ETHNIC "BAROMETER": ETHNO-DEMOGRAPHIC AND ETHNO-MIGRATION PROCESSES IN THE NORTH CAUCASUS

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Abstract: One of the main causes of social tension in the North Caucasus is the reduction in the Russian population. Modern GIS technology can be applied when analyzing the geography of settlement, demographic and migration trends from the Russians. "Russian" municipalities of the North Caucasus have a high growth rate is negative features of the demographic and migration processes that can lead to a significant reduction of the area of settlement of Russians in the region.

Key words: dispersal of ethnic groups; ethnic-demographic and migration processes; geographic information systems; investment development

Introduction

Reduction of the Russian population is a fatal consequence and a cause of many of today's problems in the North Caucasus. Discussion of this process cannot be regarded as an attempt to treat the situation is unacceptable and show the dominance of one nation over others. Stability in this multinational region, as in any such region, greatly depends on stability of the most numerous ethnic group.

In this paper, the term "ethnic 'barometer'" is an allegory; it means the combination of various geographical data tools, atlas information systems (AISs), cartography, and analytic models designed to better understand the course of modern ethno-demographic and ethno-migration processes, as well as to predict their consequences. The ethno-demographic and migration characteristics of the Russian population in the North Caucasus described in the paper are also typical of other regions and even countries where Russians live. Many ethnic groups, similar to Russians, lose their population under the influence of socio-demographic and economic factors.

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The Russian population is a barometer of social sustainability in the North Caucasus. This statement relates to both the today's situation and the past Soviet times. The modern decrease in the share of the Russian population is also a consequence of socio-economic and infrastructure projects that were declared but have never been implemented in the district. Not only Russians are leaving the region, but North Caucasian peoples are leaving too (sometimes, even in larger numbers).

Why do Russians are leaving or are intending to leave the North Caucasus? We can give a superficial answer without much effort. However, it is unlikely that, for Caucasus, a universal way to stop this process can be found. At the very least, we must consider two things. First, the North Caucasus is an incredibly diverse area and requires diverse approaches to its understanding. The area hosts mono-ethnic republics (Chechnya and Ingushetia), the most poly-ethnical region of the country (Dagestan) with dozens of traditional resettlement areas, and the Stavropol territory, where the structure and geography of the population distribution change with incredible speed. Moreover, the exact magnitude of these changes cannot be estimated by either state statistical authorities, or local administration, or even law enforcement agencies.

Second, and this is the most important thing, in order to understand the true situation, we have to learn how to "play the scale," i.e., we have to consider the lowest territorial levels and to obtain information and analyze the state of socio-economic and social processes on all levels, from the federation down to the municipality and individual settlements.

Nowadays, there is no any objective system that could identify social, economic, and political contradictions in the North Caucasus. That is why people involved in active decision making have hard time formulating consistent and adequate approaches to understanding the situation and methods of its effective management. In the meantime, the economic and social extent of the North Caucasus continues to shrink down to the individual centers and Russians continue to leave this region. It may be helpful to understand where do they go and why…

AISs as tools for the "barometer" design

AISs are functionally the top-class electronic atlases and are used as decision support systems for analyzing different scenarios for territories and for other purposes. They have modeling functions that can be integrated into expert systems and formalized as a full-fledged multimedia design (Belozerov, Korzhov, Panin, & Chihichin, 2012). AISs support integration of a variety of

information resources, simulation, visualization, various analyzes, and even development of scenarios and options for such complex systems as "nature-society-economy," which is extremely important for assessment of the socio-economic and demographic consequences of processes that take place in the North Caucasus.

