel skins — up to 12 thousand).

Depending on the type, furs were sold in different lots: sable, ermine, marten, polecat — in forties, squirrel — in forties and thousands of skins. Counting furs in forties was also convenient because forty full sable or marten skins were used for a caftan (fur coat). Sables and martens were sometimes brought in pairs, especially as gifts, on the basis that two skins would be needed for a hat. Small squirrel pelts were often sewn into large cloths, which were then cut as ordinary fabric.

(a) (b)

Fig. 6. Novgorod Republic of the 14th century (a); Yaroslav's fur market (b).

Furs occupied the main place in the foreign trade of the Russian state in the 14th–17th centuries. Only furs and wax were significant export items from Rus'. Other goods were significantly inferior to them both in physical volume and in value. Imported goods were practically not produced in the Russian lands. First of all, these were various metals, especially non-ferrous and precious [9, Khoroshkevich A.L.]. These metals were expensive: if Russian iron cost 60 kopecks per pood, then Swedish iron cost 1 ruble 30 kopecks per pood, and iron wire cost 1–3 rubles per pood. Non-ferrous metals were more expensive: copper — 1.5–3 rubles per pood, roofing copper — up to 6 rubles per pood, tin — 5 rubles per pood, silver — 450 rubles per pood, gold — 3,300 rubles per pood.

In fact, in the Middle Ages, furs played the same role for Russian principalities as oil and gas play in the modern Russian economy, providing the necessary funds for purchasing essential goods in Europe. The majority of furs exported were inexpensive squirrel fur (90%), which was in

great demand in Europe, another 5% was marten fur, and other furs made up the remaining 5% [9, Khoroshkevich A.L.]. The bulk of squirrel furs were supplied to the market by feudal lords, who received them from their peasants as a tribute. For hunters, its extraction was even unprofitable. At the same time, the price of this fur increased significantly when it was resold to the West. Thus, in the north of Rus', a squirrel pelt cost half a kopeck, but in trade with Europe, a thousand squirrel skins cost 40 thalers (or "efimki", as the Russians called the main silver coin of Europe at that time), that is, a kilogram of silver [10, Vilkov O.N.].

Expensive furs, primarily sable, were obtained in the vast northern lands of Velikiy Novgorod, extending beyond the northern Urals (Fig. 6 a). The Yugra tribes subordinate to Novgorod paid yasak in furs. However, it should be noted that Novgorod's control over these lands was rather conditional. The tribes periodically refused to pay tribute, and then it was necessary to organize new military campaigns to conquer them [11, Nikitin D.N.].

Starting from the 14th century, the Moscow principality began to extend its influence to the lands of Pechora, Mezen, and others, gradually displacing Novgorod and collecting tribute from the local population [12]. In addition to the Moscow princes, other Russian princes actively sought to penetrate these territories: Rostov, Yaroslavl, Beloozersk. The situation began to change after Ivan III annexed Novgorod along with all its possessions to the Moscow principality in 1478. As a result of two military campaigns, the united Russian state managed to conquer these lands.

During the second campaign in 1499, the first Russian city beyond the Arctic Circle, Pustozersk, was built at the mouth of the Pechora. Subsequently, this city served as an important stronghold for the development and control of the northern territories. After this, intensive development of these lands began. Merchants, industrialists and Cossacks actively penetrated this region, establishing exchange trade and collecting yasak.

The origins of Mangazeya

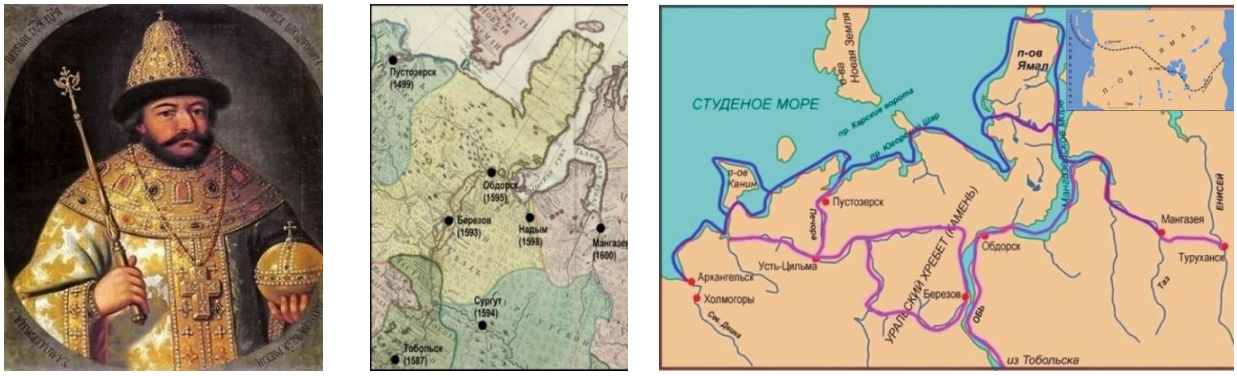
Boris Godunov (Fig. 7a) sent the first expedition led by Prince Shakhovskiy to the north of Western Siberia in 1600 to search for places rich in furs. There was a very high demand for furs in many European countries, and he wanted to put this trade under state control. The Samoyeds here were hired by Russian hunters and did not want to pay taxes to the treasury, as they realised that the appearance of sovereign's people in these places would put an end to the freedom.

Due to the danger of penetration of European expeditions from England, Holland, Denmark and other countries beyond the Urals into the lower reaches of the Ob and Yenisei rivers, the following ostrogi (forts) were founded on the orders of Boris Godunov: Berezov (1593), Surgut (1594), Obdorsk (1595), Nadym (1598), Mangazeya (1600), which were supposed to protect these lands from colonial seizure by foreigners (Fig. 7 b).

The advancement of Russian people into this region was carried out along several routes. Two routes followed the northern rivers, through the Ural Mountains into the Ob basin and out to Berezov. The southern route ran through Verkhoturye to Tobolsk, from which they went on kochs

to Mangazeya. This route was difficult and long. The voyage from Tobolsk to Mangazeya alone could take up to thirteen weeks. It took even longer to get from Pomorie to Tobolsk (Fig. 7 c) [13, Belov M.I.].

The fastest was the sea route, the so-called Mangazeya route. The first expeditions from Kholmogory and Pinega to the Ob are mentioned in the chronicles at the beginning of the 16th century (1517). In the second half of the 16th century, they became regular. The route began at the mouth of the Northern Dvina and Mezen. Then there was a portage across the Kanin Peninsula and then along the coast, through the strait between Vaygach Island and the mainland, to Baydaratskaya Bay to the Sharapovy Koshki Islands. Then the movement went up the Mutnaya River to a portage to the Zelenaya River, along which they descended directly into the Ob Bay, then they entered the Tazovskaya Bay and moved up the Taz River to Mangazeya (Fig. 7 c). Under favorable conditions, the entire journey took five to six weeks.



(a) (b) (c)

Fig. 7. Tsar Boris Godunov (1598–1605) (a), fortified towns in the lower reaches of the Ob (b), river and sea routes to Mangazeya and a portage across the Yamal Peninsula (c) [13, Belov M.I.].

In 1601, a larger detachment of two hundred service people led by voivodes Vasiliy Mosalskiy and Savluk Pushkin was sent to help Shakhovskiy. They helped to complete the construction of a wooden fort and to establish a trading post. It should be noted that from the very beginning, two voivodes were appointed to Mangazeya, as to other Siberian cities, and this circumstance subsequently played a negative role in the history of the city.

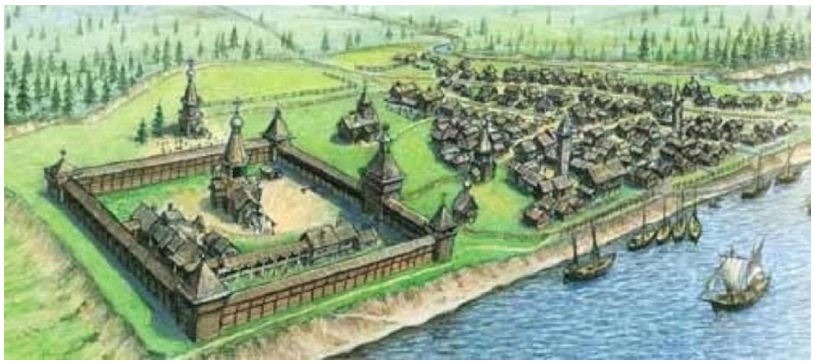
The foundation and construction of Mangazeya fell on a very difficult time in the history of Russia. From 1601 to 1603, the country suffered from severe crop failure and the resulting mass famine. It is believed that these hardships were caused by a major geological catastrophe — a powerful eruption of the Huaynaputina volcano in Peru in South America in February 1600, which ejected about 30 km^3 of ash into the Earth's atmosphere to a height of 35 km. The ash, dispersed by air currents in the atmosphere, sharply reduced the amount of sunlight reaching the Earth's surface. As a result, summer temperatures dropped sharply, causing massive crop failures. The most catastrophic consequences were in Russia, where up to 2 million people died of hunger (out of a total population of 6 million). The discontent of the people led to the weakening of state power and launched a series of events that led to the Time of Troubles and brought the Russian state itself to the brink of destruction [14, Lobanov K.V.].

Mangazeya voivode Davyd Zherebtsov — a hero of the Time of Troubles

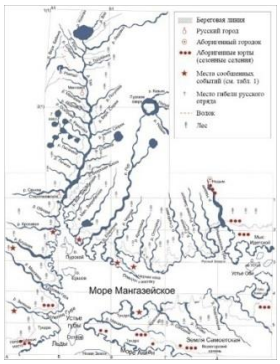
Everyone knows well the heroes of the Time of Troubles — Dmitry Pozharskiy, Kuzma Minin, Avraamiy (Palitsyn), but another hero of this time is little known — Mangazeya voivode Davyd Zherebtsov. Under Boris Godunov, he served as an elected nobleman in Rzhev and was appointed bailiff to the disgraced Romanovs, exiled to their patrimonial village of Kliny in the Yuryevskiy district. Perhaps this is one of the reasons why his name, like many other prominent figures of the Russian resistance during the Great Troubles, was carefully erased from the history of the country during the reign of the Romanov dynasty. The royalty did not want anyone else to stand next to them in the history of the formation of the Russian state.

In 1606, the new Tsar Vasiliy IV Shuiskiy sent Zherebtsov as a voivode to distant Mangazeya. He was confident in his good organizational skills and that he would be able to build a strategically important ostrog on the north-eastern borders. Zherebtsov was sent from Moscow as a close associate of Boris Godunov. By the way, some historians are sure that Godunov was actually poisoned by the boyars, and precisely with the active participation of Vasiliy IV Shuiskiy.

