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CHANGES IN SPATIAL-FUNCTIONAL DEVELOPMENT OF THE MUNICIPALITY OF INĐIJA (SERBIA)

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Abstract: In the municipality of Inđija the influences are very closely connected between the two most populated and economically most important cities in Serbia: Belgrade and Novi Sad. The benefit that is expressed in the position of the municipality has reflected the development of settlements, their population strengthening, diversification of activities and functional transformation. Changes in functional characteristics were analysed for 1971 and 2002, with reference to the last population census in 2011. Functions of labour in the municipality were recognized in terms of employment and distribution by activities at the municipal level and in terms of delimitation of labour centres on the basis of the daily mobility of the active population who carries interest at the settlement level. The observed trends can serve as a basis for determining potential routes of the spatial-functional development of settlements and municipality as a whole in future.

Key words: Indija, functions, settlements, transformation, labour centres

Introduction

The advantages of geographic position of Inđija on the Srem plateau, on the branches of Fruška Gora, in the zone of Corridors X and VII and in the zone of the bipolar agglomeration Belgrade - Novi Sad, determined the demographic, socio-economic and spatial development of Inđija, especially the municipal centre, determining its field of influence and role in the spatial-functional organization of the net of settlements and centres in the wider environment. Situated in the east, peripheral part of Srem, the municipality of Inđija, together with the municipality of Stara Pazova, represents a socio-economically most attractive part of this region (Matijević, 2009) and is one of the most active migratory areas (Đurđev & Ivkov, 1999).

In the shadow of the development of the largest urban centres in Serbia, the administrative seat of Inđija developed into an urban centre of poly-functional structure, also the sub centre of Belgrade and Novi Sad agglomerations (Dere,

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1984a; Tošić, 2000; Šećerov, Nevenić & Tošić, 2009). As a developing pole, the municipal centre has a predominantly cohesive role in the municipality (Krunić, 2012), and as a centre of labour it is characterized by a greater degree of functional autonomy, based on the distinctive identity of the local economy.

Functional classification of geospace is a current problem in the scientific literature. It is based on various indicators, of which some cannot be followed in Serbia in continuity or they are not available at the level of lower administrative units. The most commonly used indicators of the development labour functions and importance of labour centres in the net of settlements / urban centres in our geographic and spatial planning literature are: active population by sectors of activity performing occupation (Tošić, 1999; Grčić, 1999; Veliković, Jovanović, & Tošić, 1995), the share of agricultural population (Jovanović, 1988), employment in the industry and / or the tertiary sector (Grčić, 1990; Grčić, 1999; Đere, 1984a; Zeković, 2009; Miletić & Todorović, 2003), daily commuters performing an occupation (Stamenković & Gatarić, 2008; Tošić & Nevenić, 2007; Grčić, 1999; Krunić, 2012), the concentration of functions / institutions (Bukurov, 1980; Dere, 1984b; Tošić, 1999; Krunić, 2012) and others. The functional classification of settlements can be made depending on the predominant activity according to a model of ternary diagram (Veliković et al., 1995; Tošić, 1999, Grčić, 1999) and according to the concept of central places based on functional dependence and stability of settlements (Grčić, 1999).

This paper points to the direction and intensity of the transformation of the municipality of Indija in socio-economic terms, during the period of intensification of the process of industrialization, to and during the transitional period. Changes in spatial-functional development were observed at the municipal level. Detailed functional classification was performed at the level of settlements, in accordance with the economic structure of the population performing occupation, population characteristics of the settlements and their facility equipping. The statistical data were analysed at the level of settlements in order to determine the spatial and functional structure of the settlement net of Indija, connections and relationships between them, as well as the ranking of settlements in the observed system. A ternary diagram method was applied according to Tošić (1999), by which the settlements are classified into nine functional types, of which there are three main (agricultural, industrial and service) with two transitional types each, based on data on active population engaged in the sector activities. The function of labour was analyzed from two different aspects. The first aspect monitors changes in the scope and structure of employment at the municipal level, while the second is aimed at determining the centrality of the settlements on the basis of the active population performing occupation and the daily mobility of the employed labour force at the level of settlements.