The specific feature of the structure of the AIS that is being developed by the authors is a close link between socio-political, economic (production), natural resource, and environmental blocks for the integrated assessment of the North Caucasus. Together they characterize various socio- and environmental systems of different territorial ranks. All thematic subjects allow for tracking hierarchal changes – from the global (Caucasus and the global environment) to the local level, taking into account the specifics of phenomena representation at different scales. The AIS realizes the hypermedia principle, when the themes are connected through associative (semantic) relationships; for example, subjects of lower hierarchical levels not only represent specific thematic subjects on these scales, but also reflect all their detailed features. The system allows for comparison with other regions; they are treated as a single information set (Belozerov et al. 2013a). For these purposes, the system utilizes multivariate ranking based on complexes of comparable parameters. Along with the ethnic theme, the AIS gives a fairly complete description of all components of the "nature-economy-population" system with a focus on demographic and migration processes and the nature of the changes. The blocks are supplemented with quantitative integral estimates of socio-demographic stability, sustainable economic development, resistance of the environment to human disturbance, and some other generalizing subjects. Even individual themes (and the integrated characteristics as well) not just show the actual status, but stress patterns in the development of the phenomena and display them in different ways.

The next hierarchical level of the system is a regional block, providing for the detailed characterization of the individual areas of the Caucasus. These key sites will be analyzed as part of a larger formation, i.e., the entire Caucasus, as well as a self-sufficient (in certain boundaries) unity capable of self-development based on the use of internal resources. The compiled maps will be used for development of strategies and priority management decision making steps for each administrative unit of the North Caucasus. The provinces will be classified and typical representatives of various administrative units (industrial, agricultural, etc.) will be identified; these groups require specific measures for protection of the population. The authors intend to create several regional components of the system, which would represent different types of the areas of the North Caucasus. The block-system principle will be utilized to separate

logical blocks that can be modified, supplemented, or expanded without changing the structure of the entire system.

The theme related to the demographic and migration aspects requires a dynamic assessment of almost all thematic subjects, which is implemented in accordance with the principles of evolutionary dynamics in the AISs (Belozerov, Tikunov, Cherkasov, Ibrahimov, & Caliskan, 2013b). These are the characteristics of the main phenomena for the baseline time-intervals or years. For a number of subjects in retrospective analysis, the authors have developed several thematic animations, such as changes in the ethnic structure of the population over specific time-periods.

The most important application of the system is the simulation of scenarios of control strategies over the situation in the Caucasus and its regions. In this case, the multi-variant principle is realized, which offers the end-user a number of solutions, e.g., optimistic, pessimistic, etc., scenarios. With these scenarios becoming increasingly more complex, there arises the urgent need for the intellectualization of the system, when an expert-user facilitates obtaining feasible results in conditions of high complexity and not quite clearly defined tasks.

The AIS that is being developed can offer a meaningful simulation of complex phenomena. This modeling is based on the integrated system approach to socio-environmental systems modeling. Thus, a system user can model certain structures, whose management includes different options associated with extreme change and assessment of necessary expenditures necessary to prevent critical developments of events. Simulation tools that will be developed will primarily target various demographic and migration scenarios. The improvement of the system will be associated mainly with the intellectualization of the whole system, which would form a full-scale decision support system. Finally, it should be noted that the system is based on the multi-media principle (hypermedia), which facilitates the decision-making process. Precisely AISs can serve as the base-tool for the development of barometer.

"Spoiled" barometer or three spatial levels of misrepresentation of the current demographic statistics

We can not determine the true extent of this problem because the quality of statistical data used is not as good as we would like it to be. The Russian Statistics Service cannot deal with their statistical errors and this is a commonly-known fact. For example, the results of the National Population Census of 2010 distort the information on the ethnic composition of the population. In 2007, a

question on nationality was removed from arrival/departure records of migrants. Thus, the authorities now do not have even a vague understanding of ethnic trends of the territory.

In general, this situation can be compared with studying Mars using an orbiter. There are pictures of the planet's surface; however, it is still unknown if there is life. Knowing if there is life on Mars may be interesting, but not crucial, whereas consequences of problems in the Caucasus are manifested every day.

Demographic and migration indicators are spread as a thin layer over municipalities, so that it is almost impossible to either understand the true meaning of what is happening or to predict their values for a particular locality. We can only improve the situation with our own observations and additional statistics.

