Migration situation in the Russian Arctic (on the example of the Murmansk region)

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Abstract. International studies show a declining population in the Arctic. The main contribution to the negative dynamics of migration loss belongs to the Russian Federation. The article presents the results of our study of the migration situation in the Murmansk region, which is part of the Arctic zone of the Russian Federation. The statistical analysis of the migration movement demonstrates active migration processes in the region. However, despite the increased rates of arrival in the region, the negative dynamics of population decline due to migration loss persists, when the number of people who drop out prevails over the number of arrivals. These data are indicators of a weak settled population in the Murmansk region and social unattractiveness of the region. We also supplemented the statistical analysis of the migration situation with the results of a sociological study of migration behavior, migration attitudes and migration motives of the residents of the Murmansk region. We found that 16% of respondents showed a positive migration attitude, 52% of respondents showed a negative migration attitude, and the share of "potential migrants" was 26%. The key reasons for migration from the North are unfavorable climatic conditions and the unfavorable socio-economic situation in the region. The social portrait of respondents with a positive migration attitude is described by the following socio-demographic variables. Gender - mostly female. Age - from 16 to 66 years (average value was 35 years). The level of education - secondary vocational (or specialized secondary) - 37%, and higher education - 26%. Duration of residence in the Murmansk region - from birth or almost all his life - 71%. Unemployed and employed - demonstrated a positive migration attitude equally. The motivational factors that constrain migration are own housing, employment, job satisfaction, wages and social guarantees, family-related and regional (arctic) identity.

1. Introduction
The Murmansk region is a subject of the Russian Federation, which is located in the north-west of the European part of Russia, mostly within the Arctic Circle. According to the decree of the President of the Russian Federation dated 02.05.2014 N296 “On the land territories of the Arctic zone of the Russian Federation”, the territory of the Murmansk region is completely attributed to the land territories of the Arctic zone of the Russian Federation. In the context of national interests and the national security of Russia, the Murmansk region has great military-strategic and socio-economic importance [1]. In the long-term development strategy of the Murmansk region, the goal was set to become the strategic center of the Arctic zone of the Russian Federation by 2025 and make a significant contribution to its development and ensuring the realization of Russia's national interests in the Arctic [2]. However, human capital management in the arctic regions is a complex problem that requires the constant attention of the state and the government due to the fact that livelihoods in such
regions are fraught with difficulties. As the researchers note, “regional features of the Arctic
monotowns include a specific form of urbanization, difficult climatic conditions, difficulties in
operating life-support systems, high cost of products, low population density, high territorial
concentration of industrial production, the prevalence of structural unemployment, etc. Social stability
in the mono-towns of the Arctic zone of the European North is subject to risks that are associated with
discomfort in living conditions for the population, problems with diversification and modernization of
the economy, its industry specificity, which affects the rates of socio-economic growth and the level of
social well-being of the population” [3].

The negative dynamics of population decline, mainly due to the migration decline of the
population, is one of the problems and factors that have a negative impact on the socio-economic
development of the Murmansk region. It should be noted that this trend describes the migration
situation not only in the Russian Arctic. A number of international studies, especially in the
Scandinavian countries, also note a tendency of migration loss and territorial instability of the
population in the Arctic [4-15].

2. Materials and methods

Studies related to migration processes are usually interdisciplinary in nature. The basis of this study
are several scientific categories. In particular, the concept of migration in the study is interpreted from
the standpoint of demographic science in the interpretation of Professor Rybakovsky. He defines
migration as “territorial movements representing a series of events localized in space and time,
performed only between different settlements, and these movements are recorded in one way or
another” [16]. Our study fits into the subject area of sociology of migration management in the arctic
regions. The paper presents an attempt of a sociological understanding of the migration situation and
its social factors in the Murmansk region. Thus, the subject of sociological analysis is the migration
behavior and migration intentions of the population, as well as the motivational bases of migration.
The theoretical explanatory model of this study is based on the sociological theory of the integral
paradigm of sociological science.

