Development of the Spatial System of Population Settlement in the Russian Arctic

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Abstract. The article discusses the problems of the formation of a system for the resettlement of the population of 8 subjects of the Russia that fully or partially belong to the Russian Arctic zone (RAZ): the Komi Republic, the Arkhangelsk Region (without the Nenets Autonomous District), the Nenets Autonomous District, the Murmansk Region, the Yamalo-Nenets Autonomous District, Krasnoyarsk Territory, The Republic of Sakha (Yakutia) and the Chukotka Autonomous District. The RAZ traditionally refers to the work-deficit areas. In the context of the "contraction" of the system of northern guarantees and compensations, widely used in the region to attract the population, the issue of combining demographic and migration processes for the purposes of labor supply of economic activities in RAZ is acute. To analyze the dynamics of the impact of demographic and migration processes on population formation in the RAZ, the methodology of the theoretical typology of the market segment was used. As indicators of the classification, three demographic indicators were chosen: natural increase, migration increase and the degree of rooting of the inhabitants (excess of natural increase over migration growth). This allowed to fulfill the typology of the RAZ regions for the period 2010-2017 on the nature of the population movement and on the methods of population formation in the regions under consideration. It was revealed that in the RAZ in 2010-2017, demographic and migration processes were formed as an "unpromising village". The change in the basic idea of developing the region in modern conditions is shown. The motto for economic development in the RAZ is the slogan "Development for habitation" and the need to improve the shift method of developing RAZ.

Introduction

Modern reality requires the development of the Arctic regions of Russia, but without a sufficient contingent of labor resources, it is impossible to actualize the task of developing this region.

The problem of the formation of a sufficient contingent of labor resources in the RAZ can be solved in two ways [1]: 1) trying to consolidate labor resources in the region, creating high rates of living standards; 2) forming a rational system of population resettlement, allowing to support both the creation of a permanent contingent of labor resources in the region, and its mobility with the use of shift work methods.

In the implementation of the first path, there are currently a number of questions. The main negative trend is connected with the dynamics of incomes in the RAZ and consists in the convergence of the "northern" salary with the average Russian salary. This trend indicates a decrease in the efficiency of the district wage regulation system, primarily the district coefficient, which is applied to wages to compensate for the increased cost of living. The system of northern guarantees and compensations as a whole has experienced a "contraction" in the last decade. The degree of coverage of its population is falling, the problems with the implementation of northern guarantees in private business are growing. At the same time, it is bad that low incomes are not compensated by other components of the standard of living. In the global context in the Russian Arctic, the per capita income level, calculated at purchasing power parity, is only 25% of what was achieved in Alaska and about 35% of the level of the Canadian and European Arctic [2, p. 414].
How does this affect the demographic and migration processes in the region? If we consider the birth rate in Russia, it may seem that low incomes do not affect the situation with natural population growth in the Arctic regions. According to the Committee of State Statistics, for most of them (except for the Arkhangelsk region) over the past years, a natural increase in population has been characteristic (the birth rate in regions exceeded mortality). However, a comparative analysis of the combination of demographic and migration processes, carried out using the tools of marketing places to the regions of the Arctic zone, provides a more comprehensive picture of the state of the demographic sphere of this territorial zone of Russia.

**Methodology and methods of research**

The use of philosophy and marketing tools for the management of the territory does not have a long history. The terms used previously only for the commercial sphere ("market", "competitiveness") since the 1990s have been used with the terms "territory", "region", "place" [3; 4; 5; 6].

The main thesis of marketing theory used for the typology of regions include the following points [7]: the final product of regional social and economic activity - material and non-material conditions of life; consumer of these conditions is the population of the territory; "acquisition" of the end-product of the activities of the local community is expressed in the migration movement of the population; typology (classifier) of regions by the nature of population movement - a key technique for "positioning" the area; as the signs of classification, the main demographic indicators (natural increase, migration increase and degree of rooted population) are selected.

The three basic characteristics of classification can be combined in different combinations, which determine the main demographic types of territory, a short characteristic of which is given in Table 1.

