
SOCIAL AND ECONOMIC GEOGRAPHY

© VALENTINA A. DOBRYAKOVA

dvgeo@list.ru

UDC 911.3

THE COMPARATIVE ANALYSIS OF SETTLEMENT POPULATION REDISTRIBUTION IN TYUMEN REGION OVER THE 1990–2000 AND 2000–2010 PERIODS

SUMMARY. The study of changes in population distribution can help a lot in understanding the various processes happening at a given territory. The statistics on people living in an area is a complex indicator which reflects both current changes in conditions and expected trends. The population figures remain the most important component of a geographical situation developing in the region.

The article aims to select the most adequate graphic form to compare population redistribution processes in Tyumen Region, in terms of administrative districts, morphological structure of settlement system and settlements themselves. To carry out the said comparison the author relies on statistics for the two periods which were significant in the development of Russia — the first period covers the decade from 1990 to 2000 which has seen the collapse of the Soviet Union and “wild” privatization, the second runs from 2000 to 2010 and is basically most recent history in its logical progress since 2000.

The article establishes the erratic changes in population figures in some areas during the first period as well as the expressed loss of population in agricultural areas and the growth of population in Tyumen and its vicinities in the second.

KEY WORDS. Population of inhabited locality, pseudosurface, Tyumen Region.

Building a model of spatiotemporal changes in the location of settlements in Tyumen Region is a difficult task, because the complexity of these processes, their spread over a vast territory and a number of datapoints set high standards for research methodology and tools to reflect various dimensions of the changes under study [1]. In this work we have chosen a topographic map as a primary information tool, which represents the major indicator—the change in population distribution—as elevation in the pseudosurface [2]. The broad scope of information offered by such a map absolutely demands preliminary analysis, which in our case consisted in the study of

population redistribution as regards administrative districts and settlement population groups.

We used ArcGIS [4] software as a primary tool to process, analyse and map the data; the population redistribution graphs are made in Excel. The datasets for the research are taken from the statistical edition *The Tyumen Region Districts* [5] and the preliminary results of the 2010 Census for Tyumen Region [6].

The graphs in Figure 1 show that the period from 1990 to 2000 can be characterised by differentiation processes in the morphology of settlement system. Settlements in groups 1–3 (up to 300 people) lose population, while it grows in settlement groups 4, 5 (from 300 to 1500 people) and in group 7 (from 3 to 5 thousand people); and there is a notable population growth in group 8 (from 5 to 10 thousand people) and a significant one in group 10 (over 100 thousand people; it includes only one settlement — the city of Tyumen). The population numbers for settlements in groups 6 (from 1.5 to 3 thousand people) and 9 (from 10 to 100 thousand people) remain stable.

In the next period this trend becomes more pronounced: population in groups 6 and 7 (from 1.5 to 5 thousand people) remains stable, all other types of settlements lose their population, while growth of population in group 9 (from 10 to 100 thousand people) gives way to the unprecedented growth of Tyumen population.

As regards statistics for administrative districts (Figure 2) the first period has seen the growth of population in Tyumen District and some insignificant fluctuations in other districts. The second period is marked by the considerable growth in Tyumen District and decreasing populations in the other districts.

As it can be seen, the population in Tyumen District has gone up by 19 thousand, while the total decrease in the population in other districts was only 7 thousand, the natural population growth being almost non-existent in the first period. These figures suggest that external migration to Tyumen District was around 12 thousand people.

Over the second period, the growth of population in Tyumen District amounted to 118 thousand people while the total decrease of population in other districts was 53 thousand people. The contribution of the natural population growth in this period is also immaterial. It means that all in all the external migration increased Tyumen District population by 65 thousand people. The second period has seen a greater scale of these processes: the growth of Tyumen city population and the population of the nearby area has grown 6.2 times. The total population of the other districts has decreased 7.5 times.

We used Excel 3-D models to reflect these processes in more detail in Figure 3 and Figure 4.

Figure 3 is a more detailed variant of Figure 1 and Figure 2; it helps to see the subtleties of population redistribution morphology. It is interesting that there was a notable growth of population in groups 3 and 4 (from 100 to 700 people) in Ishim District and in group 9 (from 10 to 100 thousand people) in Omutinskoye District. Tyumen District enjoys a stable growth of population almost in all groups; there is a considerable growth in some settlement groups in Tobolsk District. We can identify a good deal of settlement groups that lose population.

