

Dragana Matijevic\*

**FUNCTIONAL AREA OF BELGRADE AND ITS IMPACT ON  
VITAL COMPONENT IN THE EXAMPLE OF SETTLEMENTS IN  
THE MUNICIPALITY OF STARA PAZOVA**

**Abstract:** One has not still investigated the functional area of Belgrade sufficiently in a domain of domestic urban geography. For that reason, this paper analyzes the territory of the municipality of Stara Pazova as a part of Belgrade functional area, which does not belong to it administratively but connects the main city by firm spatial-functional interactions. The mentioned territory will be analyzed from the aspect of demographic development, i.e. in the example of population growth trend. The negative trend has characterized the dynamics of the vital element development for almost several years. However, even with the declining trend, the natural development of the population on the territory of the municipality of Stara Pazova differentiated in comparison with the remaining parts of Srem and Voivodina, owing to the late phenomenon of negative natural development of the population. Such legality of biological component development firmly connects the geographic legalities of the location and gravitation. The mentioned researches should point out if the territories belonging to the functional area of some town settlements represent the places of the demographic polarization, concentration and territories also differing from the areas that do not belong to the functional area of a town, according to the indicators of the vital trends.

The results of the researches should confirm the thesis that urban regions represent relevant factors of the demographic polarity.

**Key words:** functional area, demographic polarization, population growth, the municipality of Stara Pazova

---

\* Dragana Matijevic, Geographical institute Jovan Cvijic SASA, Belgrade. The presented research results are a part of the Project of the Geographical Institute "Jovan Cvijic" of the Serbian Academy of Sciences and Arts, titled: "Modalities of Geopotentials Valorization in Undeveloped Regions in Serbia", financed by the Ministry of Science and Environmental Protection of the Republic of Serbia.

### **Functional area and its demographic aspects**

The research subject of numerous spatial and urban- geographic studies is the region of Belgrade, metropolis, i.e. its administrative area. However, one has not still treated its functional area sufficiently because it was partially included or not all relevant urban- geographic factors and processes were taken into consideration. At any case, studying the functional effect of the central settlement means a complex scientific approach. The functional area mainly connects the central settlements of a certain gravitational field. Spatially-functional interactions of less or larger intensity, depending on the degree of the settlement's centrality, develop within it. That is why some territories (on the municipal level) will be analyzed in this paper, the spatially- functional researches of which have shown the belonging to the urban system of Belgrade. The primary goal is to analyze some demographic aspects on the same territories, as it is the case with the vital component and its dynamics, which is developing under the polarization effects of Belgrade urban agglomeration.

Urban regions are the relevant factor of the demographic polarity. This phenomenon is manifested through "extreme differences in the population changes, disposition of the population, natural and mechanic population trends, some structures of the population and characteristics of households" (Curcic, 1989). From the demographic aspect, the polarization territories of high concentration degree connect to the functional areas. Moving away from the pole of the development, the polarization effects also reduce. Changes in the degree of the population concentration (and redistribution also) on the level of municipalities point to the process of extreme polarization on zones of concentration and zones of depopulation, which are less isolated in character, but spatially and dynamically more continual.

Process of demographic polarization in Serbia (population growth of towns) is the result of making the zones of demographic expansion and zones of constant depopulation. In the first case, the spatial scope is smaller, the degree of agglomerating of the population and activities is high, the level of general population is also high and demographic structures are relatively suitable. On the other hand, the zones of depopulation represent demographically exterminating, territorially large and relatively weakly populated areas, dominantly rural in character, with constantly declining population, wherein all negative effects of demographic transition are emphasized (Stojanovic, Vojkovic, 2005).

