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### Tourism and Recreation of the Russian Arctic Population: Opportunities and Limitations \*

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**Abstract.** The Arctic regions, being on the one hand an important resource for socio-economic development of the state, and on the other hand, characterized by harsh natural and climatic conditions of work and life, require special attention to achieving quality of life of the local population. The sphere of tourism and recreation is considered as a tool for restoration of physical and emotional forces of a person. The purpose of the study is to identify the opportunities and limitations of tourism and recreation for the residents of the Arctic regions of the Russian Federation. The study is based on the calculation of indices for economic, socio-economic and infrastructural indicators that characterize the opportunities and limitations of tourism and recreation organization by the population of the Arctic regions of Russia in the regional context. The results revealed the presence of high financial opportunities in the organization of tourist trips and leisure activities. There is a significant level of activity aimed at promoting inbound domestic and international tourism. It is revealed that the residents of the Arctic regions have a relatively low level of spending on recreation in the territory of permanent residence. The problems identified in the course of research work on recreation of residents of the Arctic regions in the territory of permanent residence require a more systematic and comprehensive approach. The results obtained can be used in strategic and policy documents on the development of the Arctic regions of the Russian Federation.

**Keywords:** *Arctic region, population, tourism and recreation, priority spending index.*

#### Introduction

The Arctic territories are a significant resource for the socio-economic development of the Russian Federation, actualizing the problems of reproduction, attraction and retention of the population, especially young people. One of the tools for restoring the physical and emotional health of a person is the sphere of tourism and recreation. Residents of Russia's Arctic regions are supposedly the most vulnerable in terms of harsh natural and climatic conditions of living and life, so they need full recreation and rest more than others. In this regard, the answer to the question of access to recreation and tourism for the population of the Russian Arctic is of particular importance. The present study is devoted to this topical issue; its purpose is to identify the possibilities and limitations of tourism and recreation for residents of the Arctic regions of the Russian Federation.

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### *Literature review*

Arctic territories are a significant resource for the socio-economic development of Russia. The Arctic zone is reflected in 15 state programs of the Russian Federation as a priority territory. The scientific community pays close attention to the problems of economic development of the Arctic, studies of the demographic potential [1, Fauzer V.V., p. 71], environmental aspects of territory development [2, Ogorodov S.A., p. 44]. In the study [1] V.V. Fauzer indicates the reasons for the destruction of the demographic and labour potential of the northern territories of Russia, indicating simultaneously its high demand for its availability and efficiency for the Russian economy. Most researchers emphasize the special economic and climatic characteristics of the Arctic territories: uncomfortable natural and climatic conditions for living, unfavorable ecological situation, which have a negative impact on the lifestyle and quality of life [3, Moroshkina M.V., Potasheva O.V., p. 375]. The remoteness of the Arctic regions from the country's economic centre is reflected in the industrial, tourist and migration attractiveness of the territories, the impact of periphery is reflected in most economic directions of development [4, Fauzer V.V., p. 12].

In recent years, the problems of Arctic tourism development, tourism in the Northern territories has become increasingly important in scientific research. Theoretical and methodological foundations of tourism development are presented in the works of foreign [5, Hall C.M., Saarinen J., p. 450; 6, Stewart E. J., Draper D., Johnston E., p. 393; 7, Stewart E.J.] and Russian [8, Lukin Yu.F., p. 214; 9, Lukin Yu.F., p. 102; 10, Kharlampieva N.K., p. 126] researchers. Modern studies of tourism development in the regions of the Arctic Zone of the Russian Federation are mainly aimed at assessing the recreational potential of the Arctic and attracting the flow of tourists [11, Yakovchuk A.A., p. 61; 9, Lukin Yu.F., p. 107]. Besides, the works present modern opportunities and challenges for the development of the tourist sphere of activity in these territories [12, Kuklina V., Kuklina M., p. 381; 11, Yakovchuk A.A., p. 59], the development of Arctic (polar) tourism [7, Stewart E.J. et al., p. 81; 12, Kuklina V., Kuklina M., p. 383; 13] and cruise tourism [14, Glushchenko E.V., p. 4; 15, Pashkevich A., Lamers M.]. Approaches of researchers to assess the level of tourism development consist in the formation of a system of indicators and features of tourism industry development activity at the regional level [16, Kumar M., Prashar S., Jana R.K., p. 29]. There are groundworks in assessing the level of development of the tourist infrastructure in the northern regions, determining the possibility of effective functioning of tourism business, the use of tourist and recreational potential of territories without damage to the environment [17, Stepanova S.V., p. 220].