The empirical base of the research is statistical materials of the Federal State Statistics Service of
the Russian Federation and statistical materials of the Murmansk region. We also supplemented these
data with the results of a sociological research on the theme “The quality of life of the population of
the Murmansk region”. This study was conducted with our participation in 2016 in the laboratory of
sociological research of the Kola branch of Petrozavodsk State University. In the course of the study,
all socio-demographic groups of the population of the Murmansk region were covered. The sample
size was 702 people. The sample represents the sex-age and settlement structure of the adult
population of the region. The maximum statistical error in all studies did not exceed + 4.5% with a
confidence level of 95.4%. In the process of collecting sociological data, a personal standardized
interview was used. Residents of industrial centers of the region - Apatity, Kirovsk, Kandalaksha,
Monchegorsk, Polyarny Zori, as well as residents of remote settlements of the region, such as Umba
and Zelenogorsk, took part in the survey. Formalization, processing and statistical analysis of the data
obtained during the questionnaire survey was carried out in the SPSS Base 22.0 software environment.

3. Statistical analysis of the migration situation in the Murmansk region

The socio-economic development of the Murmansk region is adversely affected by a number of
problems and factors, among which is the negative dynamics of population decline. According to the
Federal State Statistics Service [3], the population of the Murmansk region in 2017 decreased by 4.1
thousand people. (which is about 0.5%) and amounted to 753.6 thousand people as of January 1, 2018.
The decrease in population is determined primarily by the migration decline. Table 1 presents the main
indicators of the migration movement in the period from 2015 to 2017.
Despite the positive dynamics of the reduction in the migration outflow of the population over the last decade (7417 people in 2008 and 3503 people in 2017), in recent years the number of people who left the region has been growing. For example, 22,667 people left the region in 2008, and 43,416 people left the region in 2017. It should be noted that intraregional migration amounted to 10,923 people in 2017. These facts may indicate the region’s unattractiveness for the population. The main directions of migration from the Murmansk region are other regions of Russia (29,129 people), other CIS countries (3,213 people) and far-abroad countries (151 people). The analysis of statistical data showed that the North-Western and Central federal districts are the most popular for migration among the regions of Russia. The most popular from the point of view of migration of the CIS countries are Kyrgyzstan, Uzbekistan and Azerbaijan. The most popular for the migration of foreign countries are Norway, Finland and Germany.

At the same time, it is important to note the positive dynamics of the migration rate of population growth, both due to interregional and international migration. In particular, 39913 people arrived in the Murmansk region in 2017. Of this amount, 35,669 (62%) people came from the North-West and Central Federal Districts of Russia, 10.5% came from CIS countries (mainly from Ukraine and Kyrgyzstan), 0.2% came from non-CIS countries (in mainly from Norway and Germany). In addition, the level of intraregional migration in 2017 was 10,923 people (27.3%). The main reasons for moving to the Murmansk region are personal and family circumstances (35.5% of the total number of arrivals), returning to their former place of residence (27.3%). The main reasons for moving from the Murmansk region are return after a temporary absence (33.9%), personal and family circumstances (32.6%), reasons related to work (8.7%), due to studying in another region (7.3%), return to the former place of residence (2.6%).

It can be concluded that the majority of people who come to the region for reasons related to work or for personal and family reasons, subsequently leave the Murmansk region. It can be concluded that the majority of people who come to the region for reasons related to work or for personal and family reasons, subsequently leave the Murmansk region. This conclusion is supported by the main reasons for moving from the Murmansk region. The most popular reasons are return after a temporary absence (33.9%), personal and family circumstances (32.6%), reasons related to work (8.7%), due to studying in another region (7.3%), return to the former place of residence (2.6%).

Analysis of the distribution of migrants by age and gender groups showed that in 2017 the trend of migration loss continues. The population of working age leaves first of all (70.1%). Men and women leave the region in equal proportions. The main part of those leaving the region are qualified personnel: 33.4% with higher education and 30.7% with secondary vocational (or specialized secondary) education.