In 1607, Zherebtsov and Davydov began to build log walls from log cages on the site of the ostrog. As a result, a powerful fortress by northern standards, equipped with artillery, appeared in Mangazeya. It had a classic appearance for that time. It had five towers (four at the corners and one over the gate), and the height of the walls ranged from 1.5 to 4.5 sazhens. The fortress itself housed the residences of both voivodes, a temple, an assembly house, a customs house, and other administrative and utility buildings. There was also a so-called amanat house, a purely Siberian phenomenon. In such houses, hostages from among the local nobility were kept, so that the local population would regularly pay yasak. A garrison of up to 100 riflemen was permanently stationed in Mangazeya, who were engaged in collecting yasak. Outside the fortress there was a settlement. In total, there were up to 500 different buildings (Fig. 8). Churches, barns, shops, craft workshops, and residential buildings were built. The total population of Mangazeya reached 2,000 people. It was the largest city beyond the Arctic Circle.



(a)



(b)

Fig. 8. Mangazeya (reconstruction by M.I. Belov) (a); The Mangazeya Sea. A drawing from the Chorographic Drawing Book by S. Remezov (b).

For the first time, special technologies were developed and used for building houses in Mangazeya, as this region is located in the permafrost zone. Houses were built on a layer of frozen

wood chips, covered with a layer of birch bark for waterproofing, so that groundwater would not wash away the foundation. Often, to prevent the house from "twisting", the log frame was installed on the root system of a cut tree — so that the stump was in the middle of the house, and the walls of the log frame were on the roots (Fig. 9) [15, Vizgalov G.P.].

Fig. 9. Construction of a house on the tree root system (photo by SPA "Northern Archeology-1"). It can be seen that pieces of ship keel were used in construction; Mangazeya (reconstruction).

In 1627, in the period of the city's prosperity, up to 700 industrialists spent the winter here. At the same time, the Tobolsk voivodes demanded from the officials in Mangazeya to treat the local population more kindly, not to commit arbitrary rule and excessive taxation, and to restrain the Cossacks from robberies and violence against the local Mangazeya Samoyeds.

The new fortress became the economic center of Siberia. In 1608, yasak was regularly delivered to Mangazeya not only by local tribes — Samoyeds (Nenets) and Ostyak-Samoyeds (Selkups), but also by the Yenisei Ostyaks (Kets) and Tungus (Evenks) living much further south. In 1607, during a campaign to the east, the detachment of Davyd Zherebtsov and Kurdyuk Davydov founded a winter hut on the Yenisei in the delta of the Turukhan River, on the site of which New Mangazeya (Turukhansk) would later grow. But Zherebtsov would never see this, since the "Siberian epic" of the voivode would be interrupted by a call for help from Tsar Vasiliy IV Shuiskiy, which came from Moscow, besieged by the troops of False Dmitriy II.

In distant Mangazeya, the voivode Davyd Zherebtsov received news of the siege of Moscow. In the winter of 1608–1609, a large detachment of 1,200 Siberian riflemen under his command made an incredible "ice march" from Mangazeya to Central Russia. There they were joined by 600 Arkhangelsk riflemen, and then — by detachments from Nizhniy Novgorod and Kostroma. Unexpectedly for the Tushino people of "False Dmitriy II", who had already taken control of most of the country, these powerful forces appeared at the walls of the Ipatyevo-Troitskiy Monastery in Kostroma. The capture of Kostroma by Zherebtsov's army on May 1, 1609 coincided with the departure of the troops of the young prince Mikhail Skopin-Shuiskiy and the allied Swedes from Velikiy Novgorod (Fig. 10). In June, near Kostroma, Zherebtsov defeated the troops of the Zaporozhian and Don Cossacks led by the Lithuanian nobleman Lisovskiy.

After that, Zherebtsov led his army to Kalyazin, where Mikhail Skopin-Shuiskiy was forming an army for a campaign to Moscow. By that time, the people had accumulated hatred for the "Tushino thief", who was giving away Russian lands to Polish-Lithuanian invaders. People flocked to Kalyazin from all parts of the country, ready to fight the invaders. The detachments of the Sibe-

rian voivode significantly strengthened the army of Skopin-Shuiskiy. They liberated the Aleksandrovskaya Sloboda, Pereyaslavl-Zalesskiy, and Dmitrov. When False Dmitry II's associate Hetman Jan Sapieha learnt about it, he withdrew most of his army from the siege of the Trinity-Sergius Monastery (Fig. 11), the defenders of which by that time were on the verge of exhaustion of military and physical forces, and moved his army to Kalyazin.

From the moment he joined forces with Skopin-Shuiskiy, Davyd Zherebtsov carried out the most important assignments. At first, he was sent to Rostov the Great for reconnaissance purposes. As noted by an eyewitness, "and now Prince Mikhail Vasilyevich is stationed in the Kalyazin Monastery, and he sent the voivode Davyd Zherebtsov to the Borisoglebskiy Monastery and to Rostov". Upon returning to Kalyazin, Zherebtsov took part in the decisive battle with the Sapezhians.

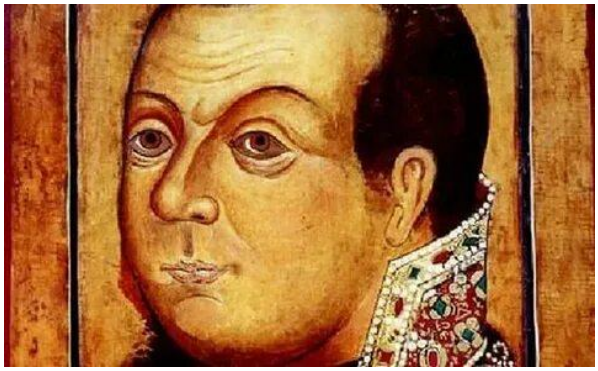


Fig. 10. Prince M.V. Skopin-Shuiskiy, leader of the militia in 1609–1610.

Fig. 11. Defense of the Trinity-Sergius Monastery, artist S.D. Magidovich.

During the night of October 19–20, 1609, the vanguard units of Skopin-Shuiskiy's army approached the Aleksandrovskaya Sloboda near the Trinity-Sergius Monastery and attacked the "Sapezhin" garrison. As soon as Hetman Sapieha came out from under the walls of the monastery to help his garrison in the direction of the Aleksandrovskaya Sloboda, pre-selected units led by the voivode Zherebtsov easily crushed the guards and broke into the besieged monastery. This "special forces" detachment numbered about 1,000 experienced Siberian riflemen. Having made a brilliant breakthrough into the monastery, Davyd Zherebtsov, despite the dissatisfaction of the local voivodes, assumed further command of the defense of the monastery of St. Sergius of Radonezh. In 1610, Davyd Zherebtsov died heroically during the defense of the Trinity Makaryev Monastery in Kalyazin from the Poles [2].

Plans to seize the Russian north during the Time of Troubles

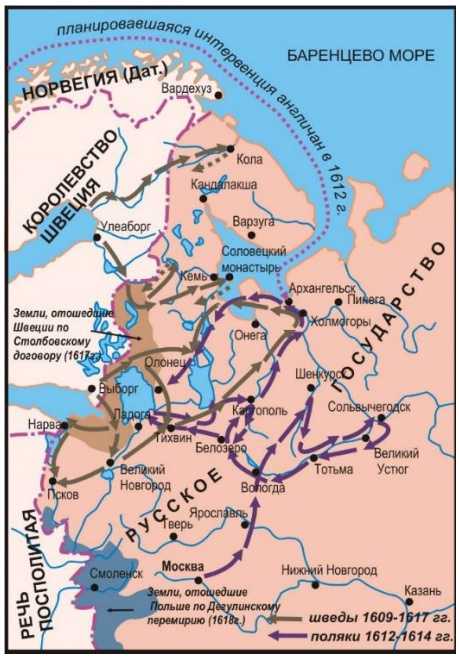
During the siege of Moscow and after its liberation, Polish detachments rushed north to Pomorie, since there were no Russian troops there. They captured and plundered the cities of Belozersk, Vologda, Soligalich, and attacked Kargopol (Fig. 12 a). The Poles besieged Kholmogory, but without taking the city, some of the troops went to plunder Vaga, while others ravaged the

[2] Leontiev Ya.V. From the glorious family of Byakontov. URL: http://www.chaskor.ru/article/iz_slavnogo_roda_byakonta_14357 (accessed 20 July 2024).

Nikolo-Korelskiy Monastery, the suburbs of Arkhangelsk, Nenoksa, and Luda (Fig. 12 b) [16, Melnikova A.S.].

The Swedes considered Velikiy Novgorod their military prey and a springboard for the development and capture of the entire North-West of Russia, as False Dmitry had promised them. They demanded to get the original Russian lands — Pskov, Gdov, Izhora, southern Priladozhye, Kola and the entire Kola Peninsula, Sumy and the Solovetskiy Monastery, Northern Karelia, Arkhangelsk, Kholmogory (Fig. 12 c).

During these years, the English wanted to seize the Russian North and take control over the Volga route to the Caspian. In 1609, Thomas Chamberlain presented to the king a project for English intervention in Russia. The English offered the Russian government assistance with armed forces. In June 1612, ships with English troops arrived in Arkhangelsk. Their representative, J. Shav, went to the camp of Prince D. M. Pozharskiy in Yaroslavl to negotiate the terms of military assistance, but the militia leaders resolutely refused it.



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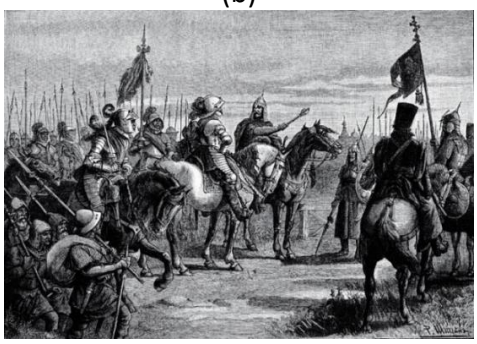


(c)

Fig. 12. Invasion of Polish and Swedish troops into the territory of the Russian state; (b) Polish troops, (c) Swedish troops.

The secret project of Polish-Spanish colonization of Arkhangelsk and adjacent lands became public in the winter of 1610–1611. The Swedish king was ready to take part in it if the Moscow boyars refused to pay him the debt of Tsar Vasiliy Shuiskiy. In January 1611, Charles IX addressed a message to the abbot of the Solovetskiy Monastery warning about Polish intrigues. False Dmitry II was informed about this. The king offered him an alliance against the Poles if the debts were paid [17, Forsten G.V.]. He frightened the "Muscovites" with the invasion of the Spanish king into the Russian North in the interests of the Poles and offered the boyars help against the Poles if they "properly" paid all debts to him (Fig. 12 a) [18, Widekind J.].