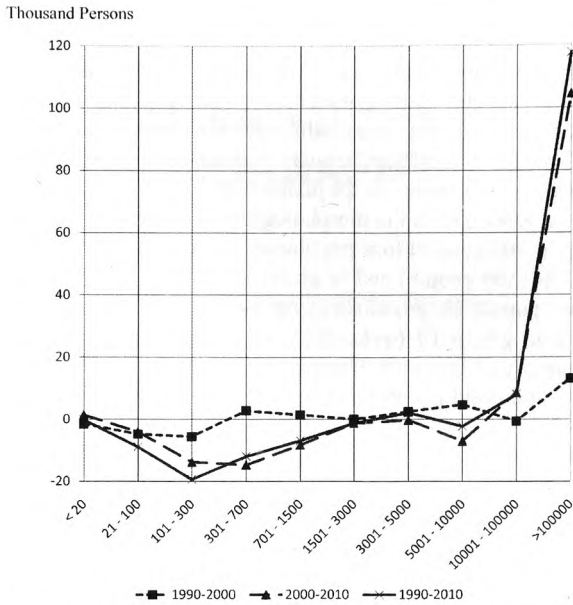


Figure 1. Changes in population redistribution for groups of settlements by population

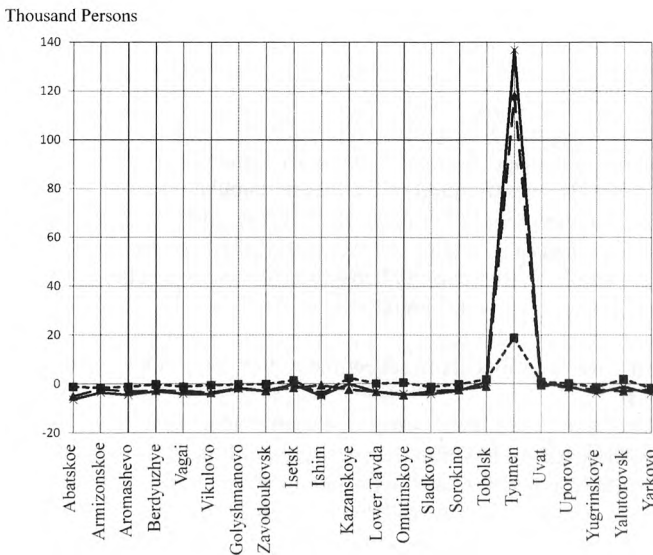


Figure 2. Changes in population redistribution for different administrative districts

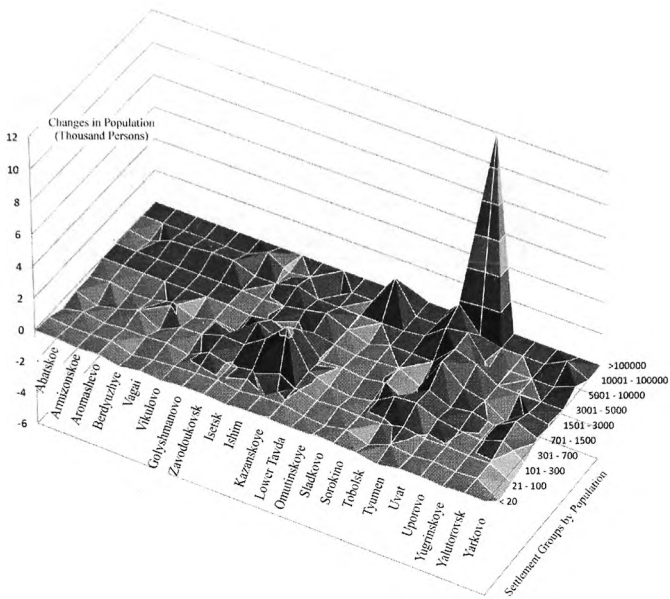


Figure 3. Changes in population numbers as regards districts and settlement groups by population in 1990-2000

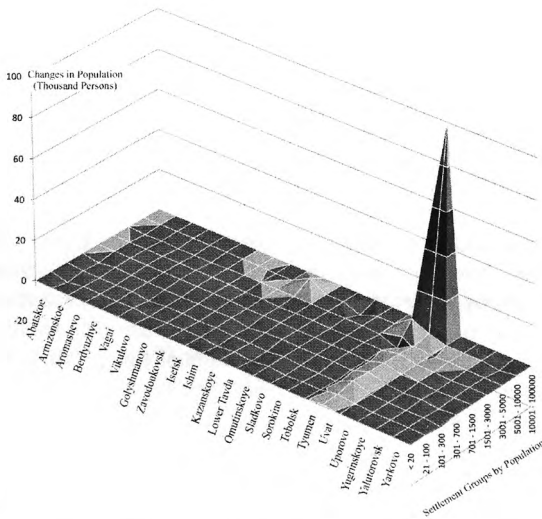


Figure 4. Changes in population numbers as regards districts and settlement groups by population in 2000-2010

The landscape in Figure 4 is rather monotonous. We can only point out the growth in all settlement groups in Tyumen District, which ended in the significant population growth in Tyumen.

To finish the territorial analysis of the discovered trends we build 2 surfaces of changes in population redistribution (Figure 5, Figure 6).