It is necessary to note the contribution of Yu.F. Lukin, professor of Northern Arctic Federal University named after M.V. Lomonosov, in the development of ideas about the potential of Arctic tourism in Russia. The scientist has thoroughly worked out the issues of tourist and recreational potential in the regional context, proposed a tourist rating of the Russian Arctic, strategic opportunities for the development of tourism in the Russian Arctic and the North [8, Lukin Yu.F., p. 213;

9, Lukin Yu.F., p. 112]. It is worth noting the collective Russian-American work, revealing the problems of Russian Arctic tourism development in the European and Siberian zones [12, Kuklina V., Kuklina M. et al., p. 370]. Some works are focused on the study of various types of tourism in the regional context. As an example, it is necessary to mention the problems of ethnographic tourism [18, Loktev R.I., p. 109]. The importance of works devoted to the problems of ecological tourism in the aspect of conservation and reproduction of natural potential and nature protection is high [19, Drozdov V.V., Eismont V.Yu., p. 250; 20, Barre S., Mager P.; 21, Huijbens E., Lamers M.].

Studies of the situation of young people in the regions of the Arctic zone of Russia reveal a negative trend of its outflow (demographic crisis, inability to get the desired education, professional fulfillment, ensuring a higher standard of living), characteristic of the regions under consideration [22, Simakova A.V., p. 140; 23, Simakova A.V., Gurtov V.A.]. A.V. Simakova's research, revealing the problem of youth mobility in the Russian Arctic, identifies as key factors "the specifics of the Arctic regions (harsh climatic conditions, remoteness from the center, single-industry development)", as well as the characteristics of youth "as the most mobile social group, ready to implement ambitious life tasks" [22, Simakova A.V.]. Thus, more than half of 11th grade graduates (up to 88.7%, Chukotka Autonomous Okrug) leave the region of residence for the purpose of vocational education due to the limited opportunity to receive it locally, choosing educational institutions of cities of federal significance or neighboring regions. The authors emphasize the importance of the training system "for the development of the economy of the Arctic zone of Russia, the implementation of large-scale investment projects, the functioning of territories of advanced development" [23, Simakova A.V., Gurtov V.A.]. The study of scientists of the Karelian Research Centre, aimed at measuring the recreational mobility of the population on the example of the Republic of Karelia, seems to be significant. The study results showed the high importance of organized recreation and tourism accessibility as a prerequisite for effective recreation of the population, contributing to "restoration of vitality spent in the process of labour and being a necessary condition for expanded reproductive forces of society" [24, Morozova T.V., Murina S.G., Belaya R.V., p. 62]. The positive impact of travel on labour productivity is confirmed by a collective study of Japanese scientists [25, Miyakawa E., Kawakubo A., Oguchi T., p. 431]. As one of the directions of preserving and accumulating human potential, improving the quality of public health, confirmed by the practical results of sanatorium-resort health improvement and rehabilitation, researchers point out the need to develop sanatorium-resort activities that require state support [26, Dyakonova M.V., Stepanova S.V., p. 89].

However, it should be noted that there are few scientific works on the study of the possibilities of creating recreational conditions for the residents of the Arctic regions, where living and life activities can be classified as harsh. Geographical remoteness from the economic activity of Russian markets, vulnerable ecosystems and difficult natural conditions for the residents of the Arctic regions of Russia should be compensated by the creation of opportunities for physical and

emotional recreation. The above-mentioned actualizes the problems of researching the possibilities of organizing leisure and recreation by the population of the Arctic zone of Russia, especially young people, in the territory of permanent residence. The present study is devoted to this topical issue; its purpose is to identify the possibilities and limitations of tourism and recreation for residents of the Arctic regions of the Russian Federation.

