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# New Spatial Development Processes of Urbanisation of Sarajevo

**Rahman NURKOVIĆ<sup>1</sup> Haris GEKIĆ<sup>1</sup>**

<sup>1</sup> University of Sarajevo, Department of Geography, Sarajevo, BOSNIA AND HERZEGOVINA  
E-mail: rahmannurkovic@hotmail.com, hgekić@gmail.com

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## ABSTRACT

In the new transition period, particularly after 2001, significant spatial and functional changes occurred in the urban development of Sarajevo city. We have focused our researches primarily on the new urban development of Sarajevo. Characteristics of the housing stock and new activities of Sarajevo have been shown; a typology of the housing settlements and economic activities has been implemented. A recent, uncontrolled construction of the Sarajevo housing settlements leads to environmental devastation and deepening the economic and social problems of the city.

## 1. INTRODUCTION

In the new transition period, particularly after 2001, significant spatial and functional changes occurred in the urban development of Sarajevo. We have focused our research on the new urban development of Sarajevo. Firstly, we are mentioning a citification process, an expansion of new commercial buildings distributed predominantly on the edges of the city, tendencies of a dynamic and different housing construction and an arrangement of the large traffic infrastructure. The mentioned processes strongly affect the contemporary development of the city in its administrative borders, i.e. the central city, and they are reflected in the development of the urban region as well [1].

From the selection of indicators it is noticeable that we have dealt with population in the cities and concentration of jobs, and also with the share of rural population that is poorly connected with the city and the share of housing structures. Such form of urbanisation with certain specificities is characteristic to the city of Sarajevo. The rapid population growth in

Sarajevo and the rural exodus as a side effect have specific consequences, which arouse attention and require certain interventions of the society.

It is thought that economic forces have dominant influence on urban development of Sarajevo. Transformation of the surroundings of Sarajevo is most tightly connected with new work functions, and, of course, with a level of socio-economic development. In this paper, dynamics and other characteristics of suburbanisation of Sarajevo have been analysed. The urbanised surroundings have been separated and the structure and dynamics of socio-economic urban region have been determined.

A particular attention has been paid to satellitisation as a main spatial-structural form of urbanisation. Urbanisation in Sarajevo would usually start with employment of part of rural population from the surrounding with the city. For this reason, part of population has moved to the city, and the other part has been socially restructured by commuting to work daily. In such circumstances the city population increased more rapidly than the population from the surroundings. In later stages, value of the surroundings

has increased, so part of the population from the city has moved to surroundings [2]. Moving the population was also followed by redistribution of jobs. Such processes are spontaneous, and can be improved by planned measures.

## 2. URBAN REGION SARAJEVO

A city with its surroundings makes an urban region. With regard to a method of separating the surroundings, we can talk about a socio-economic urban region. According to research results of numerous urban geographers on regions of the world,

the largest urban region in Bosnia and Herzegovina is the Sarajevo region. The Sarajevo region is a characteristic mono-centric urban region with a strong city urban centre.

According to estimations of the Agency for Statistics of Bosnia and Herzegovina for 2005, about 34% population of the whole region, as well as the state, cultural, sports, educational and other institutions of national importance were concentrated in the city of Sarajevo [3]. The other, more densely populated areas of the region have been formed, first of all, on the main traffic arteries in direction of the road Sarajevo-Mostar and Sarajevo-Zenica.

Table 1. Total population per municipalities of Sarajevo city, 1981-2006.

Municipality	1981	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Centar	72,762	65,216	66,044	67,430	68,173	68,151	68,067	67,974	70,294	70,228	70,143
Hadžići	20,952	19,083	19,401	19,608	19,964	20,055	20,133	20,251	21,958	22,089	22,140
Ilidža	57,243	42,025	44,491	46,020	47,502	47,654	47,924	48,105	48,291	52,290	52,374
Ilijaš	24,316	13,942	14,471	14,744	15,249	15,277	15,325	15,414	15,462	17,533	17,572
Novi Grad	80,559	104,878	110,086	112,838	116,288	116,588	116,832	117,079	119,883	122,636	122,737
Novo Sarajevo	94,200	68,058	69,436	71,932	74,471	74,493	74,402	74,364	73,381	73,297	73,268
Stari Grad	56,181	36,374	37,396	37,773	38,149	38,167	38,211	38,106	38,000	37,975	37,917
Trnovo	8,161	748	759	801	850	839	836	819	2,187	2,184	2,182
Vogošća	18,663	18,045	18,799	19,388	19,852	19,894	19,966	20,054	20,575	20,659	20,697
Total	424,876	368,369	380,883	390,534	400,498	401,118	401,696	402,166	410,031	418,891	419,030

Source: Statistički bilten Zavoda za informatiku i statistiku Kantona Sarajevo, 2007.