Due to differences in methodology of data collection and levels of available statistical data, continuous monitoring of the changes in functional characteristics of settlements is limited to some extent. The functional characteristics of the settlements expressed by active population engaged in occupation (according to the methodology of the census) are monitored by place of residence. However, the part of the population migrate to other settlements as places of work, and the economic activity of the population cannot be considered the only relevant indicator of development functions of the settlement where the population is registered (Bukurov, 1980). On the other hand, the data on the structure of employees by place of work are available at the municipal level, and not settlements. Comparison of settlements in terms of functions concentrated in them gives better results of analysis and image of development functions in settlements (Jovanović, 1988). In addition, data on active population by sectors of activities and daily commuters, which were used in the paper, are available at the level of settlements, according to methodology of the census of the Statistical Office of the Republic of Serbia for 1971 and 2002, while data from the last Census 2011 are available only to the level of city / municipalities. Results of the analyses presented in this paper may serve as the basis for determining potential routes in the spatial and functional development of settlements / municipality in the future.

The Settlement Characteristics of the Municipality

Situated in the area of suitable natural conditions and social factors for colonization and economic activity, Indija stood out as distinctly immigration area. The intensity of immigration was in direct correlation with the level of development (Đurđev & Ivkov, 1999), that is, the scope of functions that foster the socio-economic and spatial mobility of the population.

The net of settlements in the municipality of Inđija is characterized by the differentiation of morphological, population and functional characteristics. It consists of 11 settlements, of which only the municipal centre is of urban type, which is by its area and population the largest settlement, around which the other 10 rural settlements have radial arrangement. The formation of the net of settlements, their evolution and characteristics were influenced by the set of various factors: from orohydrographic in terms of locating the settlements and their expansion to the historical and socio-economic factors and traffic connections of the settlements (Kojić, 1961; Bukurov, 1983; Đuričić, 1991). The

structure of the settlements is determined by their physiognomic and morphological and urban development, depending on the geomorphologic whole they belong. The settlements are partially lowland, of large areas with typical urban morphological structure of settlements with straight streets laid out, and partially the Fruška Gora ones, which physiognomy followed the structure of the terrain, and they developed as compact settlements, partly of irregular shape or line type. The settlement of Slankamenački Vinogradi stands out by its physiognomic and urban-morphological characteristics, which is a dispersed settlement of small area, formed on the slopes of Fruška Gora.

In the net of settlements in the municipality, three hierarchical levels of settlements are allocated. Differentiation of the settlements was carried out according to their population size, rank of settlements depending on the equipment of public service facilities and services, sphere of influence measured by the convergent daily movements of the population, the level and nature of economic development, measured by the number of active population performing occupation and directionality of population activities by sectors of activities. The first level is the urban centre of Indiia, which represents the largest population settlement, administrative and economic centre of the municipality. In the second level there are the demographically and economically more significant settlements with better public service facilities and services, with more intense commuting: Beška, Krčedin, Maradik, Novi Karlovci, Novi Slankamen and Cortanovci; and the third level are the settlements of smaller population size, with a dominant agricultural function and poor infrastructure equipment and coverage of public service facilities and services: Jarkovci, Ljukovo, Slankamenački Vinogradi and Stari Slankamen. The Ljukovo settlement stands out from previous group of its suburban character, population size and the continuous population growth, conditioned by redistribution of population within the municipality, but also by the trend of gradual diversification of the activities pursued by the population residing in the settlement. However, there is still a distinctive difference in terms of socioeconomic characteristics of the Ljukovo settlement compared with a group of settlements in the second level

The Municipality of Inđija has a relatively well developed net of settlements. The density of the settlement net is 2.9 settlements/100 km², which is above average for Vojvodina Province (2.2). It is a relatively densely populated area with an average population density of 123.7 inhabitants/km², while the municipal centre stands out as a settlement with the highest population density of 542.6 inhabitants/km² (in 2011).