### ***Research methodology***

The study of tourist destination accessibility for the residents of Russia's Arctic regions involves an assessment of economic, socio-economic and infrastructural factors. As part of the study, indicators characterizing various significant socio-economic aspects of the possibility of recreation organization by the population and simultaneously available in the information and communication space in the context of all Russian regions (2019) were selected. The determination of the availability of organizing tourism and recreation events by the population of the Russian Arctic regions was made on the basis of comparisons in the following categories:

- regions fully related to the Russian Arctic (4: Murmansk Oblast, Nenets Autonomous Okrug, Yamalo-Nenets Autonomous Okrug, Chukotka Autonomous Okrug);
- regions partially related to the Arctic (5: Republic of Karelia, Republic of Komi, Arkhangelsk Oblast, Krasnoyarsk Krai, Republic of Yakutia,);
- other subjects of the Russian Federation (86).

The study is based on the calculation of indices for economic, socio-economic and infrastructural indicators characterizing the possibilities and limitations of organizing tourism and leisure activities by the population of the Arctic regions of Russia in the regional context [27, Moroshkina M.V., Potasheva O.V., Gienko G.V.].

Taking into account the economic factor that determines the possibilities of making a tourist trip and choosing a destination for the population of Russian regions, four main indicators were selected for the study:

- index of priority spending on recreation and cultural events;
- index of priority spending on hotel and catering facilities;
- index of the average per capita income of the region's population;
- international tourist departure rate.

Calculation of regional indices (quotient to average for the Russian Federation) allows eliminating different dimensionality of the chosen parameters, while simultaneously revealing the possibilities of comparing the subjects of the Russian Federation.

The economic component was considered on the basis of analysis and evaluation of indices of priority spending on recreation and leisure services by the population in the regional context. These two indices are based on data of the structure of household according to the results of a

sample survey of household budgets (%) and are calculated using the following formulas (formulas 1 and 2). The first one assesses the propensity to spend on recreation and cultural activities of the population in the regions.

Formula 1

$$I_{\text{ОиКМ}} = \frac{h_{i \text{ ОиКМ}}}{\bar{h} \text{ ОиКМ}}$$

where:

$I_{\text{ОиКМ}}$  — index of priority spending on recreation and cultural events

$h_{i \text{ ОиКМ}}$  — share of expenses on recreation services and cultural events in the total expenses of the population of the  $i$ -th region

$\bar{h} \text{ ОиКМ}$  — the same indicator for the whole country

The second formula is the propensity of the local population to spend money for the services of hotels and catering enterprises (restaurants, cafes, bars).

Formula 2

$$I_{\text{ГОСТ И ПИТАН}} = \frac{h_{i \text{ ГОСТ И ПИТАН}}}{\bar{h} \text{ ГОСТ И ПИТАН}}$$

where:

$I_{\text{ГОСТ И ПИТАН}}$  — index of priority spending on hotel and catering facilities

$h_{i \text{ ГОСТ И ПИТАН}}$  — share of spending on recreation services and cultural events in the total expenditures of the population of the  $i$ -th region

$\bar{h} \text{ ГОСТ И ПИТАН}$  — the same indicator for the whole country

From the point of view of economic affordability, the calculation of the index of per capita income, which assesses the financial capabilities of residents of Russian regions, is significant (formula 3).

Formula 3

$$I_{\text{aver}} = \frac{I_i}{I}$$

where:

$I_i$  — average per capita income of the region's population, rubles

$I$  — the same indicator for the whole country

Special attention should be paid to the coefficient of international tourist departure, calculated as the ratio of the number of people who went on vacation abroad to the average annual population, which allows estimating tourist mobility of the population of Russian regions abroad per 1 thousand people.