Indicators of migration flows indicate uneven distribution of departures and arrivals in the administrative and territorial units of the region. According to the directory of the administrative-

| Table 1. Dynamics of the migratory movement of the population in the Murmansk region in 2015-2017 |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                | 2015            | 2016            | 2017            | 2015            | 2016            | 2017            |
|                                | arrivals        | retired         | migration increase or decrease | arrivals        | retired         | migration increase or decrease |
| Total (person) migration within Russia | 38186         | 42570           | -4384           | 38819           | 43162           | -4343           | 39913           | 43416           | -3503           |
| - intraregional migration      | 32964          | 39419           | -6455           | 34406           | 39555           | -5149           | 35669           | 40052           | -4383           |
| - interregional migration      | 10695          | 10695           | -               | 10708           | 10708           | -               | 10923           | 10923           | -               |
| - international migration      | 22269          | 28724           | -6455           | 23698           | 28847           | -5149           | 24746           | 29129           | -4383           |
| - with CIS member states       | 5222           | 3151            | 2071            | 4413            | 3607            | 806             | 4244            | 3364            | 880             |
| - with foreign countries       | 5111           | 2983            | 2128            | 4334            | 3417            | 917             | 4172            | 3213            | 959             |
| - individual miscellaneous     | 111            | 168             | -57             | 79              | 190             | -111            | 72              | 151             | -79             |

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territorial structure of the Murmansk region, the Murmansk region includes: Murmansk, six districts, five towns with a jurisdictional territory, five closed administrative-territorial formations [17]. Table 2 presents statistical data on the most and least attractive territories of the Murmansk region in the context of migration.

| Administrative and territorial units of the Murmansk region | Migration increase or decrease rate, per 1 000 people |
|------------------------------------------------------------|------------------------------------------------------|
| Districts of the Murmansk region:                           |                                                     |
| Lovozersky district                                        | 10,7                                                |
| Tersky district                                            | -3                                                  |
| Pechenga district                                          | -3,1                                                |
| Kola District                                              | -5,7                                                |
| Kandalaksha district                                       | -8,9                                                |
| Kovdor district                                            | -11,3                                               |
| Towns with a jurisdictional territory                      |                                                     |
| Olenegorsk                                                 | 3,3                                                 |
| Kirovsk                                                    | -1,3                                                |
| Monchegorsk                                                | -6                                                  |
| Apatity                                                    | -7,5                                                |
| Polyarnye Zori                                            | -15,3                                               |
| Closed administrative-territorial formations                |                                                     |
| Severomorsk                                                | 18,7                                                |
| Aleksandrovsk                                              | -2,4                                                |
| Ostrovnoy                                                  | -18,4                                               |
| Zaozersk                                                   | -20,8                                               |
| Vidyaevo                                                   | -38,1                                               |

However, data on migration flows within the administrative and territorial districts of the region do not fully reflect the migration attractiveness of these territories. For example, in the Lovozersky district in the territory of the urban settlement of Revda there is a migration increase in the population (the growth rate is 15.7), while in the territory of the rural settlement of Lovozero there is a migration decline in the population (the reduction ratio is -2.6). A similar situation with the uneven distribution of migration flows is observed in other administrative and territorial districts of the Murmansk region. In the Tersky district, there is an increase in the migratory population in the rural settlement of Varzuga (25.9) and an outflow in the urban settlement of Umba (-6.9). In the Pechenga district, there is a migration increase in the urban settlement of Pechenga (31.1) and outflow of population from the urban settlement of Nikel (-14.5). On the territory of the Kola District there are three settlements with the largest coefficients of migration outflow in the region as a whole: the Teriberka rural settlement (-147.1), the Tumanny urban settlement (-44.3), the Mezhdurechie rural settlement (-22.9). In Kandalaksha district, the population growth in migration is observed only in the rural settlement of Alakurti (41.6), while in the remaining settlements there is a stable outflow of the population.