As can be seen from Table 1, different combinations of demographic criteria form up to 8 types of behavior of residents of a particular territory:

1. "An endangered village" (the territory of a state of emergency, tend to leave everyone, even non-mobile groups of the population);
2. "Old territory" (no one aspires to the region, but also does not leave, most likely because of the natural immobility of residents);
3. "An unpromising village" (the territory is getting old, people live, have children, but no one is going to the region, and young people from the region are leaving);
4. "Strangers do not belong here" (the propensity for migration among the population of the region is low, it is caused not by social but personal reasons);
5. "A new industrial area" (the emergence of new jobs in large-scale industrial production. People come, do not seek to stay, do not plan (do not have time) to have children and leave again);

| Characteristics of classification | Demographic type of territory |
|----------------------------------|------------------------------|
| Ability to attract people (+)     | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   |
| Capacity for population growth (+) | -   | -   | +   | -   | +   | -   | +   | +   |
| Ability to root population (+)    | -   | +   | -   | -   | -   | +   | +   | +   |

Source: compiled from [5]
(6) - "Industrial region" (people come, start families, raise children, then children leave, and they are replaced by new arrivals);

(7) - "Socially developed old region" (the orientation that has developed in the region on the growth of the quality of jobs is fixed by the indigenous population, but a sufficiently high standard of living reduces the natural increase. In the region they go, live, enjoy the results of a high standard of living, but do not seek to have children);

(8) - "An ideal place" (people come, stay, raise children, grow them, some leave. An option close to optimal, reflecting more comfortable living conditions in the region compared to other places).

Results

The analysis of the combination of demographic and migration processes in the RAZ, carried out using the theoretical typology of the marketplace segment approach, on an array of data for 2010-2017, shows the formation of four main types of regions in the state of the demographic sphere (see Table 2).

As can be seen from Table 2, the most favorable demographic situation for the period 2010-2017 was noted in the Krasnoyarsk Territory, which was attractive both for the local and for the newcomers, there was also the establishment of the population (the natural growth rate exceeded the migration growth rate in the region throughout the period, except for 2011).

In the Republic of Sakha (Yakutia), the Nenets and Yamalo-Nenets autonomous districts, the demographic sphere was marked by the demographic type - "strangers do not belong here", in which the propensity for migration among the population is low, and is caused not by social but personal reasons. This situation is inherent to a large extent to national regions [8].

Table 2. The RAZ regions according to the state of the demographic sphere (2010-2017)

| Region                  | Ability to attract (migration increase, thousand people) | Ability to grow (natural increase, thousand people) | Ability to root (excess of natural increase over migration) | Demographic type of region (numbering and explanations, as in Table 1) |
|-------------------------|----------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------|
| Komi Republic           | -64,4                                                    | 8,7                                                | -                                                       | An unpromising village (3)                                           |
| Arhangelsk region       | -44,6                                                    | -7,7                                               | -                                                       | An endangered village (1)                                            |
| Nenets Autonomous district | -0,8                                                    | 43,3                                               | +                                                       | Strangers do not belong here (4)                                    |
| Murmansk region         | -48,6                                                    | 1,7                                                | -                                                       | An unpromising village (3)                                           |
| Yamalo-Nenets Autonomous District | -45,3                                      | 66,3                                               | +                                                       | Strangers do not belong here (4)                                    |
| Krasnoyarsk region      | 7,6                                                      | 8,6                                                | +                                                       | An ideal place (8)                                                   |
| The Republic of Sakha (Yakutia) | -45,4                                 | 50,2                                               | +                                                       | Strangers do not belong here (4)                                    |
| Chukotka Autonomous District | -28,4                                    | 17,9                                               | -                                                       | An unpromising village (3)                                           |

*) «+» feature is present; «-» no feature

Source: calculated according to the website gks.ru
The Komi Republic, the Murmansk Region and the Chukotka Autonomous District are "an unpro-
mising village". Here there was an excess of fertility over mortality, but because of the migration out-
flow of the population exceeding the natural increase, the population decreased sharply.

The most difficult situation among the regions of the Arctic during the period under review was
formed in the Arkhangelsk region, one of the most densely populated arctic regions. The demographic
situation here resembles an "endangered village" (both migratory and natural population growth have
negative signs, during the whole period there was no tendency for the population to take root, that is,
everyone, even non-mobile groups of the population, wanted to leave the region).

