

## Geodemographic Situation in the Republic of Tatarstan

*Ramil Rafailovich Denmukhametov and Olga Vasiljevna Zjablova*

Kazan Federal University, Kremlevskaya str., 18, Kazan, 420008, Russian Federation

**Abstract:** This research deals with the demographic situation in the Republic of Tatarstan and its spatiotemporal peculiarities. The key indicators of the geodemographic situation as well as the resultant values were considered, such as the indicators of natural and mechanical movement of population, its composition, structure and migration within 2008-2012. Five types of geodemographic situations were identified. Considerable polarization of the types of geodemographic situations – between safe and critical – is observed in the studied region.

**Key words:** Population • Geodemographic situation • Birth rate • Death rate • Natural increase • Migration

### INTRODUCTION

The demographic factor becomes even more important in the course of development of the Russian regions. Not only the qualitative characteristics related to the processes of natural and mechanical movement of population, but also the quality of population creates the impartial ground for stable development of territories.

Being one of the multiple sections of the geographic space and time, the sociodemographic space is has a multicomponent nature. The main elements of the space are the population and the demographic processes and parameters related to it [1].

The state of the sociodemographic space at a certain time point is typically called *geodemographic situation*. The majority of researchers treat it as the state of the population formed in the course of reproduction of territorial community of people under the influence of both external and internal objective and subjective factors and determining its structure, quality, dynamics and conditions of further development [2, 3].

The geosituational approach included in the methodological apparatus of geography in 1980s allows considering geodemographic situation as a particular type of geographic situation. Geodemographic situation has all properties and qualities of geographic situations as well as the following properties. First of all, they are a result of interaction of spatial processes of different levels and origin – natural, sociocultural, economic, political, etc. Secondly, the leading role in occurrence and development

of geodemographic situations sometimes belongs to the historical past of the territory, in which it takes place. Thirdly, during the development of a geospace against the background of irreversible changes, repeated occurrence of similar geodemographic situations is possible [4, 5].

Regional geodemographic situation has many aspects and its study requires comprehensive analysis of local and external processes and factors, which directly or implicitly influence its occurrence. It is necessary to provide research of the spatiotemporal dynamics of its development within the regions, too [6, 7].

The article is dedicated to the general analysis of the geodemographic situation within a single region of the Russian Federation- the Republic of Tatarstan, which analysis is based on consideration of separate factors forming it.

**Base Material and Research Methodology:** As the information base for the research, we used materials of the Territorial Body of the Federal Service for State Statistics of Russia, which documents processes of natural and mechanical movement of population and indexes related to various population structures. In order to identify the trends of demographic indexes, we also used data on the all-union censuses of years 1959, 1970, 1979 and 1989 and all-Russian censuses of 2002 and 2010. We considered the dynamic characteristics of the leading demographic indexes for the period between 2008 and 2012.

The methodological basis for the research consists of demographic analysis, methods of mathematical statistics (description and analysis of variation series, analysis of temporal series and regression analysis), comparative-analytical and traditional methods, the cartographic method used in geographic science and methods of automatic classification.

**Body of the Work:** The Republic of Tatarstan is a region with one of the most numerous populations in the Russian Federation. It is 8<sup>th</sup> by population among 83 regions of Russia. By 01.01.2013, the population of Tatarstan numbered 3,822,000 people. Throughout the 20<sup>th</sup> century and the beginning of the 21<sup>st</sup> century, the population growth showed positive dynamics: 3.13m in 1970, 3.64m in 1989, 3.78m in 1999, 3.77m in 2009 and 3.82m people in 2013.

By population density, the republic with its 55.8 persons per sq. km is far ahead of the majority of neighboring regions in the Volga and Kama region and comes third after the Samara region (59.2 persons per sq. km) and the Chuvash Republic (69.9 persons per sq. km).

The extent of population density and territory reclamation is described more precisely by the index of rural population density. This index is only 13.7 persons per sq. km, which evidences the high degree of the population urbanization and continuing reduction of the rural population. The latter fact is a world trend [8]. To compare with, in 1979, this index equaled to 18.6 persons per sq. km. The largest concentration of rural population is typical of municipal suburban districts, which are hinterlands of large industrial centers-Kazan, Naberezhnye Chelny, Nizhnekamsk and Almetyevsk.