### **The municipality of Stara Pazova in the functional area of Belgrade**

The mentioned territory of the municipality of Stara Pazova represents an example of attractive and dynamic area in the functional area of Belgrade. It lies in the southeastern part of Srem and northwestern part of Belgrade extra administrative metropolitan area. On basis of dominant gravitational connections, Bukurov (1970) separated eastern parts of Srem (the municipalities of Indjia and Stara Pazova) into "Zemun - Belgrade meso area", with which the municipality of Pecinci can also be functionally integrated. According to Republic Spatial Plan Administrative Area of Belgrade (2004), the spatial scope of the functional macro region of Belgrade has three rings: the first consists of 17 administrative municipalities, the second one represents 7 municipalities in direct encirclement, but which are also in intensive functional relations with Belgrade (Ruma, Pecinci, Stara Pazova, Pancevo, Smederevo, Smederevska Palanka, Ub) and the third functional ring presents the municipalities in wider encirclement, having certain functional relations with Belgrade (tourism, energetics, traffic, etc.).

Recent urban- geographic researches have shown that the municipality of Stara Pazova is permanently connected to the urban system of Belgrade according to the spatially - functional connections. Firm interactive connections have brought to a number of following urban- geographic changes in the very Municipality. They reflected the contemporary demographic trends first of all, and then the settling and functional transformations. According to the urban- geographic indicators, the territory of the Municipality represents an integral part of the suburban area of Belgrade. Demographic dynamics is the most intensive "within the suburb and it can be the functional- organizational indicator at modern development of metropolises" (Avery, 1979).

### **Current demographic trends on the territory of the Municipality**

Constant slowing the population increase tempo down, as a result of relatively fast decline of population growth rate, characterizes modern demographic development (the second half of the 20th century) of the central Serbia and Voivodina, so that these two regions came into a phase of demographic depopulation (central Serbia during the last decade of the 20th century, Voivodina earlier). However, according to the last census (2002) the demographic increase as a short-term effect of the specific migration trends characterizes the Province (Stevanovic, 2003).

Administratively, the territory of the municipality of Stara Pazova is an integral part of the Province and the district of Srem, however, as a part of Belgrade functional area it is differentiated by many demographic indicators. Generally, the following legalities of the demographic development characterize this Municipality:

- expansive population increase is specific for the region of the Municipality, especially for the settlement of the suburban zone (index of the population change is 121.0 for period 1991-2002), because of the secondary urbanization near Belgrade agglomeration.
- population increase from the last census is the result of refugee migrations (in 1991, 16% of the municipal population were refugees) due to which the demographic increase also included a group of rural settlements.
- suburbs represent an area of extreme concentration. Fifty percent of the total population of the Municipality is concentrated in them, so that the distribution of the population by settlements is disproportional one.
- the area of the Municipality is extremely immigrating, because it consists of 53.5% of immigrants according to the last census.
- migrations define biological structures.
- economic structure of the population (activities, agricultural population) is the most active demographic category. It is the result of dynamic economic development.
- the reduction of agricultural population participation from 34.6% to 6.9% in period 1971-2002, is the result of the local agrarian population transfer from one side, and from the other side of the non-agricultural population immigration.
- incomplete form of deagrarianization is characteristic for the population of Stara Pazova, i.e. incomplete deserting of agricultural farm with complementary interest for nonagricultural activities.
- owing to tempestuous and interesting history, some settlements are characterized by the heterogeneous ethnic structure (Slovakian entity represents a share of 12% in the total population of the Municipality, making the second ethnic group in number after the Serbs).
- closeness of Belgrade and good traffic connection induced intensive daily migrations as of workers so the pupils and students (19.119 of daily migrants in 2002), by which a permanent emigration from the territory of the Municipality was prevented.

The typology of the settlements of Stara Pazova, defined according to the components of demographic development, means the synthesis of natural and migration component influence. According to this demographic index, Tosic's (2003) model for the typology of the settlements was used, which he had applied while studying the settlement net of the municipality of Smederevo. The

typology means eight types of settlements, four of them are depopulating and four the immigrating ones<sup>1</sup>.