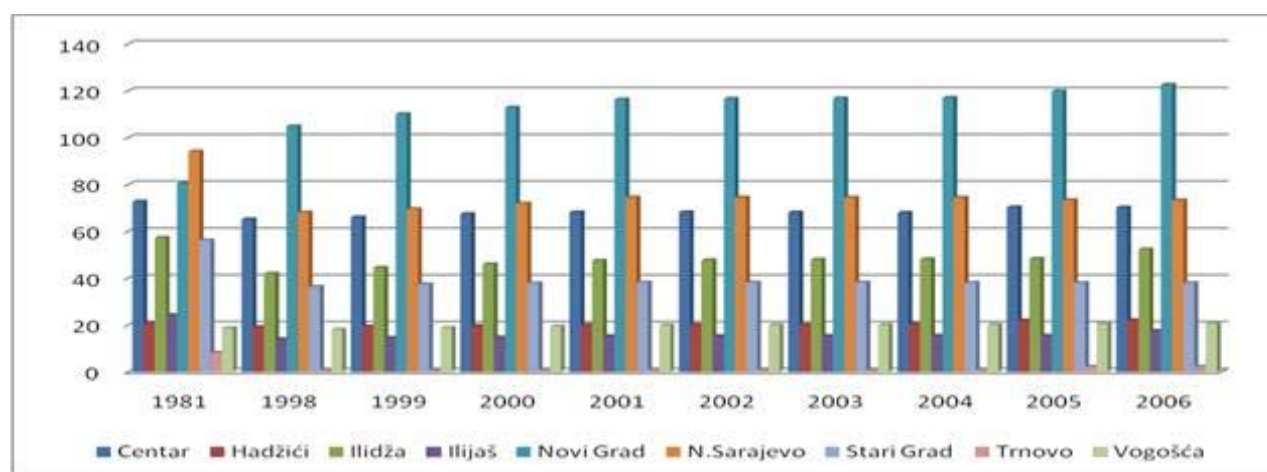


Fig. 1. Total population per municipalities of Sarajevo city, 1981-2006).

According to a spatial pattern of population, the Sarajevo urban region can be included into the radial urban regions. Except for the city of Sarajevo, according to population number some other urbanised settlements distinguish themselves, such as: Ilidža, Hadžići, Vogošća, Ilijaš, and other. Among the

mentioned settlements, zones of high population density on main traffic arteries were created. The largest area of high population density is on the main road towards Mostar. The general trend of depopulation and urbanisation of a broader suburban space are characteristic of the region.

On the other hand, jobs remain spatially more concentrated in a narrower urban area of Sarajevo, which causes very intensive daily migrations for work and related traffic courses. In 2007, 109,639 inhabitants were employed in the whole region, thereof only in Sarajevo 48,626. Larger business centres in the region are Hadžići and Vogošća. With the exception of Sarajevo, number of jobs in other municipalities is quite lower than the active population number.

First of all, it should be emphasized that there are big differences in employment level between the particular municipalities. The values range between 41% and 86% of the employed people of total active population. The differences are even higher in the share of daily migrants in Sarajevo against the active population. The differences in this occurrence range between 4.5% and 56.5% of the migrants. Similar differences also exist in the share of daily migrants in

the employed population. It ranges between 9.3% and 68.7% of the migrants.

According to data of Federal Agency for Statistics of B&H from 2007, total number of daily migrant workers in the city of Sarajevo was about 48,000. Outside the urban part of Sarajevo, of total of 61,013 employed persons, permanent residence in Sarajevo had about 20,000.