75.9% of population is concentrated in cities. The urban population increases by 0.2-0.3% annually. The republican cities differ by population and play different roles in the internal and external socioeconomic processes. In the largest cities with the population over 100,000 people, the hi-tech industrial production, science and education are concentrated and culture and sport develop actively. These cities are Kazan (1,176,200 people), Naberezhnye Chelny (519,000 people), Nizhnekamsk (235,400 people) and Almetyevsk (149,000 people). These municipalities actively participate in the intraregional differentiation of labor and manufacture products dedicated for internal and external markets. Their share in the total urban population is 72%, the rest population resides in 11 medium (19.4%) and 7 small (3.2%) towns of the republic and 18 urban-type settlements (5.4%).

Urban population due to the historical, cultural and economic reasons and as a result of the Soviet planning system is distributed very unevenly. The majority of it is located in the northwestern, northeastern and southeastern parts of Tatarstan. In these territories, there are urban systems, which gently transform into metropolitan areas.

The total population of any region is the result of two processes- the natural and mechanical movements of population, which one way or other visually represent the extent of socioeconomic welfare of a territory. It is to be noted that the development vector of the main economic trends in Tatarstan is generally in line with the development vector of the majority of regions in the European part of Russia.

During the post-Soviet period between 1991 and 2005, there was a decline in population, which was the common trend for the Russian Federation. Starting from 2006, the birth rate being the baseline factor of stability of the geodemographic system has increased. By 01.01.2013, the births in the republic equaled to 55,421 people, which exceeded the value of 1991 by 7% (51,068 people). At the initial stage (2006-2009), the number of births was increasing by 1,000-2,000 people yearly if compared to each precedent year and during the recent years (2010-2013), the yearly gain reaches 3,000-4,000 people. The total birth rate shows positive dynamics with the increase from 11.7‰ to 14.5‰.

Special measures of governmental incentive of births ensure increase of the birth rate. They include federal and republican target programs oriented to financial incentive of purchasing newly built houses, land plots, education of children and future retirement benefits for parents. A number of programs encourage increase in the births of second and third children in the total number of children.

The death rate has been stably decreasing lately to the current rate of 12.2‰. The positive dynamics is determined by modernization of the republican health system and measures of prevention of most important diseases. Nevertheless, almost 70% of deaths are caused by the diseases of blood circulatory system and of neof ormations. The highest death indexes (16-18‰) are typical of remote agricultural areas with considerable out migration and dominance of senior people in the population structure.

In 2011, for the first time over the previous 20 years, births exceeded deaths in the republic. In 2012, the positive dynamics continued. The natural growth of population is formed mainly by the urban districts (Kazan (3.9‰) and Naberezhnye Chelny (7.7‰)) as well as by

30% of municipal districts (0.1-6.0‰). Yet, registered deaths exceed registered births in the majority of rural settlements, towns and districts of the republic. The general population growth in the republic equals to 2.3‰, which is two times more than in 2011.

The average longevity of the population in the republic equals to 70.8 years of age (the Russia's average index is 69 years of age). This is one of the highest indexes in Russia. Longevity shows tendency of stable growth, which is generally typical for countries with developed economies [9].

The sex structure of Tatarstan population shows dominance of women: their share equals to 53.8%, where the men's share is 46.2%. This difference is determined by the difference in the sexes' longevity.

The ethnic structure of the population shows dominance of three ethnic groups: Tartars (52.9%), Russians (39.5%) and Chuvashes (3.4%). All other ethnic groups are less numerous and the share of each of them does not exceed 1%. The total share of other ethnic groups numbers 4.2% of the total population of the republic. Totally, there are 115 ethnic groups in Tatarstan. The results of 1959-2010 censuses indicate increase of Tartars (by 12.7%) and considerable decrease of Russians (by 9.6%), Chuvashes (by 38%) and Mordovians (by 41.6%).

In the contemporary world, migration becomes an important geodemographic process, which is able to transform the in-depth characteristics of region's population as the time passes [10]. Migration greatly influences the geodemographic situation and leads to the change of the sex-age and social structure of population. Migration encourages territorial redistribution of population and labor resources and influences the rate of socioeconomic development of regions.

In Tatarstan, the positive balance of migration has been continuing for several decades, which evidences economic attractiveness of the region among the population of both neighboring regions and other CIS countries. The main migration flows to Tatarstan originate from the Chuvash and Mary El republics, Bashkortostan and as for CIS countries- these are Uzbekistan (27.9%), Tajikistan (10.3%) and Azerbaijan (9.5%).

The Republic of Tatarstan has stable migration growth, which is probably caused by the positive image of the region, its diversified economy and versatility of the areas of labor application [11]. Over 70% of all migration events are related to cities: on the one hand, urban population more often changes residence and on the other hand, immigrants mainly come to cities.