According to the mentioned typology, the municipality of Stara Pazova belongs to I2 type meaning regeneration by immigration. Six settlements out of nine belong to this type, while Krnjesevci, Nova Pazova and Novi Banovci belong to I1 type, which, owing to the positive trends of the population growth in 2002, belong to the type of settlement expansively immigrating.

### **Vital component of demographic development**

Components of demographic development less and less have synchronic character due to weaker role of the biological factors. Thus, the mechanical population growth became the only relevant factor in making the demographic composition of the settlements of Stara Pazova. The declining trend has characterized the dynamics of the vital element development for years. Even as the negative one, the natural component of the demographic development of the settlements of Stara Pazova, differentiated from the rest parts of Srem and Voivodina owing to the late negative natural trend of the population, but also to weakly expressed negative values of the population growth. Such dynamics of the vital component is the result of geographic legalities of the location and gravitation activities.

---

<sup>1</sup> E1- Emigration: Positive natural development, positive trends were defined by the census, natural development rate is higher than population development rate;

E2- Depopulation: Positive natural development, total population development is negative, absolute natural development rate is higher than absolute rate of decrease defined by the census.

E3- Extreme depopulation: Positive natural development, total development is negative, absolute natural development rate is lower than total population development rate.

E4- Total depopulation: Negative natural development, total population development is negative, absolute natural development rate is lower than total population development.

I1- Expansion by immigration: Natural development of population is positive, total development is positive, natural development rate is lower than population growth rate.

I2- Regeneration by immigration: Natural development is negative, total development is positive; population growth rate is lower than increase rate.

I3- Weak regeneration by immigration: Natural development is negative, total development is positive, absolute natural development rate is higher than absolute population growth rate.

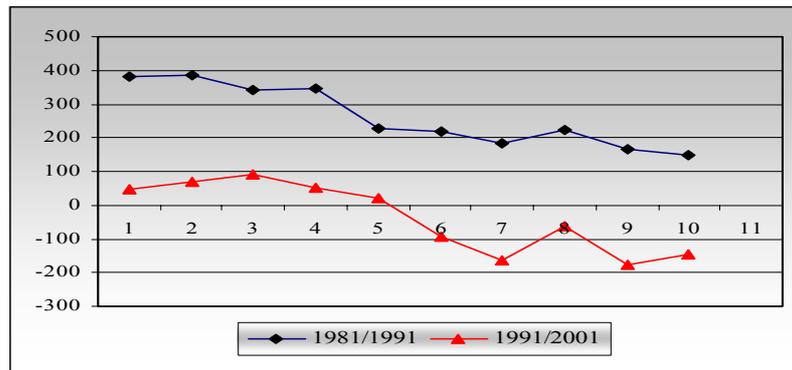
I4- Very weak regeneration by immigration: Natural development is negative, total development is negative, absolute natural development rate is lower than absolute population growth rate.

Statistics has followed the data on the vital statistics per settlements for Srem since 1963. Until then it has relied on the valuations of the number of births and deaths. During the 60's of the 20th century, the population growth tempo in the Municipality more or less equalized. However, extreme oscillations characterized the 70's. Population growth rate varied from 2.1‰ in 1973 to 12.2‰ in 1978 because birthrate varied from 10.5‰ in 1973 to 20.3‰ in 1978 (Curcic, 1984). In period 1961-1980., mortality had the lowest value, under 6‰ (1976), while since then it more and more influenced the natural population trend of the Municipality.

Depending on the natural population trend, the settlement of Stara Pazova and a group of the suburban ones clearly differentiated from the group of rural settlements in the observed period. In both census decades, (1961-1980) Nova Pazova and Novi Banovci had high values of the population growth. In period 1961-1971, Nova Pazova had the population growth of 15.7‰ while in period 1971-1981 it had 14.5‰. Novi Banovci had in both decades 10‰ each (Curcic S, 1984). The population growth trend during the 70's and 80's of the 20th century was the result of intensive immigration of the population especially towards Stara Pazova and suburban areas.