The socio-economic component is analyzed on the basis of migration data. In order to assess the infrastructural component of the availability of tourism and recreation accessibility for the

population of the Russian Arctic regions on the territory of their permanent residence, it is sufficient and reasonable to select five indicators and calculate the median indices on their basis: the number of health resorts and places there, the number of museums and theaters of the Ministry of Culture of the Russian Federation, as well as the development of public catering infrastructure (restaurants, cafes, bars).

The median indices are calculated in the paper.

### Research results

According to statistical data, 5.3 million people lived in the regions fully or partially belonging to the Arctic zone of the Russian Federation as of 01.01.2019. Migration processes (table 1) reveal a high level of interregional migration of the population of the Russian Arctic regions to other Russian constituent entities (negative balance equal to 9.6 thousand people). At the same time, the decrease in the number due to interregional migration in the regions completely related to the AZRF in 2019 was 0.7%, in the regions of partial entry into the Arctic zone the indicator is lower — 0.58%. This actualizes the problem of creating a comfortable living environment and the need for conditions to recover physical and emotional strength of local residents.

Table 1

Migration in the Russian Arctic regions, 2019<sup>1</sup>

Arctic regions	non-CIS countries		CIS countries		interregional migration, RF	
	arrived	declined	arrived	declined	arrived	declined
<i>regions fully related to the Russian Arctic</i>						
Murmansk Oblast	105	112	4008	2778	31186	37272
Nenets Autonomous Okrug	3	3	282	128	991	1027
Yamalo-Nenets Autonomous Okrug	48	33	5776	3845	27192	30456
Chukotka Autonomous Okrug	913	149	0	0	3997	4207
<i>regions partly related to the Russian Arctic</i>						
Republic of Karelia	215	513	1209	987	7721	8353
Komi Republic	145	75	1974	1416	26423	34840
Arkhangelsk Oblast	122	244	1908	898	15587	19467
Krasnoyarsk Krai	16381	14042	14399	12272	103409	108526
Republic of Yakutia	3112	874	3000	835	39226	44404
TOTAL	21044	16045	32556	23159	255732	288552

The calculation of indices that determine the financial feasibility of tourist travel and the choice of destination for the population of Russian regions reveals the leading position of the Arctic territories (Table 2). High indicators of average per capita income are determined by high percentages of northern and regional coefficients, amounting to 60–140%. In addition to the high av-

<sup>1</sup> Compiled by the authors based on the source: FSSS data.

erage per capita income, it is necessary to indicate the increased duration of annual paid leave in comparison with other regions, ranging from 44 to 52 days.

Table 2

*Comparative characteristics of Russian regions by indices of the economic factor for the implementation of tourism and recreation by the population, median<sup>2</sup>*

No	Index	Russian Arctic regions	regions partly related to the Russian Arctic	other regions
1	priority spending index for recreation and cultural events	0.56	0.75	0.79
2	index of priority spending of funds for receiving services of hotel enterprises and catering facilities	0.2	0.8	0.66
3	index of per capita money income of the region's population	2.38	1.02	0.77
4	international tourist departure rate	31.35	62.1	42.89

Thus, the regions that are fully related to the Arctic zone are more than three times (median) ahead of the other Russian constituent entities. At the same time, the nine Arctic regions under study are significantly inferior to the rest of the state in terms of priority spending on recreation, cultural events, hotel and catering services. This may be due to insignificant opportunities and / or lack of facilities for leisure and recreation in places of permanent residence in comparison with hinterland regions of the country. At the same time, the regions of the Russian Arctic are characterized by a high per capita index of income, which provides greater opportunities, compared to the rest of the Russian Federation, to organize and implement recreational and recreational activities. The analysis of the tourist activity of the population of the regions fully related to the Arctic, in comparison with the rest of the country, in the context of recreation abroad, shows the lag of the former in both real and specific indicators. Thus, the outbound flow abroad in 2019 from the four Arctic regions of Russia on average (median) amounted to 18.8 thousand people, in nine Arctic regions — 35.3 thousand people and 55.3 thousand people for the rest of the subjects of the Russian Federation. Taking into account the high, compared with the average Russian indicators, levels of per capita income of the population of the Russian Arctic regions, the data may indicate the demand for domestic tourism. Thus, according to A.Yu. Aleksandrova, there is a “reorientation of consumer demand for domestic travel” in Russia due to the introduction of package tours [28, Aleksandrova A.Yu., p. 102].