The intention of Sigismund III to attract the Spanish fleet to colonize the northern territories of Muscovy took this plan to a new level of danger. The project of a Polish-Spanish invasion of the Russian North was known not only in Sweden, but also in England. In 1611, Sigismund III turned to King James I, asking him to confirm that English merchants would not interfere in the political events taking place in Muscovy, and in the event of their escalation would not help the Russians with mercenaries and military goods [19, Taimasova L.Yu.]. Fears that London would choose the side of the Polish king forced the Moscow authorities to pay generously to the English "guests".

Under Ivan the Terrible, agents of the Moscow Company in Russia provided the English court with military and economic intelligence services: they recruited Russian merchants and officials, bribed and blackmailed them (Fig. 13 a).

In 1914, St. Petersburg archivist Inna Lyubimenko, an expert on Russian-British trade relations at the turn of the 16th–17th centuries, while working in the English special repository, discovered strange materials and almost immediately realized that she was holding a real historical "bomb" in her hands. She wrote the article "The English Project of 1612 on the Subordination of the Russian North to the Protectorate of King James I" and published it [20, Lyubimenko I.; 21, Lyubimenko I.I.].

The first document was a copy of a letter addressed to the Privy Council at the court of King Charles I. The English captain Chamberlain, who in 1610–1613 took part in some extremely secret mission, reported: "On my return from Russia, I presented to King James I of late memory the entire Russian state, the annual crown income of which amounts to 8 million pounds sterling. Sir John Merrick and Sir William Russell were sent to the nobility of this nation... and proposed in the name of the King of Great Britain that His Majesty become their emperor and patron, to which, in general, they agreed with gratitude and sent their ambassador with a great gift to the king to enter into negotiations with him regarding this matter."

The second document dealt with the negotiations themselves and was preceded by an assessment of Russian realities in the Time of Troubles. It spoke of territories that had not yet been affected by the war and had still "preserved their integrity", and of those that were already "anticipating" the coming "horrors" and, "having heard of the glory of His Majesty, his great wisdom and kindness, prefer to surrender themselves into his hands than into any other".

The head of the Moscow Company (Fig. 13 b), John Smith, played a leading role in these negotiations and managed to attract "authoritative British merchants". The following quote helps to realize both the extent of English territorial claims and the hopes of English merchant diplomacy: "If His Majesty were to receive an offer of sovereignty of that part of Muscovy which lies between Arkhangelsk and the Volga, and of the waterway along that river to the Caspian or Persian Sea, or at least a protectorate over it and complete freedom for English trade, it would be the happiest offer ever made to our state since Columbus offered Henry VII the West Indies for him…"

Knowing the paucity of the British treasury, the author makes an ingenious proposal — to place the financial burden of bringing the Russian North under the hand of the monarch of England on... the Russians. He even outlines a scheme of how it could be done. In May, the British fleet will leave England to conclude a treaty with the Russian population, and in the autumn, when it moves back, the Russians "are allowed to send their ambassadors with them to confirm the treaty", "and in the meantime, let them prepare to put into the hands of the English company enough treasury and goods to pay for arming and transporting the number of troops they need".

(a) (b) (c)

Fig. 13. The capture of the Russian North (a); the Moscow Company (b); John Merrick in Arkhangelsk (c).

From the middle of the 16th century, the main trade route of the British to Russia was the city of Arkhangelsk. From that period, British merchants took over a privileged position in the foreign trade of Muscovy. The courts of the London-Moscow Company operated in the largest and most successful cities — Moscow, Yaroslavl, Arkhangelsk, Vologda, Astrakhan, Kazan. British merchants were ready to support any new government that promised them the former stability. The goal was the same — control over the main trade transit through Russia. Following the proposal presented by John Merrick, an armed British unit of 150 soldiers landed in Arkhangelsk in the summer of 1612 (Fig. 13 c). There are records that the detachment arrived in Yaroslavl, where the militia commander Prince Pozharskiy was offered to jointly seize Moscow.

English archives have a draft dated 14 April 1613 by Julius Caesar, an influential Chancellor of the Exchequer in the time of James I. The draft stated that in the unaffected North, "the people are willing, and even forced by necessity, to surrender themselves into the hands of some sovereign who can protect them, and are willing to submit to the rule of a foreigner, seeing that none of their own sovereigns are left". There is also a remark about "fortifying" the port of Arkhangelsk and whether "1,000 English soldiers" would be enough for this. In the summer of 1611, representatives of the northern Russian regions were already conducting negotiations with the English company agent Merrick [22, Labutina T.L.]

The authors of the project assured King James I that he had "sufficient grounds to take into his own hands the protection of this people and a protectorate over them on terms that can ensure and protect the freedom of trade that we are already conducting and will undertake in the future". They requested that an authorized person be sent to the north to negotiate a treaty with the local population on terms of sovereignty or protectorate. Even before the Time of Troubles,

the English had dreamed of laying transit through Russia "to Shemakha, Bukhara, Samarkand and China". During the Time of Troubles, they wanted all of Russia. On behalf of their plenipotentiaries — John Smith and John Merrick — agents of the Moscow Trading Company, they were preparing for a veiled seizure of the Arkhangelsk and Vologda regions and practically the entire Volga region with access to the Caspian Sea.

Britain's attempt to carry out a "soft occupation" of Russian territories failed. Russia coped with the Polish intervention. In February 1613, the first of the Romanov dynasty, Tsar Mikhail, took the throne of Muscovy. He ruled firmly, stopped disorder in the country and, thus, completely destroyed all the plans of the English. But even to this day, few people know that the history of the Russian State in the first decade of the 17th century could have been completely different, and that today we could well be not citizens of the Russian Federation, but subjects of the English crown.

By the beginning of the 17th century, the Kremlin authorities were well aware of the rich deposits of precious metals in the "land of Pisid" [19, Taimasova L.Yu.]. However, the remoteness and inaccessibility of those places made such knowledge useless for a long time. Tsar Vasiliy Shuiskiy was concerned about the issue of improving the monetary situation in Moscow and turned to the English for help. He returned all the privileges and liberties to the merchants of the Moscow Company [23, Bantysh-Kamenskiy N.N.]. Privately, through English "guests", the tsar asked King James I to send a specialist in the purification of natural gold. It was assumed that the Moscow money court would produce Russian gold coins that would be as pure as European standards. To implement this project, the master Walter Busby arrived to the court of Tsar Vasiliy around 1608 with recommendations from James I [24, Kurlaev E.A.].

Moscow intended to transfer the mines of the "land of Pisid" to the merchants of the Moscow Company on the terms of a "concession". Part of the mined gold was to go to the royal treasury as "concession" payments. However, for some reasons, the deal with the Moscow Company did not take place, and the English assayer was out of work. According to this additional plan, the territory of the Russian North, coming under the control of the English, stretched from the Kola Peninsula to the Urals and further to the Yenisei River and included all the richest lands of Siberia with furs, including the "gold-boiling Mangazeya".

While the document was under consideration by King James, detachments of "volunteers" began to gather in England, ready to act on the side of the Muscovite Kingdom against the Polish invaders. In reality, they were trying to penetrate Arkhangelsk. On the advice of Prince Dmitriy Pozharskiy, the head of the people's militia fighting the Poles on Russian territory, the English volunteers were not allowed into the North [23]. Meanwhile, in October 1612, the Polish invaders were expelled from Moscow, and in January 1613, Mikhail Romanov came to the throne.

The Russian state was quickly revived by the trade of Siberian furs, which were so persistently claimed by the British. The subsequent war with Poland, as a result of which Moscow returned Smolensk with Left-bank Ukraine, was conducted using the same money. At the height of

military battles, hundreds of thousands of rubles were received from the export of Siberian furs to the West. Therefore, London's dreams are understandable and had far-reaching plans. Since then, the English had repeatedly tried to take revenge, taking the Russian North into their hands. The next unsuccessful attempt was made in the Crimean War of 1854, but then the British fleet left "empty-handed". The last clear case dates back to 1918, when, in the midst of the Civil War, the English had already seized upon the treasured northern riches, but, alas, again went home in disgrace.

"Gold-boiling" Mangazeya

With the construction of Mangazeya, the sable trade began to develop rapidly, reaching its peak in the 1640s, when 145 thousand animals were hunted annually. At the end of the century, this figure fell to 42 thousand. In total, 7,248,000 sables were hunted in Siberia from 1621 to 1690. At the peak of fur production in the 1630s, 1 ruble invested in goods for exchange sometimes brought furs worth 32 rubles in one year [25, Belov M.I.]! It is not surprising that Mangazeya received the nickname "gold-boiling". Thousands of people flocked here, disregarding the dangers, hoping to get rich quickly. Industrialists were followed by merchants who supplied the city with everything it needed (Fig. 14).

(a) (b) ©

Fig. 14. Trade in Mangazeya (a); Mangazeya. Trinity Cathedral Church (b) [25, Belov M.I.]; Spasskaya gatehouse of the Mangazeya ostrog (c) [26, Serikov I.A.].

The value of the sables was enormous. Thus, the customs book of 1636 shows 87,210 sables obtained, which, converted into money, amounted to a sum close to half a million rubles, which was equal to the entire annual income of the royal court in the 1670s. In total, according to the customs books for 1630–1637 (7 years), 477,469 sables worth 2,387,345 rubles passed through the Mangazeya customs. At the same time, the tithe tax from private industrialists gave the state treasury more furs than the yasak tax from the natives of the Mangazeya district (Fig. 14) [8, Lobanov K.V.].

Table 1

Cost of furs in the 17th century [3]

Fur	Cost
Sable	50 rubles/forty (from 14 to 600–800 rubles)
Sable fur coat	50 rubles
Squirrel	7–20 rubles per thousand
Black fox silver-brown red and brown	10–50 rubles per piece from 6 rubles per piece 50 kopecks per piece
Marten	10–20 rubles/forty
Beaver	Avg. 2 rubles/piece
Ermin	2–3 rubles/forty, separate skin 2–3 altyns
Arctic fox	4–5 altyns per piece
Wolverine	1–2 rubles per piece
Wolf	1 ruble per piece
Hare	25–30 kopecks per dozen

(a) (b)

Fig. 14. Siberian sable (a), Yasak collection (b). Artist O.V. Fedorov.

In Moscow, sables were valued higher in duty than in Mangazeya. For example, in 1628 in Mangazeya the tithe tax of soft junk was valued at 15,354 rubles, and in Moscow — 17,285 rubles; in 1635, the tithe soft junk in Mangazeya was valued at 10,749 rubles, in Moscow — 12,952 rubles. Thus, if we add yasak and other taxes to the tithe tax, it turns out that the sovereign's treasury annually received soft goods from Mangazeya ranging from 17,000 to 30,000 rubles at Moscow prices [28, Butsinsky P.N.].

Along with sables, which made up the bulk of furs in value terms, other fur animals were also hunted (Table 1) [27, Yanitskiy N.F.]. But the people of Mangazeya were engaged not only in fur hunting. Various crafts were actively developing in the city. Bone carving was widely developed, as evidenced by numerous finds of items made of mammoth bone and parts for future products [15, Vizgalov G.P.].