The structure of the settlement net is dominated by large population settlements. Of 11 settlements, only 3 have less than 1000 inhabitants, of which the settlement of Slankamenački Vinogradi belongs to the category of small (up to 500 inhabitants). Other settlements are grouped in the so-called demographically large settlements (more than 1000), which is generally characteristic of the settlement net of Vojvodina, and the urban and municipal centre with 26,025 inhabitants is classified as an urban settlement of medium size. Arrangement of settlements by size groups remained steady during the period 1948-2011 (Figure 1). On the other hand, the average number of people per settlement continuously increases, with minor fluctuations in the last two intercensal periods.

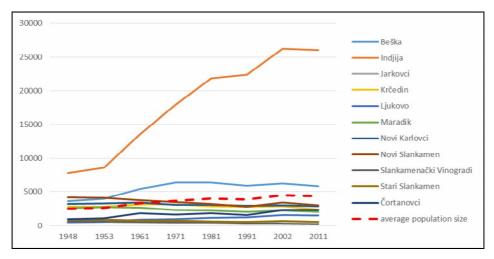


Figure 1. Changes in population size of the settlements in the period 1948-2011 (Source: Made by the authors of the paper, 2014)

Indija has been an immigration area from the half of the last century to today. A significant period of immigration is recorded during the post war colonization (1948-1954), when over 3000 colonists settled, of which the highest percentage of people emigrated from Croatia (43.5%), then from Central Serbia (22%) and Bosnia and Herzegovina (21.6%) (Đurđev & Ivkov, 1999). The structure and origin of immigrants have been retained even in the future period. Refugees from Croatia and Bosnia and Herzegovina accounted for 2.7% of the population of the municipality in 1991, and in 2001 even 26.2% (Lukić, 2005).

Intensive immigration reflected on the population dynamics of the municipality as a whole. Since 1948, the population grew continuously until 1981. Given that the positive demographic trend followed the process of industrialization, the municipal centre all the way to the last census was characterized by positive

population dynamics and recorded the highest increase in population (Table 1). Since 1981, almost all rural areas recorded a population decrease as a result of population redistribution within the territory of the municipality, as well as the negative values of net migration, reduction of population growth, and even reaching negative values in these settlements (Lukić & Matijević, 2006).

After 1991, the population decrease from previous intercensus period was replaced by the rapid population growth in the settlements of the municipality of Inđija. The cause of this change is a large influx of population (52.4%), by a smaller part from the territory of other municipalities in Vojvodina Province, and mostly from the area outside the borders of the autonomous region (Đurđev & Iykov, 1999).

Table 1. Population growth rate in the period 1948-2011

rable 1.1 oparation growth rate in the period 1910 2011										
Settlement	1948-	1953-	1961-	1971-	1981-	1991-	2002-			
	1953.	1961.	1971.	1981.	1991.	2002.	2011.			
Municipality	11.86	21.89	10.51	8.55	-2.99	13.29	-4.72			
Beška	17.21	29.98	16.59	0.41	-7.75	5.06	-7.99			
Inđija	19.80	44.90	27.80	19.89	2.49	14.40	-0.89			
Jarkovci	62.63	-19.41	-22.44	0.00	-16.02	58.48	-1.93			
Krčedin	-0.78	12.34	-1.05	-8.55	-2.93	2.69	-17.81			
Ljukovo	31.82	44.58	7.51	20.76	4.59	22.77	-5.32			
Maradik	12.60	-4.25	-12.04	-4.13	-10.06	10.86	-9.73			
Novi Karlovci	5.97	3.81	-11.31	-0.33	-4.36	3.54	-6.43			
N. Slankamen	-4.59	-7.71	-8.78	-7.84	-12.83	18.30	-15.05			
Skan Mandeaman	-2.53	-7.78	-8.62	-7.80	-55.77	-4.01	-5.27			
St. Slankamen	0.65	-17.58	-2.87	-16.93	-12.31	16.16	-22.66			
Čortanovci	31.61	49.47	-10.45	11.53	-15.97	34.10	1.31			

Source: Author's calculations based on the SORS, 2014a.