Two last census decades: 1981-1990 and 1991-2001 were taken in the analysis of the population growth trend on the territory of the Municipality. In period 1981-1990, the leading role of the population increase had the population growth with the degree of 4.8‰ (lower in relation to the previous decade 1971-1981 of 5.5‰) in the last decade the rate reached the negative value of - 0.7‰. In period 1981-1990, every year had positive trends of the population growth, while 1990 indicated the regressive trend of the natural component. In the following decade 1991-2001, the positive trends of the (absolute) population growth broke off in 1996, when more expressive declining of the population growth started (graph 1).

Considering the absence of the natural component in the last census decade, the total increase of the municipal population of 12.950 inhabitants and annual increase rate of 18.5‰ (in the previous period it was for 10‰ lower) represent a real accomplishment. Absolute population increase of 12.950 is close to the values of absolute migration balance of 13.426 inhabitants, which explains an extremely mechanical component as a bearer of the demographic increase. The number of live births was smaller for 899 in period 1991-2002 in relation to next to last decade, while the number of deaths increased for 2.194. That was the main reason of decreasing birthrate for 4.4‰ and increasing mortality for 1.1‰ between two last census decades.



Graph 1-Development of population growth rate on the territory of the Municipality, period 1981-2001

There are significant differences among the settlements in the role of the biological component. It is the consequence of different impact of the social-geographic processes. The values of the vital statistics are in the complementary relation with population expansive settlements: Nova Pazova and Novi Banovci. In period 1981-1991 the highest growth rate had Novi Banovci (43.7‰), and the lowest Surduk and Golubinci with negative values. In that period, Nova Pazova had the highest population growth of 10.8‰ owing to high birthrate, i.e. the number of live births during the observed decade, while Belegis had the highest negative value of the population growth. According to the birthrate, Krnjesevci is behind Stara Pazova with 16.4‰. In the observed period, Surduk has the highest mortality rate, while Nova Pazova has the lowest one (connected with the highest population growth rate on the territory of the Municipality).

In period 1991-2001, three settlements get negative values of the population growth: Vojka, Stara Pazova and Stari Banovci. Nova Pazova and Novi Banovci have positive population growth, while only Krnjesevci indicates demographic revitalization with population growth increase from 2.6‰ to 4.3‰. Krnjesevci kept the highest birthrate in relation to the previous decade, and in comparison to other settlements. Stara Pazova and Nova Pazova as the settlements with the largest number of live births in the observed period have the higher birthrate than the municipal average.

All the settlements in the Municipality have an increasing number of deaths and higher mortality rates in relation to the previous period. The settlements of Stari Banovci and Novi Banovci have the lowest mortality rate, while the settlements of Surduk and Golubonci have higher mortality rate.

Table 1 – Values of the population growth rate (‰)

Settlement	Inter-census period	
	1981-1991	1991-2001
Belegis	-0.6	-4.0
Vojka	3.6	-3.1
Golubinci	-1.2	-4.7
Krnjesevci	2.6	4.3
Nova Pazova	10.8	1.9
Novi Banovci	3.8	1.1
Stara Pazova	2.9	-1.2
Stari Banovci	3.7	-0.5
Surduk	-9.9	-11.1

The most vital settlements are in the southeastern part of the Municipality, with a special attention on the Krnjesevci as the only smallest rural and population settlement. This is the only settlement in the Municipality having an increase of the population growth rate, the highest birthrate and the highest index of the fertile contingent increase in the observed period. Krnjesevci is one of the rare settlements the demographic development of which is contrary to the modern vital-regressive demographic trends that seized our society in whole. The highest values of the population growth belong to the settlements of the suburban zone. Moving away from the pole of the development, the negative values of birthrate increase. This group of the suburban areas in the northwestern part of Belgrade agglomeration considers as the most vital one because it is just at the beginning of the negative natural trends.