For towns with a jurisdictional territory, it is also necessary to clarify the coefficient of migration movement. For example, in Olenegorsk, there is an outflow of urban population (the coefficient of migration outflow is -5.8), and the migration inflow of the population is mainly due to rural settlements located in the jurisdictional territory of Olenegorsk. A similar situation is observed in Monchegorsk. In Monchegorsk, the coefficient of migration decline of the urban population is -8. But, if we take into account the migration increase in the population of rural areas, located in the jurisdictional territory of Monchegorsk, then in general this coefficient will be -6.

A comparative assessment of the number of arrivals in various territorial settlements of the Murmansk region in 2017 suggests that the most attractive towns in the region are: Murmansk (12,626 people), Monchegorsk (2,020 people), Apatity (2,013 people), Olenegorsk (1,727 people), Kirovsk
The migration attractiveness of Murmansk can be explained by the fact that it is the administrative center of the Murmansk region. An analysis of migration in other towns showed that the number of departures from these towns varies greatly. For example, only 21 people left Kirovsk, 122 people left Olenegorsk, 338 people left Monchegorsk, 420 people left Apatity in 2017.

4. Sociological aspects of migration behavior of the population

What are the factors of social attractiveness of the Arctic regions and, consequently, the factors of territorial stability of the inhabitants of the Arctic? Why do some of the towns of the Murmansk region leave less people, and of other towns more? The statistical data presented on the website and in the reports of the Federal State Statistics Service have a number of limitations, since they poorly present the qualitative structure of migration flows. Which social status individuals more often demonstrate migratory behavior? What are the migration motives? Migration statistics do not allow answering these questions. It requires the involvement of the sociology of management of migration processes in the Arctic in identifying and explaining the social factors of the migration loss of the population of the Murmansk region.

In order to study the quality of life of the population of the Murmansk region, a sociological survey was conducted in 2016, the object of which was residents of the Murmansk region. One of the indicators of the quality of life of the population was an indicator of migration attitudes of residents of the Murmansk region. As a result, groups of respondents with different migratory intentions were identified: with a positive migration attitudes (planning to move to another region) - 16%, with a negative migration attitudes (planning to stay in the North) - 52% and “potential migrants” (who has not yet decided on their intentions) - 26%. The social portrait of respondents who demonstrate positive migration attitudes is described by several indicators. The gender and age structure of those who plan to move in 2016 is 40% of men and 60% of women aged 16 to 66 years, where the average age was 35 years (standard deviation 15, mode - 19, median - 32). Their education is secondary vocational / special education - 37% and higher education - 26%. They live in the Murmansk region from birth or almost all their lives - 71%. Among those who plan to leave almost half people have a job (mainly in the field of education and science - 13% and in the field of trade -13%), full-time students (23%), pensioners (13%), unemployed only 2%. Among those who plan to stay in the North a half people also have a job, almost a third part are pensioners (29%). Among those who plan to leave, and among those who plan to stay, the vast majority are satisfied with the place of work. Also in both groups of respondents the financial situation is similar: the average monthly income per family member is on average 20,000 rubles. A third of respondents estimated income as “there is enough money for daily expenses, but buying clothes is difficult, for which you have to borrow or save money on purpose”. Almost half of the respondents estimated their income as “Basically, there is enough money, we can even save something.”

Statistics have shown that the volume of migration flows can vary significantly in different settlements of the Murmansk region. A hypothesis was formulated about relationship between migratory attitudes and the place of residence of the respondent, which was confirmed by statistical estimation methods (chi-square = 39.8, with significance level = 0.000, degree of freedom = 12, n = 659 people). Residents of the Apatity town prevail among the respondents with a positive migratory attitudes (41% of the total number planning to leave the Murmansk region). The number of respondents with a positive migratory attitudes in other towns of Murmansk region amounted 23% in Kirovsk, 25% in Kandalaksha), 9% in Monchegorsk, 1.8% in Umba, 0.9% in Polyarnye Zori, 0% in Zelenoborsky.