The largest population growth in the period 1991-2002 was recorded in the settlements Jarkovci, Ljukovo, Čortanovci and Novi Slankamen (Table 1), of which the settlements Ljukovo and Novi Slankamen represented the origins of settlers and refugees (Bubalo-Živković, Kovačević, & Đerčan, 2010). When it comes to recent immigrations in this area, they are the most intensive in the period 1991-1995, when the influx of population was 7051, which is about 45% of the total immigrant population in the municipality of Inđija from 1981 to 2011. The largest number of immigrants originated from areas outside the borders of the Republic of Serbia (90.55%), especially from the territory of the Republic of Croatia and Bosnia and Herzegovina (SORS, 2013a). Increasing number of inhabitants in 2002 is the result of the influx of refugees, when the municipality of Inđija was ranked in the group of municipalities with extreme concentration of refugee population (Lukić & Matijević, 2006).

Data from the last 2011 Census showed negative demographic trends in the area of the municipality. All settlements (except for the settlement of Čortanovci) recorded a negative average annual growth rates, which were the consequence of the negative trend of natural movement, and the gradual intensification of negative migratory flows. Overall, decreasing number of inhabitants in the period 2002-2011, Inđija despite mild fluctuations in relation to immigration and emigration flows still retains the character of the immigration area (Demographic statistics 2002-2012, SORS, 2006-2013).

Functional Characteristics of the Municipality

Favourable physical-geographical characteristics of the territory of Indija oriented the activity of the population towards the primary sector, thus establishing a mono-functional character of rural settlements of the municipality, while chronologically speaking, in accordance with the functions of the central settlement, a poly-functional character of the municipal seat is being developed. After assessing the traffic position of Inđija, the most important railway junction in Srem, and the strengthening of administrative functions, according to Marković (1923), the development of trade, crafts and industry was encouraged (mill, brick plant, production of furniture and carpets, furs, power plant) at the end of the nineteenth century. A few decades later, the connecting of Belgrade and Novi Sad through Indija with a modern road provided greater attractiveness of this area for settlement and economic progress, the effects of which were visible in the second half of the twentieth century. From the sixties of the last century, initially slowly, then more intensive, the structural changes were launched in economies of the population. The process of industrialization in the municipal seat, especially in large urban centres in the region, as well as urbanization and tartarisation initiated changes in functional characteristics of individual settlements and the settlement net as a whole, which took place at a different pace.

According to the Census data for 2011, the municipality of Indija had 19,635 active population, of which 75.1% performed occupation. The coefficient of economic dependency of the municipality, which is correlated with the degree of economic development and the possibilities of engaging the workforce, as well as the age structure of the population, is 0.71, that is, each active resident of the municipality is serving 1.4 inactive residents (Statistical Office of the Republic of Serbia, 2013b). Utilization of working contingent, measured as the share of the active in the total working age population (15-64 years) is 59.13%, indicating some potential of workforce in the municipality. Although the coefficient of economic dependence and utilization of working contingent in the

municipality of Inđija is approximate to values of indicators at national and provincial level, with the employment rate of 36.0% (37.4% Serbia, Vojvodina 36.7%) and an unemployment rate of 24.9% (22.4% Serbia, Vojvodina 22.7%), the municipality is at a disadvantage compared to the average values of the aforementioned spatial entities.

Classification of settlements based on functions, that is, economic structure of the population, served in the paper as the basis for determining the directions of socio-economic transformation of the settlements (and the municipality as a whole) in the period from 1971, when the processes of industrialization and urbanization were the flywheel, until 2002, when the effects of the processes were visible through the socio-economic structure of the population, centrality of the settlements and links and influence on the environment.

By the ternary diagram model (Tošić, 1999; Tošić & Obradović, 2003), the settlements were classified in different functional types, according to the share of the active population performing occupation by sectors of activities. This model singles out three basic functional types of settlements: agrarian, industrial and service and their transitional types. Depending on the departure point of the diagram (Figure 2), which is assigned to the settlement according to the structure of population activities to any of the tops of a triangle, functional specialization can be interpreted, that is, functional diversification of settlements (Grčić, 1999). In accordance with this classification, a net of settlements in the municipality as a whole in the period 1971-2002 was transformed from an agrarian-service to service-industrial type, while the municipal centre in the same period kept the role of service-industrial centre with developed functions of the public sector (education, health, administration).