### **Conclusion**

According to the values of the population growth rate (-0.7‰) the municipality of Stara Pazova differentiated from the average values of the district of Srem (-2.6‰) and Voivodina (-3.8‰). We can say that geographic position of the Municipality had defined a bit slower declining tempo of the population growth in relation to other parts of Voivodina. The biological component of the demographic development of the settlements of Stara Pazova supported the hypothetical starting point of their functional interdependence with the urban system of Belgrade.

The last results of the vital statistics discourage, especially from the middle of the last decade when negative trends of the population growth have begun and will probably continue in future demographic development with larger number

of deaths than live births. Nevertheless, the participation of the fertile contingent (15-49) out of 25.5% in the total population put the Municipality in the third place in Voivodina (after Novi Sad and Temerin) indicating the further activity of the natural component in its demographic development, and closely connected to the demographic polarity and urban agglomerations.

Demographic analysis of the settlements of Stara Pazova has shown a specific dynamics of the development, which is under the strong influence of many factors. We can conclude that the demographic trends developed in the direction of strong socio-economic processes (deagrarization, urbanization and industrialization) at the very end of the 20th century and at the beginning of the 21st century under the influence of socio-political processes (war in the encirclement, refugee migrations and economic transition). Every of these processes contributed to the noticeable increase of the population, changes of the natural trends. It intensified mechanical trends and modified the qualitative structure of the population. Higher population growth of migrated younger population reflected on many segments of the demographic development of the settlements of Stara Pazova. All the sooner population represents the first link of connecting, imbuing and interaction of the settlements within the functional area of a town.

#### Reference

Avery G. (1979): Patterns of Suburban Population Growth 1970-75. *Demography*, Vol 16, No.3, p. 401-415, Washington.

Букуров Б. (1970): Гравитационе сфере војвођанских градова (Gravitational Spheres of Vojvodina towns). *Посебна издања САНУ*, Споменица књ. 44, стр. 119 – 139, Београд.

Попис становништва и станова 1991. године, Становништво – пол и старост, књ. 4, СЗС, Београд, 1993.

Попис становништва, домаћинства и станова 2002. године; Становништво – пол и старост, књ. 2, РЗС, Београд, 2003. године.

Попис становништва, домаћинства и станова 2002. године; Становништво – упоредни преглед броја становника, књ. 9, РЗС, Београд, 2004. године.

Регионални Просторни План Административног Подручја Града Београда; ЈУП „Урбанистички Завод Београда”, Београд, 2004.

Стевановић Р. (2003): Будући демографски развој – основа регионалног развоја и организације простора (Future Demographic Development – Base of Regional Development and Organization of Space). Регионални развој и демографски токови балканских земаља, Економски факултет у Нишу, књ. 8, стр. 287-293, Ниш.

Стојановић Б, Војковић Г. (2005): Урбане агломерације на главним развојним осовинама као полови демографске ревитализације Србије (Urban Agglomerations on Main Development Axes as Poles of Demographic Revitalization of Serbia). *Становништво* 1-4, Институт друштвених наука, центар за демографска истраживања, стр. 61-79, Београд.

Тошић Д, Обрадовић Д. (2003): Савремене тенденције у развоју мреже насеља општине Смедерево (Modern Tendencies in Developing Net Of Settlements Of Municipality Smederevo). *Гласник СГД*, Свеска LXXXIII, бр. 2, стр. 31-44, Београд.

Ђурчић С. (1984): Општина Стара Пазова (Stara Pazova Municipality) Географска монографија, Природно – математички факултет Нови Сад, Институт за географију, Нови Сад.

Ђурчић С. (1989): Градске регије као фактор демографског поларитета у Југославији (Urban Regions as factor of demographic polarity in Yugoslavia) *Зборник радова* Природно-математичког факултета – Универзитет у Новом Саду, књ. 19, стр. 55-66, Нови Сад.