In addition to daily work migrations, very strong daily migrations for schooling and the supply and services are present in the region; therefore, the total number of daily migrants coming to Sarajevo is much higher. It is estimated that about 20,000 of people travel on daily basis to Sarajevo.

With regard to employment, schooling, supply and services, an influential area of the city of Sarajevo exceeds the area of the Sarajevo urban region including also Zenica, Mostar and East Bosnia region.

Table 2. Employed population per municipalities of Sarajevo city, 1989-2006.

Municipality	1989	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Centar	31,802	28,726	29,723	30,622	30,094	29,641	28,970	32,811	33,930	33,732	38,115
Hadžići	2,778	1,852	2,103	2,236	2,294	2,545	2,830	2,946	2,780	2,994	3,291
Ilidža	27,157	6,177	7,909	7,398	7,414	8,004	7,817	8,570	9,091	9,883	13,330
Ilijaš	5,760	454	686	958	1,012	998	1,129	1,346	1,717	1,710	1,858
Novi Grad	28,518	12,141	13,261	13,727	14,428	14,218	14,348	14,365	15,236	15,705	18,194
Novo Sarajevo	36,499	17,199	17,417	18,258	18,239	17,931	18,142	18,504	18,668	18,984	20,985
Stari Grad	11,605	8,766	9,657	10,072	10,177	10,357	10,118	9,769	9,489	9,519	10,511
Trnovo	1,475	179	184	198	183	150	172	194	203	229	227
Vogošća	11,495	2,126	2,232	2,427	2,032	2,168	2,211	2,405	2,447	2,558	3,128
Total	157,089	77,620	83,174	85,896	85,873	86,012	85,737	90,910	93,561	95,314	109,639

Source: Statistički bilten Zavoda za informatiku i statistiku Kantona Sarajevo, 2007.

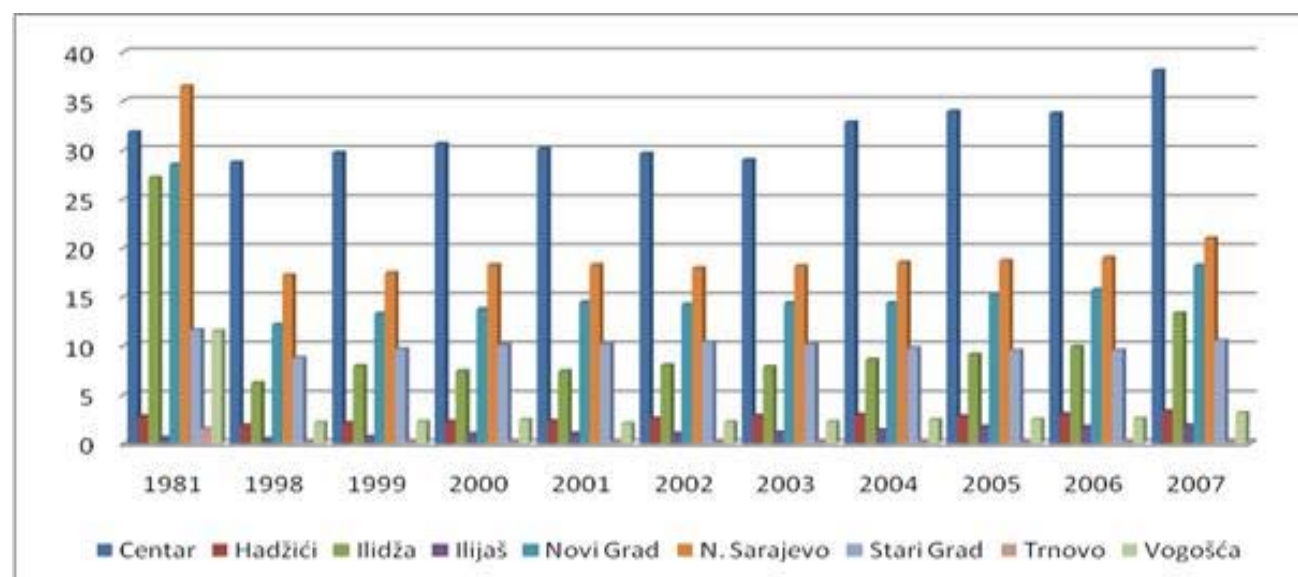


Fig. 2. Employed population per municipalities of Sarajevo city, 1989-2006).