According to data for 1971, the largest number of settlements (6) belonged to the agrarian functional type, of which only the settlement of Ljukovo had a slightly pronounced orientation towards agrarian-industrial type. The next group consists of the settlements of Beška, Čortanovci and Stari Slankamen with slightly diversified functions, which belong to the type of service settlements with pronounced agrarian function (Figure 2).

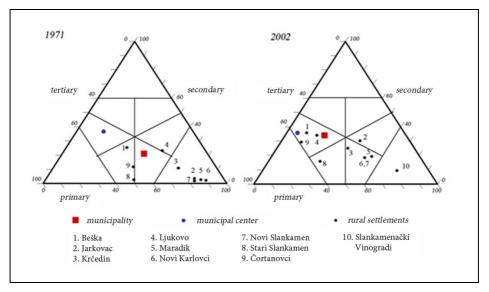


Figure 2. Functional types of settlements in 1971 and 2002 (Source: Made by the authors of the paper, 2014)

Agricultural character of the settlements in 2002 becomes gradually modified by the influence of service and production activities, forming a mosaic functional structure of the settlement net of Inđija (Figure 2). The largest functional transformation is observed in the settlements which are characterized by a large number of commuters. The transformation took place towards the diversification of activities and increased involvement of the population in the secondary sector, in accordance with the development of the industry, as well as the strengthening of the services sector and the public sector as a result of expansion of urban impulse of the city centre. Only the settlement of Slankamenački Vinogradi² had a purely agricultural character, the settlement of Jarkovci transformed into agrarian-industrial type, and Krčedin, Novi Slankamen and Maradik into agrarian-service type. The settlement of Stari Slankamen kept the service-agricultural character, while others (Beška, Ljukovo, Čortanovci) reoriented to service activities and industry.

Given that the data on the economic activity of the population and their dispersion by sectors of activities according to the 2011 census are not available for the level of settlements, it is difficult to follow the further course of the process of socio-economic transformation of the settlements in the municipality

153

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² Functional type of settlement of Slankamenački Vinogradi is defined only for 2002, because in 1971 it was part of the settlement Novi Slankamen. It became independent settlement in 1978.

of Inđija. Looking at the municipal level, change in functional characteristics occurred towards the development of the service activities (from 21.8% in 1971, over 27% in 2002 to 35% in 2011) and secondary activities (from 21% in 1971, over 34% in 2002 to 33% in 2011) and the strengthening of public sector services (13% in 1971, over 18% in 2002 to 20% in 2011) (SORS, 1974; SORS, 2004; 2014b). On the other hand, the importance of agriculture declines and only 12% of the active population is engaged in this activity in 2011. In accordance with the previously performed functional classification, the municipality is generally characterized by service-industry type, while the transformation of the municipal centre took place gradually towards service-functional type.

Labour Functions in Indija Municipality

The structure of the economy has changed during the last two decades, as traditional activities (textile industry, production of leather, furniture, etc.) have ceased to exist or have survived in the domain of entrepreneurial economy (Local Economic Development Strategy of the Municipality of Indija 2014-2020, 2014), and initiated by new development impulses more modern structure of the local economy is established. Diversified industrial structure based on the social economic sector and manufacturing industry as the leading business was expanded by the capacity of smaller economies, launched in the 60s and 70s. This improved operating functions, and by strengthening the migratory population flows, and consequently the spatial and socio-economic integration, a sphere of influence of the municipal centre is shaped³.

Analysis of labour function is viewed from two aspects, different in origin and methodology of data collection. The first refers to the trend of employment at the municipal level, and the other on the delimitation of work centres on the basis of activity of the population performing occupation and their daily mobility⁴.