The first level of this misrepresentation is the biggest and the most malicious; it is associated with large cities, such as Makhachkala, Stavropol, Nalchik, etc.; it is difficult to accurately assess the situation that has developed there. If we want to understand the demographic and ethnic structure of the population, we will need an "innovative," in all respects, census, different from the one conducted before.

The population of small towns and rural areas are moving to regional centers. The actual population here is more than the official statistics records. The biggest cities in the Caucasus, as well as other biggest Russia's cities, are not ready to receive such a large number of migrants, either from economic or urban-planning points of view. As a consequence, the increase in the migration growth promotes residential development. Developers are well aware that housing must be budgetary; otherwise, no one will buy it. That is why ghetto-areas appear in large cities. One of such examples is a housing complex Perspektivny in Stavropol. It consists of 8000 apartments packed in similar, 12-storey buildings placed as tightly as possible. There are minimal lighting and landscaping. As for kindergartens, schools, hospitals, and cultural centers, they are unlikely to be built there. The playground inside the communal yard area does not fit the number of children who live there. This area is an ideal place for the growth of crime. Underestimation of demographic factors leads to the situation when such new development areas are added to the already existing social and transportation infrastructure, thus, sharply decreasing the quality of the urban environment; the integrated safety of cities in the Caucasus, which is already not perfect, is threatened even further.

The second level of misrepresentation relates to small- and medium-sized cities. The extent of this level is substantially less. Such cities as Neftekumsk, Karachaevsk , etc., on the one hand, lure people from the nearest territories, but, on the other hand, give their population away to bigger cities. The cities play the role of trans-shipment points; the destination places are big cities, often outside the North Caucasus. These average Caucasus cities are most susceptible to change of the ethnic and demographic structure of the population. Their main disadvantage is that they cannot perform the functions laid down in the Soviet time. In fact, many of them have the features and even the status of company towns. It is impossible to diversify the economy and revitalize the business there without government intervention.

The third level of misrepresentation applies to rural areas. Despite the fact that the mountainous and plain areas differ, they have certain similarities. Our research shows that the majority of rural population in the North Caucasus is overestimated. Per capita financing encourages local authorities to actively engage in distortions, of course, towards larger numbers. Sometimes, the census population is larger than the actual by more than 20–30% (Belozerov, Tikunov, Cherkasov, Ibrahimov, & Caliskan, 2013b).

Considering these misrepresentations, it is not clear why this region would be attractive for big business. It is a well-known fact that there are only isolated instances of business engagement in the North Caucasus. The geography of business interest is concentrated in the central and western areas of the North Caucasus.

It is generally known that large enterprises (including agricultural) do not work where they are officially registered and finding out the actual location of their assets and beneficiaries is a task that is not always possible even for the investigating authorities (Belozerov, Tikunov, Panin, & Cherkasov, 2014a).

Nevertheless, what is the basis for making strategic decisions? How do businesses evaluate their own risks? Most likely, there are two options.

The first option is that they do not know and do not even guess about long-term trends in the development of the North Caucasus. They might just believe in a miraculous power of their assets, believe that their plans shall succeed.

The second option is that business tries to extract the maximum amount of territorial resources in the shortest possible time. In this case, the payoff of a project should not exceed three years (it does not work for the tourism industry, because the payoff period begins after five years and locations are often in

challenging (in terms of safety) regions). This option allows one to realistically predict development, ensure the loyalty of the local authorities and involve them in projects, and eliminate local producers (e.g., by destroying the local livestock with African swine fever). It seems that no one is interested in solving the problem of complex development of territories and improving the life of the population under this scenario.

The chronicle of the barometer measurements of (1959-2010)

Recently, media is energetically promoting the outflow of the Russian population. Media has reported that Russians leave their homes and Caucasians come and take up all workplaces and ethnic conflicts take place. These created stereotypes prevent finding the true causes of the reduction of the Russian population. There are, of course, some instances of tension, but the real causes of ethnic demographic and migration processes among Russians are concealed.