The sensation of Mangazeya was the foundry, where crucibles were discovered — ceramic pots for smelting copper ore. The analysis of copper residues found by N.N. Urvantsev showed

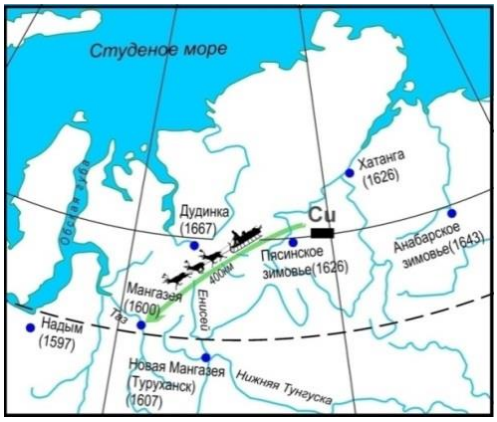
[3] [27, Yanitskiy N.F.]

that they contained platinum and palladium, typical for secondary carbonate copper ores of Norilsk deposit. The Mangazeya people smelted the carbonate ore of the Norilsk deposit, where oxide ores came to the surface and were clearly visible due to their bright color and fusibility. The ore was transported 500 km from the Norilsk winter camp to Mangazeya in winter on reindeer sleds (Fig. 16 a).

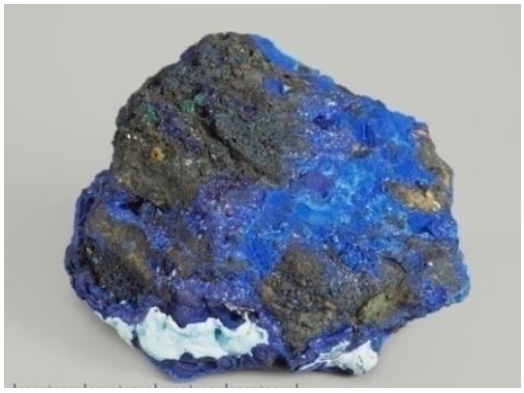
Analysis of copper samples, conducted in the spectral laboratory of the Scientific Research Institute of Arctic Geology, showed the following:

- a fragment of copper product: Pt0.013 g/t; Pd0.08 g/t;
- a piece of copper sheet; Pt0.023 g/t; Pd0.13 g/t;
- slag: not detected.

Consequently, the Mangazeya people smelted the carbonate Norilsk ore. Carbonate ores are easily smelted and easily noticeable due to their bright green or blue color [25, Belov M.I.].



(a)



(b)

(c)

(d)

Fig. 16. Possible route for the delivery of copper ore to Mangazeya (a); azurite (b); metal products (c) found during excavations in Mangazeya; metal smelting crucible (d).

In Norilsk, at the foot of the mountain later called Rudnaya, a pack of clay shales impregnated with carbonate copper salts — minerals, malachite and azurite (Fig. 16 b) — came to the surface. These shales were seen in 1866 by F.B. Schmidt during his visit to Norilsk. Their bright green and blue colors immediately caught the eye, attracting the attention of anyone, even those not familiar with mining. Such carbonate ores easily melt in furnaces of the most primitive design, which is why people of that time could mine them. Obviously, these copper-carbonate ores were used by the artisans of Mangazeya (Fig. 16 c, d). The presence of platinoids in copper smelts and the remains of copper products found during excavations of the Mangazeya foundry confirm this

conclusion. These metals are typical for all Norilsk ores: both primary sulfurous and secondary copper-carbonate oxides [8, Lobanov K.V.].

The history of the development of copper ores in Taimyr has a very long history. In the area of the unique giant Cu-Ni-Pt Norilsk deposit, the so-called Pyasinskiy metallurgical center was located in ancient times. Products of the world's northernmost Bronze Age masters were found here: anthropomorphic figures, remains of cult items, arrowheads, knife handles, etc. [29, Denisov V.V.]. According to the remains of birch bark, the time of activity of ancient metallurgists is estimated at 2800–3200 years ago. This indicates a climate at that time that was close to the modern climate of central Russia. The development of metallurgy in Taymyr in the Bronze Age was due to the region's richness in copper ores and the presence of the Arylakh deposit, easily accessible for surface mining with abundance of large copper nuggets. On the northern cape of the Rudnaya Mount (Norilsk 1), chalcopyrite veins containing up to 20% copper and 5% nickel came to the surface [30, Starostin V.I.].

Campaigns of the Mangazeya people to the Yenisei and Lena

From Mangazeya, detachments of industrialists and Cossacks travelled further east, and due to the depletion of the resource base, they went in search of furs to the Yenisei and Lena. The Turukhansk winter camp, founded by the Mangazeya people in 1607, played a key role (Fig. 17).

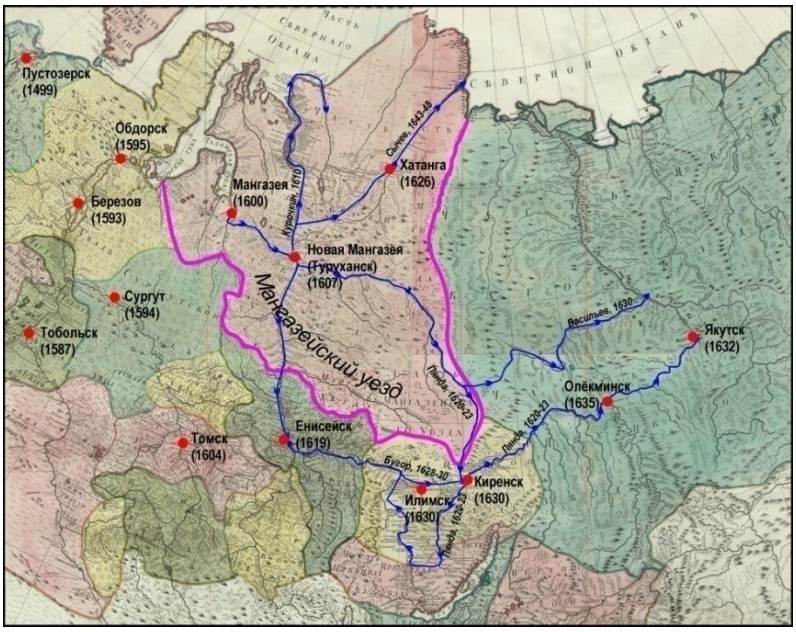


Fig. 17. Campaigns of the Mangazeya people to the east [31, Magidovich I.P.]. The map of Siberia and the borders of the Mangazeya district are shown according to the atlas of 1745 [32].

In 1610, Kondratiy Kurochkin made the first voyage to the mouth of the Yenisei, and then reached the Pyasina River across the open sea. He pointed out that it was possible to pass to the Yenisei by sea on large ships, which alarmed the authorities in Moscow. In 1620, a detachment of Demid Pyanda set out on a campaign to Lena. He came to Turukhansk from Mangazeya with a group of hunters. In 3.5 years, he traveled about 8,000 km along new river routes and began the discovery of Eastern Siberia by the Russians. He explored the Lower Tunguska for 2,300 km and

proved that its upper reaches and the Lena converge, and through the portage he discovered, hunters began to penetrate the Lena. During one summer, Pyanda traveled about 4,000 km up and down the Lena and traced its course for 2,400 km. He showed the Russians a convenient route from the upper Lena to the Angara. Pyanda was the first Russian to trace the course of the Angara for almost 1,400 km from its source and proved that it and the Upper Tunguska were one and the same river. Stories about him were collected in the Yenisei region and Yakutia by the historian G. Miller, a member of the academic detachment of the Great Northern Expedition.

In 1630, Martyn Vasilyev and his detachment made a campaign along the northern route. He went along the Nizhnyaya Tunguska, Chona and Vilyuy rivers to the Lena. During the campaign of 1628–1630, Vasiliy Bugor discovered the southernmost route leading from the Yenisei basin to the Lena. He went with detachments up the right tributary of the Angara, the Ilim, and its tributary, the Igirma, where it converges with the Kuta, crossed the watershed to the Kuta, and went down it to the upper Lena. To collect yasak, Bugor left two posts on the upper Lena, on the sites of which the Kirensk and Ust-Kut forts were later built [8, Lobanov K.V.].

The Mangazeya people penetrated the sea coast to the east of Taimyr. In 1643, Vasiliy Sychov with a detachment from Turukhansk went to the upper Pyasina, and then to Kheta, he went down along it and the Khatanga to the bay and reached the middle reaches of the Anabar River. Thus, industrialists and service people from Mangazeya and Turukhansk developed the lands in the Yenisei basin, discovered Lake Baikal, a large part of the Lena basin, and traced almost its entire course from the upper reaches to the mouth [31, Magidovich I.P.].

The decline of Mangazeya

Despite the importance of Mangazeya, which allowed controlling vast, sparsely populated northern territories rich in furs, the city's life was short. Both objective and subjective factors played a role in this.

The enormous wealth passing through Mangazeya could not fail to attract the interest of the Tobolsk voivodes. The Tobolsk voivode, Prince Ivan Kurakin (1616–1620), urged Tsar Mikhail Romanov to forbid the Mangazeya sea passage through the Yamal portages, referring to the danger of Western European companies' merchant ships appearing on the Ob and Yenisei [33, Belov M.I.]. Evidence was even presented that two European ships had been seen in Baydaratskiy Bay, near the western coast of the Yamal Peninsula. This petition was successful, since the attempts of English and German merchants to gain a foothold in the Russian northern lands during the recent Time of Troubles were still fresh in the memory.

In 1619, the Tsar's decree banning it was signed. This ban had a negative impact on Pomor shipping and led to a decline in the Pomor territories. It hit, first of all, the poor Pomor peasants who sailed to Mangazeya. After the Mangazeya sea route was banned, anyone heading to Mangazeya or Rus' could only use the overland "cross-stone route" (through the Ural Mountains) that led to Berezov or the "Kama road" through Verkhoturye to Tobolsk. Large sea kochs were built at

these points and caravans were formed for trips to Mangazeya. Ships often had accidents in the Ob Bay due to strong storms [28, Butsinskiy P.N.]. Organizing trips along these routes was expensive and available only to wealthy merchants, and ordinary Pomors were engaged mainly as hired workers. This decision of the authorities heavily affected the peoples of Dvina, Mezen, Pinega, and Ustyug, who traded with Mangazeya. During the subsequent development of the eastern territories on the Yenisei and Lena, the main flow of industrialists went along the southern routes, bypassing Mangazeya, which completely lost its significance under these conditions.