Taking into account the high importance of organized recreation and accessibility of tourism as a prerequisite for effective recreation of the population, contributing to the restoration of vitality and being a necessary condition for expanded reproduction of population [24 Morozova T.V., Murina S.G., Belaya R.V., p. 63], serious concerns are caused by the average specific indicators of the development of the health and recreation sphere in the regions included in the Arctic zone of the Russian Federation (table 3). For example, Republic of Karelia is characterized by

<sup>2</sup> Compiled by the authors based on the source: FSSS data.

unique medicinal and natural resources (the first resort in Russia was founded there). There is also a steady nationwide trend of reducing the enterprises of the health resort sphere in the region (by 50% by 2016); mainly at the expense of health resorts and children's sanatoriums. At the same time, more than half of children there need health improvement, and about a third — sanatorium treatment [26, Dyakonova M.V., Stepanova S.V., p. 87].

Table 3

*Comparative characteristics of the development of the tourist infrastructure of Russian regions in 2019, per 1000 people (median)*<sup>3</sup>

№	Index	Russian Arctic regions	regions partly related to the Russian Arctic	other regions
1	number of spa facilities	0.0065	0.016	0.012
2	number of places in sanatoriums	0.26	1.538	30.91
3	number of museums of the Ministry of Culture of the Russian Federation	0.049	0.029	0.018
4	number of theaters of the Ministry of Culture of the Russian Federation	0	0.0065	0.004
5	number of restaurants, cafes, bars	0.85	0.7	0.634

The average indicators of the number of theaters of the Ministry of Culture of the Russian Federation (MCRF) look just as depressing, which highlights the problem of the complexity of organising and conducting cultural leisure activities. In total, there are nine theatres of the MCRF operating in the Arctic zone. At the same time, there are no theatres in the three regions, which are fully related to the Russian Arctic (the exception is the Murmansk Oblast, 2 units). In addition, only six culture and recreation parks of the MCRF operate on the entire territory of the Russian Arctic, while the autonomous okrugs do not have any of them. By comparison, there is an average of 3.4 such parks per average Russian region as of 2019.

In addition, previous studies of tourist infrastructure assessment based on the calculation of an integral indicator assessing the level of development of infrastructure for accommodation, catering, leisure and recreation (2012), indicate low values in relation to the average Russian indicator. For example, in the Murmansk Oblast, the infrastructure for accommodation is 0.64, for food — 0.58 and for leisure and recreation — 0.35; in the Chukotka Autonomous Okrug — 0.11, 0.03 and 0.26, respectively [16].

Exceeding the Russian average specific indicators of the number of museums of the Ministry of Culture and the number of catering facilities (restaurants, cafes, bars), on the one hand, reveal the recreation opportunities for the local population of the Arctic regions, on the other hand, indicate the activity of efforts to stimulate inbound domestic and international tourism. Thus, one tenth of all international airports in Russia are located in the Arctic regions (table 4).

<sup>3</sup> Compiled by the authors based on the source: FSSS data.