The dominant factor to leave the Murmansk region is the adverse natural and climatic life conditions in the North. 62% of respondents noted such difficult living conditions as a cold climate, a short summer, and a polar night. The second significant factor of migration intentions is the unfavorable economic situation in the region, associated with a low standard of living, economic hopelessness and unemployment (19% who plan to emigrate from the region). Among the main reasons for restraining migration are the lack of opportunity to leave (no money; nowhere; health
problems; old age) - 24%, family and friendly relations - 19%, and also territorial identity with the North as with a homeland - 18%. Every tenth respondent noted that it is important for him to have job and their own housing, which he has living in the North. The inability to leave the North is the main factor constraining migration in Apatity, Monchegorsk and Kandalaksha (almost every third respondent in these towns answered this way). For residents of the village of Umba this is family and friendly relations. For every fifth resident of Kirovsk, this is identity with the homeland and stability (employment and own housing) in the same way. Employment and own housing is the main motive to stay in the North for a third of the residents of Polyarnye Zori (where is the lowest percentage of the population planning to move to another region). Also, a third of the respondents of Polyarnye Zori town were equally noted as a reason to stay in the North for family and friendships and “I like the northern nature and climate”.

It has already been noted that the working population equally demonstrates both a positive and a negative migration attitudes. However, a detailed analysis showed that stable job and own housing are the most popular reasons for staying living in the North for residents of the Kirovsk and Polarnye Zori towns. A statistical analysis was carried out on the subject of latent factors of migration intentions associated with various aspects of job satisfaction. The relationship between immigration intentions and satisfaction with wages (chi-square = 7, degrees of freedom = 2, significance level 0.035, n = 327 people) and social guarantees provided by the employer (chi-square = 17, degrees of freedom = 2, significance level 0.000, n = 324 people). Among those who are satisfied with the size of wages and social guarantees of the employer, the observed number of people willing to stay in the North exceeds the statistically expected. Therefore, it was concluded that the migratory intentions of the respondents are due not so much to the job having as to the size of wages, as well as social guarantees provided by the employer.

The financial crisis that started in 2014 had a significant impact on the migratory intentions of the Murmansk region residents. For a half of those who plan to stay in the North, their financial status has not changed over the past year. And for a most of those who plan to leave (44%), their financial status has changed for the worse. For most of them the financial status worsening was associated with rising prices, a decrease in the employer's wages, and a job loss as a result of the reduction in the number of employees in a single industry of mono-towns.

5. Conclusion
The Murmansk region, as part of the Russian Arctic, is described by active migration processes. On the one hand, the number of migrants arriving in the region increases every year. However, the number of people leaving is comparatively even greater. Such processes are due to low sedentary among immigrants (according to statistics, 34% of immigrants regard their migration to the region as temporary), and secondly, positive migration attitudes are formed among the local population.

Unfavorable natural and climatic life conditions are the main factors for people migration from the North. It is impossible to directly influence him. But it is possible to compensate for it by creating conditions for a comfortable stay of people in the North and improving their quality of life. Over the years, the practice of government incentives for resettlement to the North has developed and fully justified itself in Russia. However, today the state migration policy in the region is ineffective. The Murmansk region is described by such problems as low living standards, economic hopelessness, unemployment. This is the second socioeconomic factor that reduces the attractiveness of life in the North from the point of view of the inhabitants of the region. Among the existing northern benefits guaranteed by the state are: additional payments to the size of wages in accordance with the district coefficient, more vacation days, reimbursement of expenses for travel to the place of leave and back, increased pension. But these advantages restrain the migration of only 5% of respondents (who answered the question about the reasons for staying in the region, n = 332 people). Moreover, according to the study, today the social policy of employers (mainly large industry of the region) turns out to be even more effective in the context of territorial fixation of the population in comparison with measures of state support for the Northerners. Another group of factors restraining migration from the
region is family and friendships (family-kinship identity) and love for the North (regional arctic identity). But they are characteristic only of that part of the population that lives in the region for a long time, since they are formed for a long time. Accordingly, for recent migrants there are no such constraints in the form of attachments or life benefits in the region.

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