The most important events in the history of Mangazeya

Table 2

The most important events in the history of Mangazeya

1600 — a detachment under the command of Prince Miron Shakhovskiy and the Head of the Streltsy Danila Khripunov was sent to the mouth of the Taz River with orders to establish a fort in order to bring the Yenisei and Mangazeya Samoyeds under the Tsar's sovereign power and collect yasak from them annually. The subsequent fate of this detachment is unknown.
1601 — a second military expedition was sent to the Taz River region under the command of Prince Vasiliy Massalskiy and boyar Savluk Pushkin. The ostrog of Mangazeya was founded, in which they became the first voivodes. Construction of the voivode's court in Mangazeya — the earliest building.
1604 — the initial fortress was built in Mangazeya.
1606 — voivodes Davyd Zherebtsov and Kurdyuk Davydov arrived in Mangazeya. The voivodeship authority in the North Siberian land was finally established.
1607 — construction of the Davydovskaya, Ratilovskaya, Uspenskaya, Spasskaya and Zubtsovskaya towers began. City fortifications were built.
1609 — in Amsterdam, the Dutch trade agent Isaac Massa published a geographical map of Mangazeya, which showed churches, the voivodes' court and buildings.
1616 — Tobolsk voivode Kurakin reported to Moscow that the Germans hired Russians to lead them from Arkhangelsk to Mangazeya.
1619 — the Mangazeya sea route was banned (Pomor peasants were forbidden to sail from the Kara Sea to the Ob Bay and, under pain of death, to show the way to foreign ships). Large fire in Mangazeya, the city was burnt to the ground.
1626 — the "List" of the Mangazeya City was compiled, which was sent to the Siberian Prikaz. Restoration of the Assumption Church, the main church of the city.
1627 — the heyday of Mangazeya, about 700 industrialists "apart from new arrivals" spent winter in Mangazeya.
late 1620s — the Church of Macarius Zheltovodskiy (or the Church of the Holy Fathers and Wonder Workers Mikhail Malein and Macarius Zheltovodskiy) was founded in Mangazeya.
1629–1632 — boyar Grigoriy Kokorev with his retinue and nobleman Andrey Palitsyn arrived from Moscow to take over the voivodeship in Mangazeya. Internal strife between the voivodes. Defeat of Andrey Palitsyn (he retreated to the Yenisei portage).
since 1633 — the Siberian Prikaz began to appoint only one voivode to Mangazeya, who now owned the voivode's court and all power in the city.
in the 1630s — the decline of Mangazeya began. The reason for this was the extermination of sable in this area, as well as the development of more convenient routes to the north of Siberia.
1641–1644 — caravans with bread did not come to Mangazeya. There was famine in the city.
1642 — a huge fire in Mangazeya, almost the entire city burned down.
1645 — the last big fire in Mangazeya.
1654 — the acolyte of the Trinity Church Alexey Antonov robbed the storeroom of the Mangazeya Church of Macarius Zheltovodskiy. **1655** — according to the report of the voivode I. Sablin, from 700 to 1,000 fur trappers stayed in the city for wintering.
1660s — the cult of the holy martyr Vasiliy Mangazeyskiy appeared, who became the local church patron. Crowds of believers began to flock to the saint's tomb, located in Mangazeya.

This did not help to restore the former power of Mangazeya, and the development of crafts and production practically ceased.
1672 — the Strelets garrison left the city of Mangazeya by order of the Tsar and moved from the Taz River to the Turukhansk winter camp. A new city was built here — New Mangazeya (Turukhansk). The old city, far from new trade routes, abandoned by people, fell into decay. Mangazeya did not exist for long, but it was a significant milestone in the advancement of the Russians to the east.

However, it was not only administrative decisions that affected northern navigation. When considering the history of navigation along the coast of the Arctic Ocean, it is necessary to take into account both long-term climate changes and annual temperature fluctuations in these areas. The period from the 14th to the 19th centuries was called the Little Ice Age. During this time, the lowest average annual temperatures in the last two thousand years were recorded (Fig. 18). People of the Middle Ages could not assess the impact of these changes, but now we can see the connection between the activity of Arctic voyages and climatic fluctuations, in particular changes in average annual temperatures. In the North, such temperature changes led to changes in ice conditions along the voyage routes, which in turn affected the accessibility of certain regions.

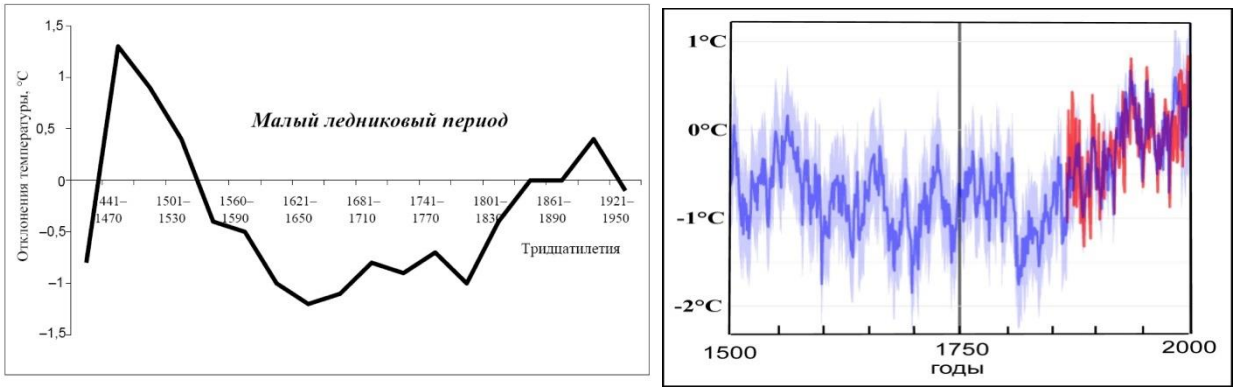


Fig. 18. Deviation of the average air temperature over 30 years in northern Eurasia from the average for the period 1881–1975, reconstructed from dendrological data [34, Krenke A.N.]; variations in average summer temperatures in the Arctic [35, Werner J.P.].

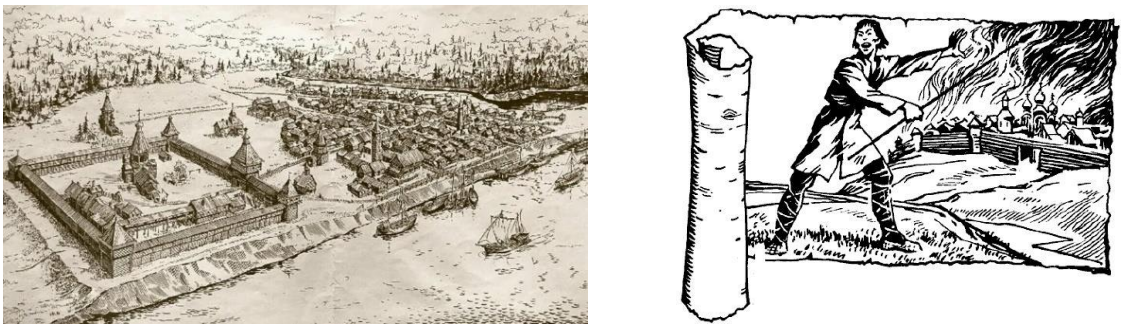
In this regard, it is clear that the beginning of fairly regular voyages of the Pomors to the mouth of the Ob from the Northern Dvina and Mezen region occurred in the middle of the 16th century, when the cooling in the Arctic had slowed down and had not yet reached its minimum during the Little Ice Age. At that time, the conditions for navigation in terms of ice conditions were more favorable. The throat of the White Sea, the straits in the area of Vaigach Island, and the waters around the Yamal Peninsula were free of ice. This undoubtedly contributed to active navigation along the northern coast and the penetration of industrialists into the territories at the mouth of the Ob. In the 1620–1630s, the period of relative warming in the North ended and the general cooling began, which sharply complicated the conditions for navigation. Besides, there were strong annual temperature fluctuations (Fig. 18 b), which affected the stability and regularity of voyages from year to year. Therefore, even without the Tsar's ban, the movement along the Mangazeya Sea Route would most likely have gradually faded away. Later, in the middle of the 18th century, the participants of the northern detachments of the Great Northern Expedition encountered such sharply complicated weather and climate conditions; they had to describe long sections

of the coast by foot routes, rather than by sea voyages, which were greatly hampered by the difficult ice conditions.

In 1629–1630, an unprecedented in the history of Siberian cities case of open hostility between two voivodes occurred in Mangazeya. Although conflicts with clarification of relations between voivodes appointed to one city occurred in other Siberian cities, only in Mangazeya it resulted in an armed confrontation between their supporters. After these events, the procedure for appointing voivodes to Mangazeya was changed. Since 1633, the Siberian Prikaz began to appoint only one voivode to Mangazeya, who now owned the voivode's court and all power in the city. Gradually, the practice of appointing two voivodes to one city was abandoned in other Siberian cities.

The tragic events of 1629–1631 coincided with the beginning of the gradual economic decline of Mangazeya. The main reason for this was the reduction in the sable population as a result of uncontrolled hunting, which exceeded its natural growth. This led to the fact that more and more hunters began to leave for hunting in other areas on the Yenisei and further to the east. Business activity in the city began to decline, and fewer goods were delivered. The voivodes had to spend more time in the Turukhansk winter camp, solving various issues.

Fires, which devastated the city several times, posed a great danger to Mangazeya, as they did to all wooden cities. In the hot summer of 1642, a huge fire broke out in Mangazeya. Almost the entire city burned down. The voivode's court, the sovereign's granary, the assembly house, and part of the fortress wall burned down. Many half-burnt but not completely extinguished buildings had to be torn down for fear of a new outbreak of fire (Fig. 19).



(a) (b)

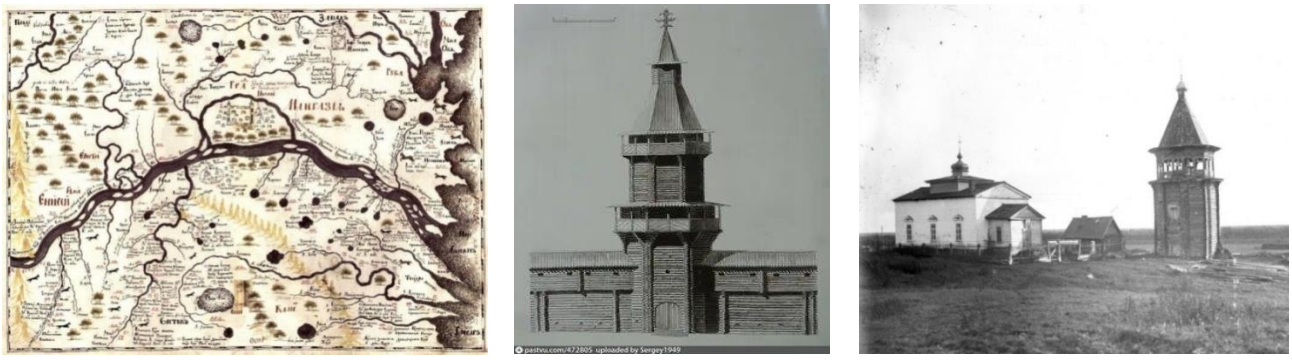
Fig. 19. The city of Mangazeya (a); fire in Mangazeya (b).