Table 1. Changes in the number and proportion of the ethnic groups in the North Caucasus Federal District, 1959-2010

№		1959*		1989*		2010	
		thous. people	%	thous. people	%	thous. people	%
1	**All population**	4,526	100	7,283	100	9,428	100
2	Russian	2,510	55.5	3,089	42.4	2,854	30.2
3	**Other nations including**	2,016	44.5	4,196	57.6	6,574	69.8
	Chechens	257.1	5.7	810.0	11.1	1,335.8	14.2
	Avars	245.9	5.4	502.3	6.9	865.3	9.2
	Dargins	150.0	3.3	313.1	4.3	541.5	5.7
	Kabardians	196.9	4.4	372.7	5.1	502.8	5.3
	Ossetians	232.7	5.1	354.1	4.9	481.5	5.1
	The Ingush	54.4	1.2	196.5	2.7	418.9	4.4
	Karachai	196.9	4.4	143.6	2.0	211.1	2.2
	Armenians	58.8	1.3	110.7	1.5	190.8	2.0
	Balkarians	34.0	0.8	70.8	1.0	110.2	1.2
	Noghais	19.4	0.4	63.7	0.9	82.1	0.9
	Greeks	17.0	0.4	31.4	0.4	37.1	0.4
	Turkmens	5.9	0.1	11.3	0.2	15.7	0.2

Source: Federal State Statistics Service – 1959, 1989, 2010

As it is demonstrated in the census of 2010, the number of Russians in the territory of the North Caucasus Federal District has significantly decreased. However, the absolute figures have not changed dramatically. There are still about 3 million Russians in the North Caucasus Federal District. However, the Caucasian ethnic groups have significantly increased both in absolute and

relative terms. At first glance, it seems that these changes are not substantial, because the Russian population did not decrease; just other ethnic groups have increased greatly (some groups increased dramatically, e.g., Chechens by a factor of 7, Avars - 4, Dargins - 3) (Table 1).
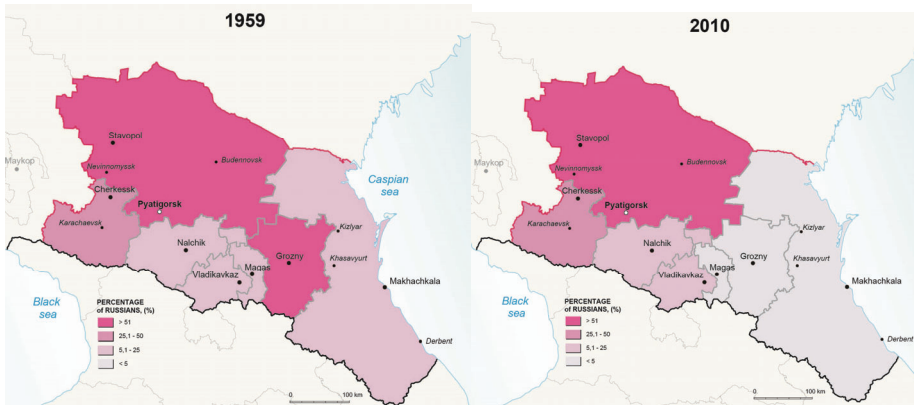

Figure 1. The share of Russians in the subjects of the North Caucasus Federal District, 1959 and 2010 (Source: Federal State Statistics Service – 1959, 2010)

Figure 2. Change of the location of the Russian population settlement center in the North Caucasus Federal District, 1959-2010 (Source: Federal State Statistics Service – 2010)

However, on closer examination, one can see that the republics of the North Caucasian Federal District, since 1959, have lost about half of the Russian

population (Belozerov, Panin, & Cherkasov, 2014b). Both the absolute and relative terms look dramatic. The Russian population in Cechnya and Ingushetia has decreased by a factor of 12.5, in Dagestan - 2.5, in Kabardino-Balkaria - 2 (Figure 1).