According to statistical bulletin of the Institute of Informatics and Statistics of the Sarajevo Canton for February 2011, the Sarajevo region had 392,914 inhabitants. The population distribution is not even, so that according to general population density, on one side are the municipalities of Vogošća with 320 inhab./km<sup>2</sup>, Stari Grad with 341 inhab./km<sup>2</sup> and the Municipality of Ilidža with 359 inhab./km<sup>2</sup>.

On the other side, however, are the municipalities with very high population densities. Municipality of Novi Grad is in the first place with 2,736

inhab./km<sup>2</sup>, after that Centar with 2,157 inhab./km<sup>2</sup> and Novo Sarajevo with 1,520 inhab./km<sup>2</sup>.

Differences in population density are the consequence of differentiation in interdependence of natural and social factors. With regard to a possibility of city land use, increase in population numbers in municipalities of Vogošća, Ilidža and Novo Sarajevo should be expected. Municipality of Novi Grad, due to existence of the series of urban functions, will be the most densely populated part of Sarajevo region for a longer time (fig. 3).

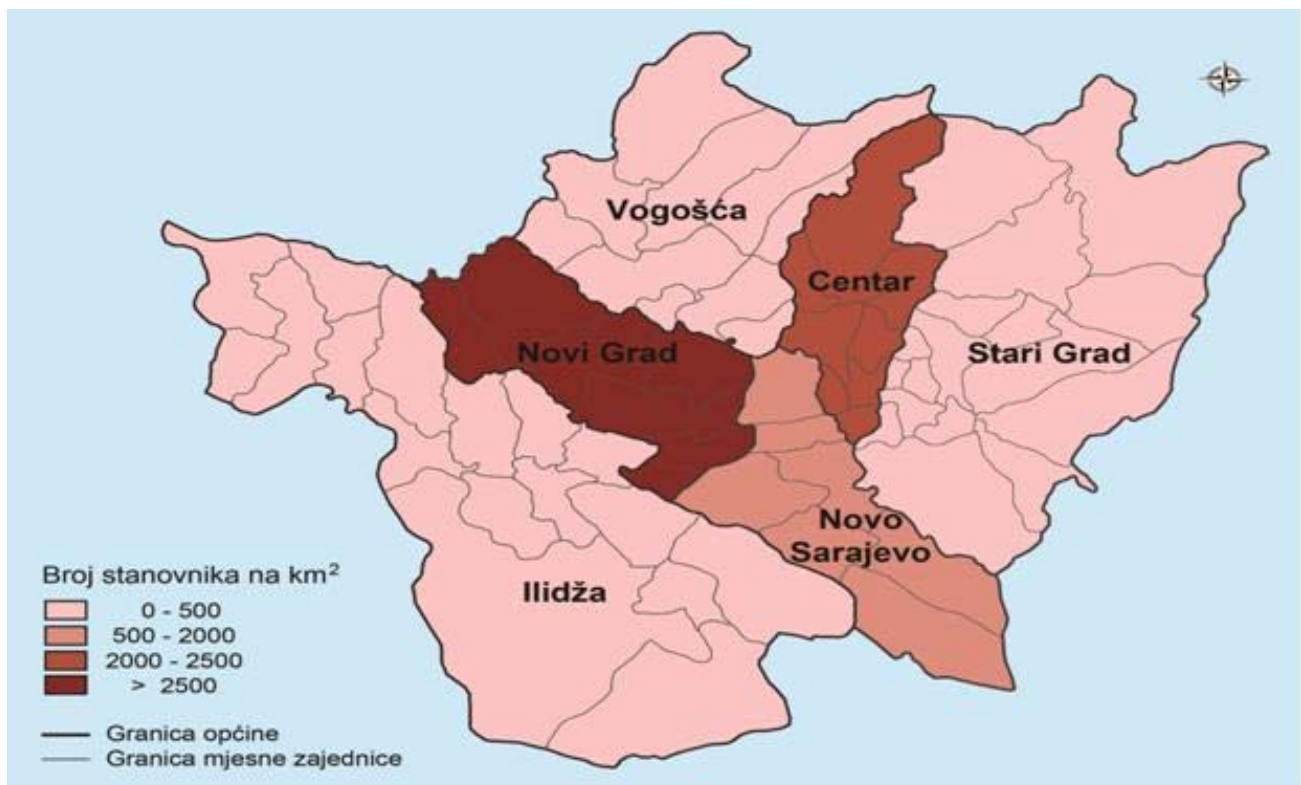


Fig. 3. Population density in Sarajevo urban region (2011).