After the fire of 1642, Mangazeya was never rebuilt in its original form [13, Belov M.I.]. The entire archive of Mangazeya, located in the fortress, burned down in this fire. Therefore, only the documents that were once sent from Mangazeya to Moscow have been preserved for history. As to the cause of the fire, it was supposed that the town was set on fire by natives who had arrived in the city under the pretext of trade. By this time, relations with local residents had become strained, who, taking advantage of the impunity of the authorities, began to attack and kill industrialists, take away their furs and various supplies.

The situation was aggravated by the fact that in 1641–1644, due to unfavorable weather conditions in the Ob Bay, caravans of kochs with grain could not get through to Mangazeya from

Tobolsk. Famine began in the city. It became increasingly obvious that the city was losing its former significance, hindering the development of new territories and not bringing the same income to both industrialists and the treasury.

Taking into account these unfavorable circumstances, since 1650s, the Mangazeya voivodes started a long correspondence with Moscow about the need to move the city further east, where the center of the fur trade had already shifted. The residents began to leave the city, and business activity began to fade. In 1670, the relics of the Siberian saint Vasiliy Mangazeya were transferred from the deserted Mangazeya to the Trinity Monastery (Fig. 20), which had existed next to the Turukhan winter camp since 1660. Later, in 1720, by the order of the Metropolitan of Tobolsk Philotheus, they were placed in the ground in the southern half of the Church of the Life-Giving Trinity. Finally, in 1672, Tsar Alexey Mikhailovich issued a decree abolishing the city. Mangazeya was finally abandoned in 1677, and its garrison and district leadership were transferred to the Yenisei to the Turukhan winter camp, which had existed there since 1607, and since 1660 — the Trinity Monastery. Having originally received the name of New Mangazeya, the fortress was later called Turukhansk (Fig. 20). The construction of the fortress was supervised by the last Mangazeya voivode Danila Naumov, who built it in the image of the Mangazeya fortress. By 1677, the last residents left Mangazeya, and the city began to disappear gradually [8, Lobanov K.V.].



(a) (b) (c)

Fig. 20. Map of the city of New Mangazeya (modern Staroturukhansk) with its surroundings at the end of the 17th century (a)[4]; Gatehouse tower of the Turukhansk ostrog (b); Holy Trinity Turukhansk Monastery, bell tower with bells from Mangazeya (c).

The Tazovskoye yasak winter camp continued to exist on the site of Mangazeya until the end of the 18th century. In 1735, the winter camp was visited by a land detachment led by the geodesist student Fedor Pryanishnikov, and in the winter of 1737–1739 — by a detachment of the geodesist Mikhail Vykhodtsev. Both of these detachments belonged to the Ob-Yenisei detachment of the Great Northern Expedition under the command of Dmitriy Ovtsyn [36, Magidovich I.P.].

Conclusion

For centuries, despite all the difficulties, the Russian people steadily and consistently moved eastwards, mastering the vast expanses of northern Eurasia.

[4] Book of maps of Siberia, compiled by Semyon Remezov, a boyar son of Tobolsk in 1701. URL: https://kp.rusneb.ru/item/material/atlas-sibiri-semena-remezova (accessed 20 July 2024).

The campaigns of the Novgorodians and then the Pomors made it possible to master Pomorie, the White Sea basin, the Kola Peninsula, protect them from foreign encroachment and gain free access to the Arctic Ocean. The sea voyages of the Pomors to the Arctic islands and along the northern coast of the Studenoe Sea marked the beginning of the development of the Northern Sea Route — the shortest route from Europe to China.

The northern lands became a source of inexhaustible resources, primarily furs, which were the basis for the economic development of the Russian state. Furs obtained in the North were practically the only export goods that made it possible to purchase goods that were not produced in Rus' abroad. These were, first of all, ferrous, non-ferrous and precious metals, materials necessary for the development of industry and defense capacity of the country. In fact, "soft junk" played the same role in foreign trade as oil and gas do today.

The construction and existence of Mangazeya, a large city in the center of the fur trade, played a huge role in the development and consolidation of this region for the Russian state. The city became the starting point for further advancement to the east. The sale of northern furs made it possible to overcome the economic decline of the Time of Troubles in the early 17th century and lay the foundations of a powerful state. At the same time, even in the most difficult times, it was possible to protect this region from capture by foreigners, preserving it for the Russian state.

Now the importance of these vast territories is only growing. The Northern Sea Route is the most important transport artery connecting the east and west of our country. This entire region is an inexhaustible source of resources that ensures the independent development of our country for many years to come.

References

1. Belov M.I., ed. *History of Discovery and Development of the Northern Sea Route. Volume 1: Arctic Navigation from the Most Ancient Times to the Middle of the XIX Century*. Moscow, 1956, 592 p. (In Russ.)
2. *Complete Collection of Russian Annals. T. V. Pskov and Sofia Annals*. Saint Petersburg, Tipografiya E. Pratsa Publ., 1851, 277 p. (In Russ.)
3. Tsiporukha M.I. *Ancient Mariners and Mysteries of the Planet*. Moscow, Veche Publ., 2005, 416 p. (In Russ.)
4. Okladnikov N.A. *Russian Columbians. Mezen Polar Seafarers and Explorers (XVI–Early XX Century)*. Arkhangelsk, Pravda Severa Publ., 2008, 358 p. (In Russ.)
5. Lobanov K.V., Chicherov M.V. The History of the Development of Natural Resources of the Russian Arctic in the Middle Ages. In: *Pioneers of the Far North. The Fourteenth Feodorite Readings: On the 450th Anniversary of the Blessed Repose of St. Theodoret of Kola, Who at the Beginning of the 16th Century Illuminated the Lands of the Kola North with the Gospel Light: Materials of the Historical and Local History Conference*. Murmansk, Murmanskaya eparkhiya Publ., 2022, pp. 40–65.
6. Gerbershteyn S. *Notes on Moscow Affairs*. Saint Petersburg, Izdatelstvo A.S. Suvorina Publ., 1908, 382 p. (In Russ.)
7. Alekseev M.P. *Siberia in the News of Western European Travellers and Writers*. Irkutsk, Irkutskoe oblastnoe izdatelstvo Publ., 1941, 609 p. (In Russ.)
8. Lobanov K.V., Chicherov M.V. Mangazeya: A Legendary City of the Russian Arctic. *Trudy XX Fersmanovskoy Nauchnoy Sessii GI KSC RAS*, 2023, no. 20, pp. 659–672.
9. Khoroshkevich A.L. *Trade of Veliky Novgorod with the Baltic and Western Europe in XIV-XV centuries*. Moscow, Academy of Sciences of the Soviet Union Publ., 1963, 366 p. (In Russ.)

10. Vilkov O.N. Fur Trade in Siberia. *Nauka v Sibiri*, 1999, no. 45.
11. Nikitin D.N., Nikitin N.I. *Conquest of Siberia. Wars and Campaigns of the End of the XVI – Beginning of the XVIII Century*. Moscow, Fond "Russkie vityazi" Publ., 2016, 124 p. (In Russ.)
12. *Vychegodsko-Vymsk Annals. Historical and Philological Collection of the Komi Branch of the USSR Academy of Sciences*. Syktyvkar, 1958, iss. 4, pp. 257–271. (In Russ.)
13. Belov M.I. *Mangazeya*. Leningrad, Gidrometeoizdat Publ., 1969, 128 p. (In Russ.)
14. Lobanov K.V., Chicherov M.V. Geological Factors in the History of the "Time of Troubles" of the Russian State in the 17th Century. In: *II Laverov Readings "Arctic: Actual Problems and Challenges". Collection of Scientific Materials of the All-Russian Conference with International Participation*. Arkhangelsk, Tipografiya № 2 Publ., 2023, pp. 61–65.
15. Vizgalov G.P., Parkhimovich S.G. *Mangazeya: New Archaeological Research (Materials of 2001-2004)*. Yekaterinburg,Nefteyugansk, Magellan Publ., 2008, 296 p. (In Russ.)
16. Mel'nikova A.S. *Moscow English Company and Russian Money Business. Russia on the Paths of Civilisation*. Moscow, 1982, p. 115–125. (In Russ.)
17. Forsten G.V. Politics of Sweden in the Time of Troubles. *Zhurnal Ministerstva Narodnogo Prosveshcheniya*, 1889, pp. 325–349.
18. Videkind Yu. *History of the Swedish-Moscowite War of the XVII Century*. Moscow, 2000, 656 p. (In Russ.)
19. Taimasova L.Yu. An English Project of the Colonization of Russian North, or Gold of "Terra-Pisida". *Historical Format*, 2020, no. 1, pp. 96–114.
20. Lyubimenko I. A Project of the Acquisition of Russia by James I. *The English Historical Review*, 1914, vol. XXIX, art. 248253.
21. Lyubimenko I.I. English Project of 1612 on the Subordination of the Russian North to the Protectorate of King James I. *Nauchnyy Istoricheskiy Zhurnal*, 1914, vol. 2, iss. 3, no. 5.
22. Labutina T.L. *The British in pre-Petrine Russia*. Saint Petersburg, Aleteyya Publ., 2011, 272 pp. (In Russ.)
23. Bantysh-Kamenskiy N.N. *Review of Foreign Relations of Russia in 1800. Part 1*. Moscow, Tipografiya E. Lissnera i Yu. Romana Publ., 1894, 304 p. (In Russ.)
24. Kurlaev E.A., Mankova I.L. *Development of the Ural-Siberian Ore Fields in the 17th Century*. Moscow, Drevlekhranilishche Publ., 2005, 324 p. (In Russ.)
25. Belov M.I., Ovsyannikov O.V., Starkov V.F. *Mangazeya: Mangazeya Sea Passage*. Leningrad, Gidrometeoizdat Publ., 1980, 164 p. (In Russ.)
26. Serikov I.A. The City of Mangazeya (on the 360th Anniversary of Its Foundation). In: *Krasnoyarsk Region (Materials on Geography and History)*. Krasnoyarsk, KSPI Publ., 1962, pp. 239–252.
27. Yanitskiy N.F. *Fur Trade in the 17th Century: An Abstract from the Seminary of Professor M.V. Dovnar-Zapolsky*. Kiev, Tipografiya Imperatorskogo universiteta Sv. Vladimira Publ., 1912, 33 p. (In Russ.)
28. Butsinskiy P.N. On the History of Siberia. Mangazeya and Mangazeysky Uyezd. 1601-1645. *Zapiski Imperatorskogo Khar'kovskogo universitet*a, 1893, 66 p.
29. Denisov V.V. *Chronology of Taymyr: Chronology of Historical Events of the Genesis of Taymyr and Norilsk District*. Norilsk, APEKS Publ., 2009, 224 p. (In Russ.)
30. Starostin V.I. *Mineral Resources and Civilisation*. Moscow, MAKS Press Publ., 2014, 160 p. (In Russ.)
31. Magidovich I.P., Magidovich V.I. *Essays on the History of Geographical Discoveries. In 5 Volumes. Vol. 2. Great Geographical Discoveries (the End of the 15th - the Middle of the 17th Century).* 3rd Edition, Revised and Supplemented. Moscow, Prosveshchenie Publ., 1983, 399 p. (In Russ.)
32. *Atlas of Russia, Consisting of Nineteen Special Maps Representing the Russian Empire with Border Lands*. Saint Petersburg, Tipografiya Imperatorskoy Akademii nauk Publ., 1745, 31 p. (In Russ.)
33. Belov M.I. *The Feat of Semyon Dezhnev*. Moscow, Mysl' Publ., 1973, 221 p. (In Russ.)
34. Krenke A.N., Zolotokrylin A.N., Popova V.V., Chernavskaya M.M. Reconstruction of the Dynamics of Humidification and Air Temperature for the Historical Period (by Natural Indicators). In: *Palaeoclimates of the Late Glacial and Holocene*. Moscow, 1989, pp. 34–38. (In Russ.)
35. Werner J.P., Divine D.V., Nilsen T., Ljungqvist F.C., Francus P. Spatio-Temporal Variability of Arctic Summer Temperatures over the Past 2 Millennia. *Climate of the Past,* 2018, vol. 14, no. 4, pp. 527–557.