³ Already since 1961 Indija was in the second stage in the development of the city and surrounding settlements (city - centre of growth), which grew into a strong core of concentration of activities, the bearer of development and polarization effects on the surrounding settlements (Veljković et al., 1995)

⁴ A study of employment is based on an analysis of data from municipal annuals (based on organizational and territorial principle of observation, according to which the municipality is the basic territorial unit i.e. place of work). Data on persons who perform occupation are based on census statistics (according to place of residence), with the usual ten-year periodicity of data collection (except for the Census of 2002). Details at: Municipalities in Serbia - Methodological notes (1977-2007) and Census of Population, Households and Dwellings in 2002, Categories and gender, vol. 6 - Notes on Methodology (2004).

Trends in employment and its sector distribution are observed in the period 1975-2011. In the context of changes in the general socio-economic conditions and the specific features of the economic structure (Figure 3).

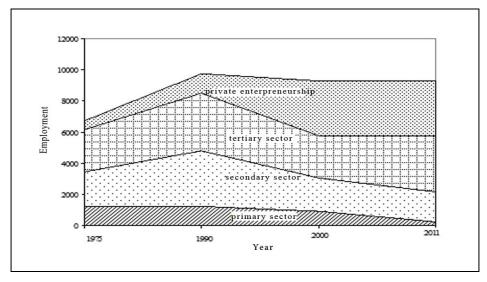


Figure 3. Employment in Inđija in the period 1975-2011 (Source: Made by the authors of the paper, 2014)

Over the last twenty years, although the distribution of employment by sectors and activities is exposed to major changes compared to the previous model of economic structure, the total employment, with slight oscillations, remains on the similar level. This is why the municipality of Indija stands out from most local governments in Serbia, in which the reduction in the volume of employment is mainly due to the drastic fall in production activities, and underdeveloped sector of entrepreneurship could not alleviate the socioeconomic problems highlighted during the transition. The period of unfavourable economic conditions in the 1990s was marked by opposing tendencies of employment: reduction in legal persons (from 8499 to 5775) and growth in the sector of private entrepreneurship (nearly tripled number of employees, from 1244 to 3515). Thus the interrelationship of employees in the structure of business persons has changed even though legal persons remained dominant (from 87%: 13% in 1990 to 62% 38% in 2000). All sectors of the economy and public services record a decrease in employment, while by activities it is most pronounced in industry (by 40%, from 3277 to 1985 employees). During the transition stage of the socio-economic system (the period 2000-2011), the total employment reserves approximate values (9283 in 2011) and the same proportions in the structure of business entities⁵, but with a significant reduction in industrial employment (to only 1720 employees) and strengthening of services as a dominant area of labour with nearly 60% of employees (of which 28.7% in the public services).⁶

Daily mobility, as a dynamic process which takes place daily in the municipality in the reverse direction, is an important indicator of interactive relations of settlements in terms of determining their economic influence. In the territory of the municipality, 5346 commuters performing occupation were registered in 2011, of which 2523 workers migrate to municipalities of other areas (districts), which is partly caused by the proximity of the Belgrade and Novi Sad markets. For the purpose of delimitation of the centres of labour, the data were analysed on migrant workers living in the settlements of the municipality, according to data for 2002.⁷

The authors suggest that one of the indicators of centrality of the settlements in the area is its "functional capacity" which, conditionally speaking, determines the scope of convergent and divergent daily mobility. Given that the number of active population that performs occupation is an insufficient, but not insignificant indicator for determining the functional significance of the settlement, two other indicators were used: functional capacity of the settlements (R_{mb}) and the development of the settlement as the centre (R_n)

$$Rmb = Amb - Dem$$
 (1)

$$Rn = Rmb + Dim$$
 (2)

where R_{mb} - functional capacity of the settlement indicates the number of workers who live and work in the place of residence, calculated on the basis of difference A_{mb} - the number of active population performing occupation and D_{em} - the number of commuters who go to work outside their place of residence; and R_{n} - development of the settlement as the centre is marked by the number of workers in the settlement, expressed as the sum of R_{mb} - workers who live and

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⁵ The highest employment rate in the municipality was achieved in 2008 – 10,280 employees, of which 46% in entrepreneurial sector, while under the influence of the global economic crisis, a decline followed with the faster pace of the reduction of the entrepreneurial sector.