### 3. SOCIO-ECONOMIC TRANSFORMATION OF SETTLEMENTS AS AN INDICATOR OF URBANISATION SARAJEVO

Socio-economic changes are the first forms of transformation of the rural settlements. Sociologically observed, this implies the changes of a position of population on the social scale. When it comes to rural settlements, then this implies, first of all, restructuring of agricultural population into non-agricultural professions and a change of lifestyle. Socio-economic changes are also followed by other changes: physiognomic and functional changes of the settlements [4].

Thus, urbanisation of the surrounding rural settlements is developing. The major agent of the mentioned changes is employment of the population in non-agricultural activities. Since there are no jobs in

rural settlements or there is a few of them, social restructuring is enabled by daily migrations for work in a city.

In order to estimate an urbanisation level of Sarajevo, settlements are differentiated according to socio-economic changes into four categories: urban settlements, more intensely urbanized, less intensely urbanized and rural settlements. Differentiating has been performed by the model with two variables and specific parameters (table 3).

Table 3. Model of differentiation of settlements according to a degree of socio-economic transformation.

Transformation degree	% of agricultural population	% of workers from active population
Higher degree	10.0 and less	75.0 or more
Lower degree	10.1-20.0	50.0 and more

By means of the mentioned model, more intensely and less urbanised settlements, as well as rural settlements, were separated. All other settlements that do not meet the mentioned criteria within the model were included into the last group. City status was granted to the settlements with more than 2,000 inhabitants with less than 10% of agricultural population, and more than 50% workers in the place of the inhabitants, if it has less than 10,000 inhabitants [5].

Differentiation of the settlements by means of the mentioned models shows that a larger number of the settlements from the surroundings of Sarajevo experienced a certain degree of transformation. Of urban settlements, Osijek, Stup, Semizovac, Rajlovac Hrasnica and others distinguish themselves by their importance and size. Among the urbanised settlements of the surroundings, more intensely urbanised settlements distinguish themselves by their number. They, along with less urbanised settlements, have the shape of the circular zone, whose thickness changes significantly.

The traffic connections caused a radial expansion of the process of socio-economic transformation of settlements affected by travelling possibilities. Radial expansion of the mentioned process is particularly expressed towards Hadžići, Ilijaš, Kiseljak, Vogošća and Pale. In addition, it can be ascertained that traffic connections in the mentioned directions enabled a development of the axes of urbanisation and development. Besides the traffic connections, satellite towns also contributed to the mentioned spreading of suburbanisation zones.

They are important hubs of connecting with Sarajevo, and have certain work function and their gravitation zones of daily migrations. For this reason, an intensity of transformation of the settlements around the satellite towns is somewhat more expressed than an intensity of the migrations in Sarajevo. This is particularly expressed around Ilidža, Vogošća and toward Hadžići. On the basis of the mentioned data on socio-economic transformation of the settlements it can be concluded that the suburbanization of Sarajevo has been in progress.

It is performed differently, and is still dependent on daily migrations of the employed people in Sarajevo. Satellite towns have an important role in this process. Immigration of population is a significant indicator of the city's importance and attractive power, and the value of its surroundings as well. At a certain level of each agglomeration, a stronger immigration is firstly oriented towards the city, and then it is redirected towards the surroundings [6].

Immigration to settlements of the city surroundings may be performed from rural settlements or other areas, but also from the central city. In directions of relocations there are certain patterns, which should be taken into consideration during

evaluation of the suburbanisation level. In earlier stage of development, immigration to surroundings was predominantly going from spatially remote and more isolated rural settlements. Sometimes it has a character of phased immigration towards the city [7].