Table 4

List of (aerodromes) open for international aircraft flights (01.10.2020) and airports of federal significance in the Russian Arctic <sup>4,5 6</sup>

No	airport name	AZRF region	airport status
<i>regions fully related to the Russian Arctic</i>			
1	Murmansk named after Nicholas II	Murmansk Oblast	airport of the administrative center (capital) of a constituent entity of the Russian Federation, <b>international</b>
3	Arkhangelsk (Talagi) named after F.A. Abramov	Arkhangelsk Oblast	airport of the administrative center (capital) of a constituent entity of the Russian Federation, <b>international</b>
2	Varandey *	Nenets Autonomous Okrug	<b>international</b>
4	Naryan-Mar	Nenets Autonomous Okrug	airport of the administrative center (capital) of a constituent entity of the Russian Federation
5	Sabetta	Yamalo-Nenets Autonomous Okrug	<b>international</b>
6	Salekhard	Yamalo-Nenets Autonomous Okrug	airport of the administrative center (capital) of a constituent entity of the Russian Federation
7	Anadyr (Ugolnyy) named after Yu.S. Rytkeu **	Chukotka Autonomous Okrug	airport of the administrative center (capital) of a constituent entity of the Russian Federation, <b>international</b>
8	Providence Bay **	Chukotka Autonomous Okrug	<b>international</b>
<i>regions partly related to the Russian Arctic</i>			
9	Petrozavodsk **	Republic of Karelia	airport of the administrative center (capital) of a constituent entity of the Russian Federation, <b>international</b>
10	Syktvykar named after P.A. Istomin	Komi Republic	airport of the administrative center (capital) of a constituent entity of the Russian Federation, <b>international</b>
11	Krasnoyarsk (Emelyanovo) named after D.A. Hvorostovskiy	Krasnoyarsk Krai	airport of the administrative center (capital) of a constituent entity of the Russian Federation, <b>international</b>
12	Yakutsk named after Platon Oyunskiy	The Republic of Sakha (Yakutia)	airport of the administrative center (capital) of a constituent entity of the Russian Federation, <b>international</b>

\* — airports without duly opened checkpoints

\*\* — airports where the checkpoint across the state border of the Russian Federation operates on an irregular basis

<sup>4</sup> List of airports as of 01.10.2020. Official website of the Federal Air Transport Agency. URL: <https://favt.gov.ru/> (accessed 11 May 2021).

<sup>5</sup> List of airports of federal importance. URL: <https://favt.gov.ru/deyatelnost-ajeroporty-i-ajerodromy-perechen-aeroportov/> (accessed 11 May 2021).

<sup>6</sup> Compiled by the authors based on the source: the official website of the Federal Air Transport Agency. URL: <https://favt.gov.ru/> (accessed 11 May 2021).

### *Conclusion*

The Arctic regions, which, on the one hand, are a significant resource for socio-economic development of the state, and, on the other hand, are characterized by harsh natural and climatic conditions of work and life, require special attention to achieving the quality of life of the local population.

Speaking about the importance of the tourism and recreation sector as an indispensable condition for effective restoration of physical and emotional forces of a person, contributing to the expanded reproduction of society, it is necessary to note, that the possibilities of its organization and realization demand special attention. In this regard, the problem of recreation accessibility and organization by the population of the Arctic zone of Russia, especially young people, needs particular emphasis from the standpoint of opportunities and limitations in the territory of permanent residence.

The study has identified a number of opportunities and limitations of tourism and recreation for residents of the Russian Arctic regions. On the one hand, residents of these regions have greater opportunities in organizing tourist trips and leisure activities, which is determined by financial indicators and duration of vacations. In addition, the Arctic zone is characterized by high indices of the number of museums of the Russian Ministry of Culture and the number of catering enterprises (restaurants, cafes, bars), which may indicate the opportunities for leisure and recreation for the local population, as well as the active efforts to stimulate inbound domestic and international tourist flows. Moreover, one tenth of all international airports in Russia are located there. On the other hand, extremely low average indices of priority spending on rest indicate the limited opportunities for local leisure and recreation during short weekends, vacations and free time in the territory of permanent residence. The extremely low median values of the indices of local health resort activities, the low infrastructure provision with parks of culture and rest, as well as theaters of the Ministry of Culture of the Russian Federation, are also a cause for concern. The abovementioned actualizes the problem of organizing effective recreation for the residents of the Arctic regions on the territory of permanent residence, contributing to the restoration of vitality and being a prerequisite for expanded reproduction of the population.

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