Judging by the categories of analysis performed, for the demographic sphere of the Russian Arctic
as a whole in 2010-2017, was characterized by the type of "an unpromising village" (migration out-
flow for the period under consideration amounted to almost 270 thousand people, natural growth of
less than 190 thousand people, only half of the Arctic regions had elements of a tendency to rooting
the population).

All the negative demographic processes observed in the RAZ during the period under review (from
2010 to 2017) occurred against the backdrop of a growing population of Russia as a whole (see Table
3) and the population living in the Arctic zone of other participating countries The Arctic Union,
which for the period 2010-2015 increased by 32 thousand people [9, p. 52.].

The problem of population reduction in the RAZ, which is complex in itself, is also intensified by
another negative trend: the population of the RAZ is aging. So, if in 1990 the proportion of pensioners
in the total population of the Far East of RAZ (the Chukotka Autonomous district and the Republic of
Sakha) was 9.9% and 12.7%, by 2017, the share of pensioners in these regions approximated to 30% [10].

| Region        | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---------------|------|------|------|------|------|------|------|------|
| Russia, million people. | 42.8 | 42.9 | 43.1 | 43.3 | 43.7 | 46.3 | 46.5 | 46.8 |
| RAZ, thousand people.    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |

Source: calculated according to the website gks.ru

Thus, the general geodemographic situation that has developed in the RAZ affects all aspects of the
region's labor supply. The general population decrease also low the population density in the Arctic.
Continuous development of the territory becomes initially impossible, turning into a large and small-
focal, and the anisotropy of space increases [11, p. 50].

In the world there were two ways of solving the problem of labor supply in the Far North: Scandi-
navian and American [1; 2; 12].

Scandinavian development path is based on local resources and permanent population. The circumpolar regions of Northern Europe specialize mainly not in labor-intensive, but in capital-, materi-
al- and energy-intensive industries [8]. The inhabitants here enjoy all the benefits of civilization, since
the development of infrastructure and the quality of life of the population in the North of the Scandi-
navian countries is almost equal to, and sometimes exceeds, European standards.

The American way is based on the shift method and was widely used in Alaska and Canada. At the
same time, unlike the Russian experience, there was no aim of settling, integration and industrial de-
velopment of "regions remote from the center". In North American conditions, the priority was mini-
mization of man-made impacts on the environment and the sphere of vital activity of indigenous
people [13].

Table 3. The permanent population of the RAZ and the Russia as a whole
If we proceed from the natural and climatic and resource prerequisites, then for the greater part of Russia with its extremely harsh climate, which is not suitable for permanent residence, the Canadian model is more suitable. The exception is the European North, where the winter is much softer than beyond the Urals.

In the become invalid Federal Law No. 78-FZ of 19.06.1996 "On the Basics of State Regulation of the Social and Economic Development of the North of the Russian Federation", the shifted method of developing the RAZ was viewed as a real mechanism for the formation of the system of labor supply and population resettlement in this region. In the draft of the modern law on the Arctic [14], adopted in 2013 by the Ministry of Regional Development, there is not a word about the organization or optimization of the system of resettlement in the Far North. In the Fundamentals of the State Policy of the Russian Federation in the Arctic (2008), as in the State Program of Socio-Economic development of the RAZ (2017) there are no sections devoted to solving this important problem of RAZ development.

Summarizing, we note that the current situation in the Russia is similar to the abandonment of the shift method in the development of the RAZ and the transition to the settlement of the region. The bet is more on local shifts, when in the same administrative area there are both: a base city and shift camps. The slogan "Development for habitation" is becoming increasingly widely accepted [15, p. 31].

Does this mean that the management model of the RAZ is changing? A common opinion on this issue is not worked out either by practice or by the theory of development of the Arctic. Clearly, it is necessary to have a center for managing the RAZ, which has sufficient resources to solve large-scale, complex tasks. We need to pay serious attention to the study of the institutional component. The forthcoming Law on the Development of the Arctic should contribute to the institutional unity of the RAZ. We need new, strong pan-Arctic institutions that will create these unified frameworks.

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