36. Magidovich I.P., Magidovich V.I. *Essays on the History of Geographical Discoveries. In 5 Volumes. Vol. 3. Geographical Discoveries and Research of Modern Times (Mid 17th–18th Centuries).* 3rd Edition, Revised and Supplemented. Moscow, Prosveshchenie Publ., 1984, 319 p. (In Russ.)

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Motivation of Participants of Student Labor Groups: A Comparative Historical Analysis (On the Materials of the Arkhangelsk Oblast)

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Abstract. Student labor groups are one of the few forms of social activity of young people, which, having emerged in Soviet times, not only managed to revive again, but also has a tendency of steady growth. The activities of the student groups attracted attention both in historical and social aspects. However, most of the authors addressed only a certain stage in the history of the SCB-RSG and very rarely tried to conduct a comparative analysis of the development of the student movement in the Soviet and modern periods. The works of historians and sociologists and published studies reflect different ideas about the motives of students' participation in the third labor semester. Some authors believe that the motives have not changed, while others think that they are completely different for modern students. The results of the conducted research, based on interviews, questionnaires, and analysis of the memories of veterans of the movement, show that the motives of the participants have changed slightly, since they depend primarily on the psychological characteristics of youth as a social group. At the same time, the peculiarities of society and state development in different historical periods put an imprint on the priorities and life values of youth, which is reflected in the motivation for participation in the student labor groups.
Keywords: *student labor groups, youth, motivation, socialization, social activity*

Introduction

Student labor groups are one of the few forms of social activity of young people, which, having emerged in Soviet times, not only managed to revive again, but also has a tendency of steady growth. The activities of the student groups attracted attention both in historical [1, Pristupko V.A.; 2; 3; 4, Kapshuk A.Yu.; 5; 6, Shcheglova T.K.] and in social aspects [7, Semchenko A.Ya.; 8, Babaeva E.V., Ganshina G.V.; 9, Ananyeva V.A., Eremeeva T.S.; 10, Akhmedova A.R., Koda E.A., Sterlyadeva N.A. et al.]. However, most of the authors addressed only a certain stage in the history of the SCB-RSG and very rarely tried to conduct a comparative analysis of the development of the student movement in the Soviet and modern periods [11, Khovrin A.Yu.; 12, Nikiforenko A.M., Neborsky E.V.]. This is due to the fact that for such an analysis it is necessary to preliminarily organize a search for veterans of student construction brigades (SCB), meetings and interviews with them, as well as to conduct a survey of modern participants of the student labor groups (RSG). The scientific novelty of the study conducted by the author consists in determining the motives for the participation of young people in student labor groups in different historical periods.

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The purpose of the work is to identify the common motives for the participation of young people in the student brigades in the Soviet and modern periods. The relevance of the work is determined by the importance of student brigades in the process of involving young people in the active life of the country. The sources of the research were the author's interviews with the SCB and RSG participants from the universities of Arkhangelsk, Severodvinsk and Moscow, who worked in the Arkhangelsk Oblast, as well as articles in the periodical press, published memoirs of the participants and reports of the Public Opinion Study Center based on the results of a comprehensive study conducted by the order of the regional headquarters of the Arkhangelsk Oblast youth labor groups in 2020. The research was based on the historical-comparative method and sociological concepts about the peculiarities of youth as a social group. The author considers youth as a "socio-demographic group identified on the basis of age characteristics, peculiarities of social status and socio-psychological properties determined by the above" [13, Bibik U.D., Khairullina N.G., p. 13], which are also influenced by the socio-political system and the level of culture. The social status of youth remains unchanged in all historical periods: youth is both an object and a subject of socialization. Representatives of youth as a social group strive for self-organization, formation of their own social status, and self-determination [14, Sokhadze K.G., pp. 358–359], [15, Barash R.E., Tyurina I.O., pp. 434–440].

Motivation of students in the 1960s–1980s

During interviews with veterans of the construction brigades and analysis of published memoirs, it became clear that the reasons that motivated students to join a brigade varied primarily depending on the focus of the brigade's work and the time of its existence. For example, the majority of construction brigade members of the 1960s–1970s indicated a desire to help the country, to work as a Komsomol member should, to do what was necessary for the city and the countryside, to leave a memory of themselves. M.V. Popov, a member of the construction brigade of the Arkhangelsk State Medical Institute (hereinafter — ASMI) in 1968–1969, wrote: "And we were eager to "Give the cities as keepsakes to the people"... We were young, we believed in ourselves. We were supported by ringing slogans and songs, and we tried to be sincere presenters of cities. In Savinsk we had a slogan: "Today — a bathhouse, tomorrow — communism!" [3, vol. 1, p. 77]. Another veteran of the 1972 ASMI student brigade, S.P. Glyantsev, also noted what was typical for many participants of the 1960s–1970s: "I don't remember how much I earned then. Honestly. It was just so unimportant that I forgot." [3, vol. 1, p. 282]. Many students of the Arkhangelsk Forestry Engineering Institute (hereinafter — AFEI) and the Moscow D. Mendeleev Institute of Chemical Technology (hereinafter — MCTI), who were engaged in restoration work on Solovki and Kiy Island, answered the question about their earnings in almost the same way: "We didn't go there for that." [1] They joined the brigades not expecting to earn money, but wishing to visit places connect-

[1] The phrase is taken from a collective interview with veterans of the AFEI Solovki-69 brigade, conducted by the author on 20 May 2022.

ed with the history of the country, to take part in the restoration of historical monuments. As A.M. Sarsenov, a MCTI student, who first joined the brigade in 1968, pointed out: "I was attracted by the romanticism and the desire to get acquainted with Russian history." [2] The members of the Kommunar volunteer labor brigade of the AFEI, which worked from 1979 to 1988, had a special motivation. As a rule, they transferred the money earned by the brigade at various construction sites in the Arkhangelsk Oblast to the sponsored orphanage. The members were united by pure and high aspirations: to be useful to society, to bring a bright future closer; some of them were sure that this is what student construction brigades would be like in the future [3].

An important motive for joining the SCB in the 1960s and 1970s was the desire to assert oneself and perform responsible work. I.M. Vorobyov, a veteran of the AFEI student brigades of the 1960s, recalled: "I also joined the student brigade, I wanted, like many students of that time, to participate in a new, previously unknown affair, to work in my chosen specialty, to strengthen my construction skills, and to earn money" [3, vol. 1, p. 89]. S.A. Albitskiy, who worked in the AFEI Zodchiy-74 brigade, noted in his memoirs: "I had only one desire — to test myself, to pass the test of life endurance, to grow up a little earlier" [3, vol. 1, p. 339]. About 20% of SCB veterans explained their joining the brigades by the desire to spend the summer usefully and to do something interesting. In addition, Moscow students travelling to the Arkhangelsk Oblast were attracted by the opportunity to see new exotic places, as were the members from Arkhangelsk who went to the Nenets Autonomous Okrug: "It is impossible to describe the beauty of those places in summer, and we tried to see as much as possible" [3, vol. 1, p. 313].

Not the most significant at that time, but important for some students, component of brigade life was the feeling of comradely support, a sense of brotherhood; they went to brigade in order to make new acquaintances and usefully spend time with friends. According to the memories of AFEI SCB veteran A.T. Samodov, "there were new acquaintances, new impressions, new friends" [3, vol. 1, p. 73]. S.G. Otryvanov, commander of the Stroitel-76 SCB, wrote: "And will you forget the friends with whom you learned the joy of hard work, the proud sense of camaraderie, great responsibility and wages earned by your own?" [3, v. 1, p. 289]. The members of student brigades also had financial motivation, but only the construction ones. 14% of the SCB participants noted the desire to earn money among the reasons for joining the detachment, about 2% singled out this reason as the main one. In the 1960s and 1970s, a stipend of 40–50 rubles was practically insufficient for students who lived in dormitories; relatives, if they could, sent money and food parcels, so the natural desire of students was to improve their financial situation.

In the 1980s, the attitude of students towards SCBs changed somewhat. This became especially evident in the second half of the decade, when communist ideology gradually ceased to have an effect on young people, the economic system changed, and the romance of communist labor became a thing of the past. But student romance remained. "In our SCB uniforms, we seemed to

[2] Memories of A.M. Sarsenov, recorded by the author on 16 December 2023. Private collection of T.S. Minaeva.
[3] Nechaeva O. Everyone had a case to his liking. *Nash temp*, 1984, no. 16.

ourselves to be 'geologists-pioneers, going to conquer the remote taiga'" — this is how ASMI student A.M. Varvinskiy described himself and his comrades in 1981 [3, v. 1, p. 404]. I.F. Avdyshoev, an AFEI student of 1986, went to the construction brigade because "I wanted to feel what SCB was, and I wanted some romance" [3, vol. 1, p. 492]. A.V. Brovin from the Arkhangelsk State Pedagogical Institute (hereinafter — ASPI) joined the brigade to "get in touch with history and great deeds" [4]. Nevertheless, according to the data obtained, there were only 10% of the romantically inclined members of the 1980s construction and restoration brigades. The most frequently stated reason for joining the brigade in those years was to earn money and feel financially independent for a while; at least a third of the veterans of the student brigades stated this. Completely different interests attracted student guides from the ASPI Biarmy brigade to Solovki; the earnings were small, they went to the islands to see architectural monuments, learn more about history and try themselves in professional activities. The veterans of the 1980s wrote about their reasons for participating in the group of guides: "I was captivated by the stories of course mates about the Solovetsky Islands", "the practice of communicating with a group of listeners whose attention you are obliged to keep for several hours in a row", "to master the skills of the profession", "the opportunity to become familiar with Solovki" [5]. Those who joined the Kommunar volunteer work brigade in 1984 and students from the Moscow Engineering Physics Institute brigade who worked on the improvement of the village and restoration of the canals on Bolshoy Solovetsky Island in the second half of the 1980s and early 1990s wanted to see Solovki [6] [3, v. 1, p. 536]. Overall, about a third of the members of various brigade profiles noted the opportunity to see new places. Another reason that some veterans of the construction brigades wrote about (15%) was the desire to do something useful with their own hands: "spend free time usefully", "acquire skills of working professions", "work on restoration" [7] [3, v. 1, p. 403, 474].