The estimation of the location of the Russian population settlement center (Figure 2) demonstrates this process. The center has shifted strongly in the north-western direction over the two last centuries. Thus, the Russian population is moving in this direction towards the Rostov region and to the Krasnodar territory.

Reasons and factors of reduction of the Russian population

The first group of such reasons includes a combination of demographic and migration factors. In fact, the reproductive potential of the Russian population is less than that of the Caucasian people. It is difficult to prove that in numbers, because ethnic aspects of demographic processes are not being numerically assessed beginning in 1990; however, analysis of the natural movement in the "Russian" rural areas of the North Caucasus, where the share of Russians is more than 80%, shows that the governmental support measures have not yielded results. The Russian age-structure in the North Caucasus has shifted towards older age greater than in others regions of Russia. The age-structure of the Russian population was transformed because the positive migratory growth in the region has stopped. Young teachers, doctors, and engineers do not come to the North Caucasus as they did in the Soviet era. A significant part of the local youth imagines their future outside the Caucasus. However, it is a mistake to believe that only Russians leave this region. Indigenous people also leave the North Caucasus. The true extent of the process is difficult to assess. The official data on the outflow of the Russian population from the republics of the North Caucasian Federal District is about 40-50 thousands per year; however, it is difficult to determine how accurately these numbers reflect reality.

Migration, in some cases, has a replacement character. The North Caucasian peoples are now actively changing geography of their traditional settlement in the district, discovering new territories (primarily big cities and economically stable rural areas) (Belozerov et al. 2014a).

The second group includes socio-economic and investment factors. Of course, these factors are closely linked. For example, the outflow of population is often explained by unexpected consequences of measures that target social and economic problems. Federal investments may end up being spent outside the areas where they are received. People do not see their future in their own regions

and they may buy real estate and small businesses or send their children to get higher education elsewhere.

The governmental strategy focused on overcoming the economic depressions in the North Caucasus is justified. However, a question on tactical and implementation options remains open. The institutions for development, such as "North Caucasus Development Corporation," are still focused on finding and implementing anchor projects. Although it is obvious that mega construction projects (such as Sochi and APEC) are associated with enormous risks.

Development of the North Caucasus should consider both the unique natural features of the territory and a complex social landscape. Underestimation of the social factors in the implementation of major investment projects may act as a time bomb. As for tourism, the local population is not ready to develop this sector. People are not ready to go to the Caucasus and the locals are not ready to receive them. It is not the result of the mentality of some Russian and non-Russian ethnic groups. The local business does not even invest in strategic documents and investment plans.

The local people must be included in investment projects. We are talking about local business in such projects as shops, restaurants, etc. If we do not comply with this condition, social tension will continue to rise.

Interests of the local population must be identified and formulated at the planning stage of investment projects. And we have to focus not only on a conditional 30-km zone (required in analysis of investment projects), but on a much wider area. There should be other proposals for the population living in the area (e.g., organization of traffic flows in accordance with the routes, creation of location points of attraction, production of environmental and traditional foods, souvenirs, etc) (Belozerov & Panin, 2014c).

Another important condition is the concentration of economic recovery efforts of the federal and regional authorities on solving problems of existing businesses. Denis Socolov, Head of the RAMCOM Center, discusses this subject in detail in his research devoted to the North Caucasus.

The "Russian" North Caucasus: aspects on the municipal level

The Russian population settlement territories are shrinking. Nowadays, the Russian settlement area in the North Caucasus Federal District is in the central and western municipalities of the Stavropol region. These territories are outside the focus of science, media, and the public due to the absence of counter-

terrorism operations and ethnic conflicts in these areas. This is also, undoubtedly, a big advantage of these territories.