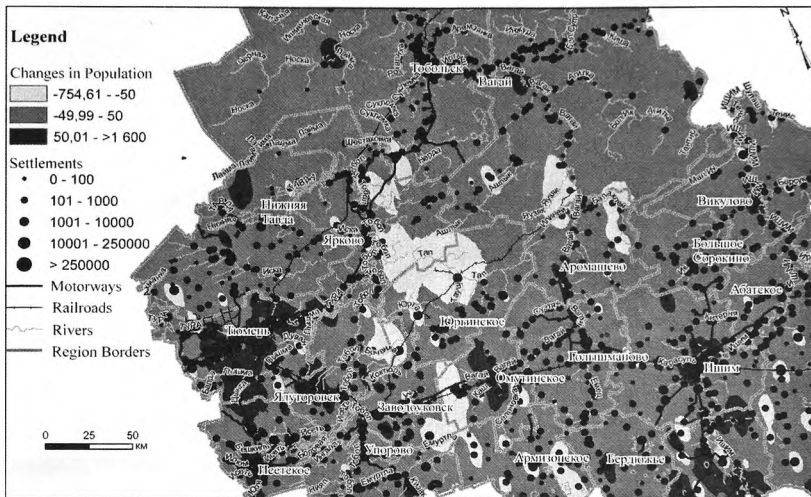


Figure 5

The map of population redistribution changes shows that over the period from 1990 to 2000 this territory was rather stable with a few growth areas: around Tyumen, Ishim, Tobolsk, Yalutorovsk and Omutinskoye; and there were areas with some insignificant loss of population at the district borders.

There appear more territories that lose population in the second period; the growth area stretches around Tyumen city, it has become bigger in the second period and covers the whole of Tyumen District.

The changes in settlement population redistribution in Tyumen Region over the 1990–2010 period have taken shape under the influence of the following processes:

Different reactions of the rural population to the “Gaidar’s reforms” [7] in the first period has given way to the total frustration over their results in the second period. Despite the effort of the government to set up new agricultural enterprises, to offer subsidies to farmers and to take other strategic steps to develop this industry [8–9] they fall flat on the people. As a result the migration from the agricultural districts goes up 7.5 times.

Redistribution of population affects both territories within the region and outside it. The major flow of migrants comes from Yamal–Nenets Autonomous Area and Khanty–Mansi Autonomous Area–Yugra; and it can be attributed to the measures implemented under the 2002 Federal Law *On Subsidies to People Moving out of the Regions of Far North and Equivalent Areas* [10]. 2008–2010 budget provided for

expenses on moving people, and the corresponding finance was 6 times greater than that of the previous years.

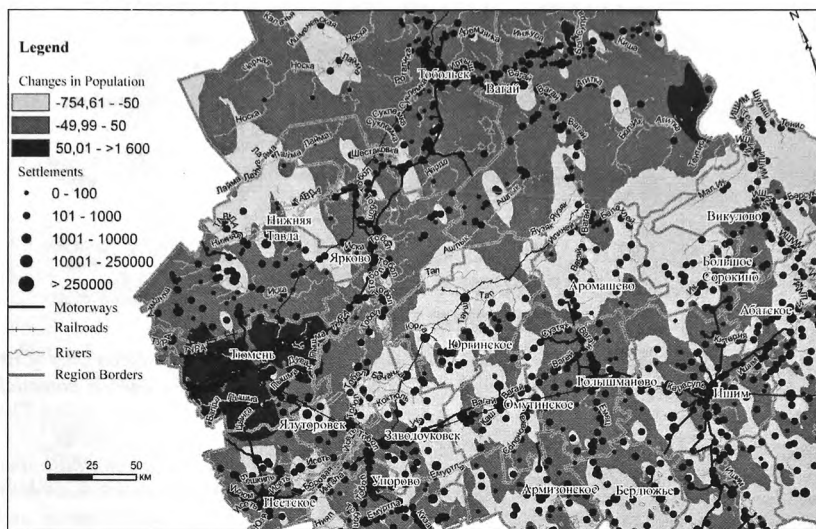


Figure 6

The migrants from the rural areas are mostly younger people [5], while the migrants from the northern territories are mostly people of retirement age.

REFERENCES

1. Dobryakova V.A. Cartographic Methods in a Study of Inhabited Localities Population. *Tyumen State University Herald. № 7. Earth Science Series* (2012): 6–10.
2. Chervyakov V.A. *Field Concept in Modern Cartography*. Novosibirsk: Nauka (1978): 189.
3. Dobryakova V.A. Dynamics of Morphological Structure Typical for Population Distribution Systems in the South of Tyumen Region. *Tyumen State University Herald. № 2.* (2006): 48-52.
4. URL: <http://dataplus.ru/>
5. The Tyumen Region Districts (excluding Autonomous Districts). Annual Statistics. Moscow: Rosstat (2008): 825.
6. Preliminary Results of All-Russia Census 2010 in Tyumen Region: Analytical Materials. Tyumen (2011): 70.
7. RF President Decree No. 323 of 27 December 1991 *On Urgent Measures to Carry out Land Reform in Russian Soviet Federative Socialist Republic*.
8. Tyumen Region Law No. 159 of 08 July 2003 *On State Support for Investment Activity into Tyumen Region*.
9. Policy of Long-term Social and Economic Development in Tyumen Region to 2020 and on the period to 2030. *Appendix to the Tyumen Region Government Decree No.652-rp of 25 May 2009*.
10. Federal Law *On Subsidies to People Moving out of the Regions of the Far North and Equivalent Areas No. 125-FL, 2002*.