Thus, if in the 1960s and 1970s, the desire to benefit the country and society, to contribute to its transformation, to assert oneself through the performance of responsible work were among the main motives for participating in the construction brigades, in the 1980s, material interests and the opportunity to go somewhere, get acquainted with unknown regions and learn something new came to the fore. In general, the romantic mood of the majority of participants was gradually replaced by the desire to acquire professional skills, to fulfil the assigned work conscientiously, thus earning respect and a decent salary.

Motivation for joining student construction brigades in 2000–2020

The revival of the student brigade movement began in the Arkhangelsk Oblast in 2000 on the basis of AFEI. The Komsomol as an ideological basis for youth formations no longer existed, so

[4] Memories of A.V. Brovin, recorded on 02 May 2022. Private collection of T.S. Minaeva.
[5] Memories of M.Y. Ananchenko, E.F. Lutskovskaya, V.G. Shestakov, N.M. Shulakova. Recorded in 2020. Private collection of T.S. Minaeva.
[6] Dolgoroborodova S. No one will do except us. *Nash temp*, 1984, no. 28.
[7] Memories of A.Yu. Dmitriev, O.V. Losev, V.G. Rogachev from the brigade "Atheist". Recorded in 2022. Private collection of T.S. Minaeva.

if the organizers of the first brigade were interested in reviving traditions, then the members were primarily motivated by the need to earn extra income. For the first few years, financial motivation prevailed: "I was only thinking about where to find a part-time job for the summer" (V.A. Sikstov, 2000), "For young people, the most important aspect of this matter is probably the material one" (T. Garay, 2002) [3, v. 2, pp. 60, 69]. As the movement developed, students began to see construction brigades as more than just a way to meet their financial needs: "The school of student construction brigades means new friends, good income, and most importantly — industrial training" (A. Koposov, 2003), "A construction brigade is not just a way to earn money, but also a good school of life. In addition, teamwork helps to reveal the abilities of each student" (D. Pogozhev, 2004) [8]. The organizational formation of the movement on the scale of the state, federal district, and region in 2003–2004, the propaganda of RSG activities through periodicals and stories about the students' stay in the brigades contributed to the creation of new teams not only in construction, but also in teaching, transportation, service, excursion, search, and other areas. These changes generally influenced the students' motives for joining RSG, which is reflected in a phrase from a letter written by A. Anufriev, a member of the Medved brigade in 2010: "Each of us came here with a specific purpose! Someone wants to discover something new, someone wants to test his strength, someone just needed company, new friends, someone needed to earn money and rest, and someone just wanted to get a shock wave of new emotions and sensations that would overwhelm with a head …" [3, v. 2, p. 188].

During a sociological study conducted in 2020, RSG participants from the Arkhangelsk Oblast filled out questionnaires where they noted the three most important points related to their desire to become a member of the brigade. The results showed that at the first stage, when students are just planning to join the brigade, their expectations are primarily related to expanding their circle of acquaintances (noted by 41.7%), employment and earnings (40.5%), and self-realization (31.9%). Slightly less important is the prospect of travelling outside the region (noted by 28.2%) and the desire to engage in socially useful work (23.6%). As they accumulate experience in participating in the brigades, students' views and interests change. For the study, 17 parameters reflecting different types of motivation for further participation in the RSG were selected. The respondents assessed the significance of each parameter on a five-point scale, where the maximum score corresponds to the maximum significance. As a result, it was found that self-realization becomes the leading motive, the second place is occupied by the desire to be together with friends and the third — by the opportunity to engage in socially useful work and an active lifestyle (the same number of points). At the same time, additional professional training and the opportunity to earn money took 7th and 16th positions, respectively, and travelling — 6th place. It should be

[8] Koposov A. "Lotus". *Nash temp*, 2003, no. 23-25, p. 2; Pogozhev D. SCB: Leto-2004. *Nash temp*, 2004, no. 26-31, p. 20.

noted that interest in an active lifestyle was characteristic of both first-year members (30.5%) and experienced participants of the movement [9].

Thus, in 2000–2020, financial motivation occupied the main place among students only in the initial period of the revival of construction brigades, then it gave way to the desire to make new friends and spend time with them, as well as to get an opportunity for self-realization. The members, whose expectations from participation in the brigades were met, received not only emotions and satisfaction from social communication, but also a sense of their significance and the importance of their contribution to a socially useful cause, which contributes to both the process of socialization of young people and the growth of the popularity of the RSG movement.

It should be added that in many respects similar results were obtained in the course of sociological research conducted among Novosibirsk students to study the motives of their social activity. The leading place was occupied by motives of self-development, the significance of the activity carried out and motives of transformation of the surrounding reality [16, p. 136].

Conclusion

In general, it can be concluded that socio-psychological features of youth, associated with its need for self-assertion, self-organization and self-expression, were and remain the main motives for participation in the student brigades at different historical stages of development of our society and state. The desire to lead an active lifestyle, see new places, and get vivid emotions are also common for both Soviet and post-Soviet times. Differences in motivation manifested themselves primarily in the prevalence of romantic sentiments and the desire to work (including free of charge) for the benefit of the whole society in the 1960s — first half of the 1980s and the increased desire to improve their own financial situation in subsequent years, which is explained by the ideological and economic features of the corresponding historical periods. Nevertheless, both in the second half of the 20th century and in the first quarter of the 21st century, student brigades contribute to the socialization of young people, their involvement in socially useful work, the formation and strengthening of an active life position of its representatives.

References

1. Pristupko V.A. *Student Detachments: Historical Experience of 1959–1990*. Moscow, MosGU Publ., 2008, 294 p. (In Russ.)
2. Komarov I.I., ed. 5*0 Years of Student Construction Brigades*. Moscow, Zimorodok Publ., 2009, 636 p. (In Russ.)
3. Zhilin A. N., Otryvanov S. G. *Student Detachments of the Arkhangelsk Region: Dedicated to the 50th Anniversary of the Movement of Student Detachments of the Arkhangelsk Region... In 2 Books*. Arkhangelsk Shtab molodezhnykh trudovykh otryadov Arkhangel'skoy oblasti Publ., 2018–2019, 2018. 569 s. (In Russ.)

[9] Summary report on the results of a comprehensive analytical study on the topic “Features of functioning and prospects of development of youth labor brigades in the Arkhangelsk Oblast”. Archive of the State Autonomous Institution HYLB.

4. Kapshuk A.Yu. *History of Student Construction Teams of the Soviet Union from 1965 to 1990 (Based on Materials from Krasnodar and Stavropol Territories):* Dr. Hist. Sci. Diss. Krasnodar, Izdatel'sko-poligraficheskiy tsentr Krasnodarskogo universiteta Publ., 2024, 31 p. (In Russ.)
5. Balandin K.I., ed. *Student Construction Teams in Belarus: History and Modernity*. Minsk, BNTU Publ, 2020, 355 p. (In Russ.)
6. Shcheglova T.K. Practices of the Formation of Historical Consciousness in the Veteran and Student Social Movement of Altai Krai in the 1960s–1980s. *Vestnik Arheologii, Antropologii i Etnografii*, 2024, no. 3, pp. 209–219. DOI: https://doi.org/10.20874/2071-0437-2024-66-3-18
7. Semchenko A.Ya. *We Built the Komsomol, the Komsomol Built Us*. Moscow, MosGU Publ., 2015, 350 p. (In Russ.)
8. Babaeva E.V., Gan'shina G.V. Social Activity Formation of Moscow Higher Education Institution Students Based on Student Construction Brigades: The Experience of 1971-1980. *Russian Regions: Looking into the Future*, 2015, no. 4, pp. 52–61.
9. Anan'eva V.A., Eremeeva T.S. The Russian Students' Teams: Opportunities for Socialisation and Personality Formation of Undergraduate Students. *Vestnik Amurskogo gosudarstvennogo universiteta. Seriya: Gumanitarnye nauki*, 2017, no. 78, pp. 119–124.
10. Akhmedova A.R., Koda E.A., Sterlyadeva N.A., Lapteva D.N., Oleynikova E.P. Student Squads as Agents of Socialization of Student Youth (Based on Research in the Altai Territory). *Sociodynamics*, 2023, no. 3, pp. 36–53. DOI: https://doi.org/10.25136/2409-7144.2023.3.40112
11. Khovrin A.Yu. *Student Detachments as a Subject of Implementation of the State Youth Policy: Sociological and Managerial Analysis:* Cand. Sociolog. Sci. Diss. Nizhny Novgorod, 2003, 23 p. (In Russ.)
12. Nikiforenko A.M., Neborsky E.V. The Development of Student Associations in the USSR and the Russian Federation in the Second Half of the 20th — Early 21st Centuries. *Society: Sociology, Psychology, Pedagogics,* 2022, no. 9, pp. 107–113. DOI: https://doi.org/10.24158/spp.2022.9.15
13. Bibik U.D., Khayrullina N.G. Study of the Problems of Youth Retention in the Small Homeland: A Regional Approach. In: *Priority Directions of Economic, Political and Social Development of Information Society (PN-2023). Proc. of the Intern. Sci.-Pract.Conf*. Tyumen, UTMN Publ., 2024, pp. 12–17.
14. Sokhadze K.G. Social Activity of the Russian Youth: The Scope and Restraining Factors. *RUDN Journal of Sociology*, 2017, vol. 17, no. 3, pp. 348—363. DOI: https://doi.org/10.22363/2313-2272-2017-17-3-348-363
15. Barash R.E., Tyurina I.O. Student Youth: Psycho-Emotional and Social Self-Portrait (Based on the Results of Focus Groups). *RUDN Journal of Sociology*, 2024, vol. 24, no. 2, pp. 430–444. DOI: https://doi.org/10.22363/2313-2272-2024-24-2-430-444
16. Shchemeleva I.I. Social Activity of the Student Youth: Factor and Cluster Analysis. *Sociological Studies*, 2019, no. 4, pp. 133–141. DOI: https://doi.org/10.31857/S013216250004594-6

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