Despite the fact that this part of the North Caucasus Federal District does not require suppression of ethnic and religious conflicts, it must always be in the forefront of the Caucasus policy. The reason is that this area is, de facto, the Russian North Caucasus. There are many questions related to these territories. Some of them are: What are the trends in demographic development of Russian municipalities? Will Russia lose Caucasus or will be able to stop the outflow of the Russian population? What are the real reasons of Russians leaving the North Caucasus? What do the local authorities have to do?

A question of the effective development of the municipalities that form the area of the dominance of the Russian population is, at the same time, a question of the stability in the North Caucasus. The social climate of the Russian Caucasus depends on development of the municipalities. However, the current situation is somewhat different. In our country, it is assumed that development of municipalities is a matter of luck and depends on favorable natural and geographic-transportation characteristics, effective municipal government, ambitious business-minded people, etc. However, there should be a more targeted approach to the development of municipalities.

Another interesting question is the how the Federal Law "About general principles of organization of local self-government in the Russian Federation" and badly functioning public institutions in the country are superimposed over the social and economic landscape of municipalities, especially in the areas where Russians are dominant. What is happening with manufactures and collective farms, which have worked before? How does it affect the formation of zones of social tensions?

Is it possible to "hold" Russians in the North Caucasus?

We have at least two answers to this question. One of them relates to the North Caucasus republics. Another one is to the Stavropol region. In the first case, it is necessary to create conditions for Russians to return, which is uniquely difficult; in the second case, to create conditions for Russians to stay, while it is not too late. Both the return and retention depend on the economic development of the territories. We must understand that returning (holding) Russians automatically means reducing the volume of out-migration of the Caucasian peoples.

Objectively speaking and keeping our fingers crossed, we can say that we have never had serious problems in the sphere of interethnic relations in the Stavropol

region, especially in its rural western part. However, all depends on whether Russia finally loses the Caucasus or is able to stop the outflow of the Russian population.

The question of the effective development of the municipalities that form the area of the dominance of the Russian population is the question of the stability in the North Caucasus. We cannot reverse the out-flow situation with investment projects only. We need to fundamentally change the status quo.
We envision the following actions:

1) It is necessary to create a governmental target program "The multi-ethnic Russian territory" oriented not only on harmonization of inter-ethnic relations in complex regions, but also on creation of economic, financial, and legal instruments of sustainable development of the Russian regions in the North Caucasus.

2) It is necessary, as soon as possible, to develop and put into practice of state and municipal authorities the system of objective assessment of ethno-demographic, migration, and socio-economic processes. Such system should be based on a true and regular updated database, geographic information systems, and prediction methods. This approach would provide an early warning of formation of zones of tension and facilitate practical recommendations based on the features of a specific territory in the region, district, or populated locality.

3) At the municipal level, it is necessary to reformat the existing rules of the game, followed by transition to a more open system of social control of working social and professional lifts. This process is clearly going to be painful, because it will require tough job rotation. We consider that in Russian regions, it will be easier to work out (make up) an effective model for municipal development and to demonstrate its results. The geographic proximity to municipalities can quickly replicate the positive experience within the entire territory of the North Caucasus.

4) At the municipal level, we need a system of tracking, participation, and adaptation of our own (realistic) programs to support small and medium business (not only at an abstract, regional level, but at a more specific, district, level).

5) It is necessary to search for new growth points that can diversify the regional economy and to integrate them into local business (agricultural processing, eco-farms, automotive cluster, etc.).

A successful model of the Russian regions will begin attracting the Russian population to the North Caucasus again. Besides, the southern warm climate will play an important role in the process. Due to the chain reaction effect and general economic and social ties, migration attractiveness will grow in both neighboring areas and areas traditionally inhabited by the Caucasian peoples.

Thus, the return of Russians to the North Caucasus as a vague perspective, but it is not hopeless. It is great that the problem of the outflow of the Russian population in the North Caucasus has at least become the focus of attention. However, the problem requires significant efforts in order to introduce the effective mechanism and, hopefully, it is not too late. Similar problems exist in other regions of the world, for example, in the Middle East, South-East of Ukraine, etc.

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