In later stages of development population of central city immigrate to surroundings as well. It can be spontaneous or enhanced by a planned housing construction. For evaluation of suburbanization, understanding of structure of the immigrated population is also important [8]. Poor population can move from the city to surroundings due to shortage of flats. Relocation of population of higher social status to surroundings is a sign of its high value, and usually appears in the later stage of agglomeration development.

Industrialisation and urbanisation are regularly followed by intensified relocations of population of each country. In Bosnia and Herzegovina more intense relocations, particularly to cities, started in the 1950s. In 1991, 47.5% population moved to their places of living of that time. At the same time, a share of the immigrated population to towns was 62.4%.

Motives of relocations to particular settlements are different. Moving to satellite towns and to nearer settlements was affected by bigger possibilities of housing constructions. The lower local rates and a cheaper construction land enabled an easier construction of the own houses. The housing policy with a tendency of decentralisation, particularly during the 1970s, contributed to a larger share of immigrated population in satellite towns [9].

Then the settlements were built in satellite towns in a planned manner, and, at the same time, there were weak possibilities and the low construction of the own houses. Due to prohibitions or expensiveness of the construction land, moving to the surroundings has increased. Immigrations to rural settlements were going predominantly from the neighbouring settlements and were caused by land purchase and sale, marriages and other reasons [10].

On the basis of a degree of socio-economic transformation and functional dependence on a city, it is possible to separate the surroundings of Sarajevo. The surroundings of Sarajevo were separated in this paper and differentiated on the basis of socio-economic characteristics and functional connection with Sarajevo. It is a level of employment shown in proportionate share of the employed people outside the own estates in total active population, and the share of daily migrants employed in Sarajevo.

The share of daily migrants has been calculated in two forms: of active and employed population. Additional characteristic in setting the surroundings aside is a degree of socio-economic transformation of the settlements. Separating and differentiating the surroundings have been performed at the level of new municipalities (table 4).

According to the mentioned level, municipalities in which a share of the employed people of active population was over 50% were included in the surroundings of Sarajevo, and the share of daily migrants in Sarajevo was over 25%, respectively 30%.

Table 4. Model of separation and differentiation of Sarajevo surroundings.

Transformation degree	Employed	Active	Employed
Higher degree	>50	>40	>50
Lower degree	>50	>25	>30

According to this, six municipalities were included into the surroundings, as well as eastern and southern sectors of the Sarajevo agglomeration. Most of the municipalities have, for our conditions, a higher degree of transformation and connection with Sarajevo.

#### 4. CONCLUSION

On the basis of the conducted analysis of the most relevant data, it can be concluded that a process of urbanisation of Sarajevo is increasingly expressed. It is still predominantly manifested in transformation of the suburban settlements owing to social restructuring, which is enabled by daily migrations for work in Sarajevo. Thus, urbanised surroundings were created around Sarajevo, which along with a central city make a socio-economic urban region.

A newer, uncontrolled development of the Sarajevo housing settlements lead to an environmental devastation and deepening of economic and social problems of the city.

Judging by the proportion of population number and jobs of a central city and the surroundings, it can be concluded that the Sarajevo urban region is still in the early stage of development. Around 70% of population of the region accounts for a central city and around 30% for the surroundings. In function of work, the differences are even more pronounced.

Around 80% accounts for a central city, and around 20% of jobs for the surroundings. In region's population development a complete change is being noticed. Increase in population number of the surroundings is relatively bigger than that of the central city. This means that in demographic development the urban region has entered a stage of relative decentralization.

The analysis has also shown that a satellitisation is a major spatial-structural form of the Sarajevo suburbanization. Around Sarajevo, four satellite towns developed intensively (Ilidža, Hadžići,

Vogošća and Pale) in which 109,639 inhabitants lived in 2007. At the same time, 65.4% of all jobs of the surroundings were in them.

Functionally, the satellite towns are tightly connected with Sarajevo and the certain distribution of functions for entire region. From the mentioned four towns in Sarajevo, around 40% of all migrants to city migrated on a daily basis. They are also attractive towns for immigration from other areas of Bosnia and Herzegovina and other countries.

The previous socio-economic development of Bosnia and Herzegovina induced an excessive concentration of population in the cities, which caused demographic impoverishment and almost complete population vacation of significant part of the state territory, with simultaneous worsening the demographic structures and natural population drop, with an insufficient socio-geographic development.

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