Internal migration in the republic prevails over the external one and equals to over 60% of the migration.

Every year, over 65% of immigrants came to Tatarstan from other regions of Russia, 34% – from CIS countries and 1.3% – from other foreign countries. External migration flows mainly head to Russian regions (over 95% of all departures within the observed period).

The economically active population is one of the most important characteristics of the regional development process, which directly influences the region's investment activities [12]. The economically active population is relatively stable and its share is 64% of the total population of Tatarstan.

In 2012, the economically active population consisted of employable population in working age (93%), migrant workers (1.8%) as well as working retirees and teenagers (5.2%). The official level of unemployment is relatively low and during the observed period, it did not exceed 1% of the total economically active population of the republic.

The economically active population distribution by the main sectors of the economy evidences the post-industrial nature of the region development- the non-material sector share of employment equals to 57.4%, the industry employs 22.2%, the building industry- 10.6% and the agriculture- 9.8%.

The negative tendency is the increase of the average age of economically active population from 39 to 40 years of age and the increase of the share of people nearing the retirement age. On the other hand, the share of people younger than 30 years of age stably increases.

The geosituational analysis of the listed demographic factors broken down by political administrative entities of Tatarstan has shown the heterogeneity of the geodemographic situation in different microregions of Tatarstan. We can identify at least five types of regional geodemographic situations.

The favorable geodemographic situation exists only in the North East of the republic, within the Northeastern Economic District. For over 10 years (2000-2012), there has been positive natural population growth here. In 2012, it equaled to 5.2‰. The total birth rate in the North East shows maximum values across the republic (15.2‰ in 2012) and the general death rate shows the minimum values (10‰). The population out migration is insignificant (-0.97‰) and does not affect the general tendency of population growth within the territory. 29% of the republic's population lives within the territory of this microregion. The North East is a highly urbanized area (the urbanization ratio is 83%) specializing in mechanical engineering, petrochemical and oil extraction industries.

The geodemographic situation in the northwest of Tatarstan can be described as relatively positive. Within this territory, the principle of compensation is typical of demographic processes. During the observed period, the natural growth of population changed for positive (2.7‰). The natural decline in population is traditionally compensated by high values of the migration balance (4.99‰ in 2011), so the stable growth of total population takes place. The North West of the republic, which includes the Kazan metropolitan area, is an economically developed microregion with diversified industry and high share of urban population (86.7%).

The depressive geodemographic situation with unstable dynamics of demographic indexes has formed in the southeast of Tatarstan. For the first time, the natural growth became positive in 2012 (0.7‰). Before that, the number of residents had been reducing as a result of natural decline and out migration to more economically developed districts of the republic and to other regions. The share of urban population is high in the South East (75.7%); it is concentrated in small towns and urban-type settlements. This microregion specializes in oil extraction and oil engineering.

Uncomfortable geodemographic situation arose in the Predkamye districts of the republic. Despite the natural growth in 2012 for the first time equaled to 0.6‰, the total population has been stably decreasing over the past 20 years. This is caused by ageing of the population and stable out migration of employable population, mainly to large cities of Tatarstan. The ratio of migration balance in 2011 equaled to (-1.6‰). Predkamye is a traditionally agricultural microregion of Tatarstan with low share of urban population (27.6%).

Finally, critical geodemographic situation arose in the riverine microregions of the republic-Zakamye and Predvolzhye. High rates of depopulation have been revealed in these territories, which were caused by the natural population decline and out migration. The Tatarstan's largest rates of natural population decline are in Zakamye (-2.4‰) and Predvolzhye (-5.5‰). The negative migration balance has been shown by these territories over the past 30 years; this ratio is equal to -1.5‰ in both microregions. The situation becomes even worse due to the population ageing, especially as related to the rural population, as well as to disproportion in the sex ratio. Zakamye and Predvolzhye are the territories with traditionally strong share of the agricultural sector in the economy and low urbanization of the population: the urbanization ratio is equal to 45.8% in Zakamye and just 30.9% in Predvolzhye.

## CONCLUSION

The research has allowed to identify the regional trends of the geodemographic situation. The trends of the demographic processes development conform to the ones of developed territories: stunted rates of population growth, dominance of women, ageing, the structure of economically active population employment and growth caused by migration.

**Summary:** Considerable polarization of types of geodemographic situations is observed – it varies between safe and critical. Areas with favorable situation during the analyzed period demonstrate the positive vector of demographic growth. And the territories with adverse situation show formation of positive development trends.

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