⁶ When it comes to trends in unemployment in the municipality since the 1990s, as a result of the devastation of the productive sector and the transitional reforms, the number of unemployed is increasing, and in 2004 it nearly equalized (9447) with the number of employees (9676), and since 2006 it continued to decline steadily (4411 persons in 2011, according to records of the National Employment Service).

⁷ Last year for which data on daily migrants are available at the settlement level.

work in the place of residence and D_{im} - the number of migrants who come to that place to work. The authors' presumption for the purpose of research conducted in this paper is that if $R_i > A_{mb}$, the settlement conditionally can be marked as the centre of labour in the observed area.

Table 2. Structure of settlements according to the function of labour in 2002

	Amb	Dim	Dem	Rmb	Rn
Municipality	15,398	3048	6426	8972	12,020
Beška	1791	83	1356	435	518
Inđija	8306	2451	2370	5936	8387
Jarkovci	162	5	98	64	69
Krčedin	848	38	428	420	458
Ljukovo	430	85	384	46	131
Maradik	818	21	287	531	552
Novi Karlovci	1107	34	492	615	649
Novi Slankamen	1085	72	458	627	699
Slank. Vinogradi	108	0	25	83	83
Stari Slankamen	198	226	110	88	314
Čortanovci	545	33	418	127	160

Source: Author's calculations based on SORS (2003).

According to data for 2002, only two settlements were allocated in the municipality of Indija where the number of workers in the settlement was higher than the total number of active population performing occupation in these settlements (Table 2). These are the urban settlement of Indija and the settlement of Stari Slankamen. For the municipal centre it is expected to receive the highest number of migrants and have the most employees, considering that it is functionally the most important settlement and a development pole in the area of the municipality. Of the total volume of convergent flows in the territory of the municipality, 80.4% (2451) of workers daily migrated to the municipal centre (Table 2). The economic profile of the commuters whose destination is the municipal centre indicates their orientation towards secondary (55%) and service activities (25%). The settlement of Inđija even during the following period (2002-2011) has the characteristics of the centre of convergent trends in the municipality (551 workers in 2011, SORS, 2013b). This settlement is on the one hand a local centre which sphere of influence includes mainly surrounding settlements, and on the other hand emits migrants to larger centres in the spheres of influence of which are - Belgrade and Novi Sad (Ćurčić, 2004; Šećerov, Nevenić, & Tošić, 2009).

The second settlement in the municipality that stands out as the centre of labour is Stari Slankamen. It is a centre with the developed balneology-health function. The largest number of workers who commute to this settlement (92%) is

employed in the health sector, and a slightly significant number of workers in the service sector. Other settlements "receive" a certain number of migrants, but divergent daily migration is more pronounced.

Comparing the data on employees from different sources reveals a difference in favour of the persons performing occupation, as employees and active population engaged in occupation are not the two same contingents. The census statistics in accordance with the methodology of data collection has a wider scope including individual farmers, the population of younger age groups, unregistered workers and the active population engaged in a job in the week preceding the Census (SORS, 2013b).

Conclusion

The diversification of activities and the strengthening of daily labour mobility encouraged the transformation of the settlements in the municipality of Indija from mono-functional agrarian settlements in the transition type with a larger or smaller share of the active population in the service sector (four settlements of service-industrial type and four settlements of agrarian-service type). In accordance with the functions of the administrative and economic centre, the transformation of the municipal centre takes place towards service functional type of settlement, and the municipality in general from agrarian-service to service-industrial type. Due to the dominant concentration of activities in the administrative centre and weakly expressed dispersion in other settlements, a mono-centric model of the net of settlements is established in the municipality from the aspect of the functions of labour.

In recent years, by the formation of industrial zones (northeast and southeast), Greenfield localities and the revitalization of brownfield localities, the economic growth is encouraged and the flows of goods, capital and labour are intensified towards the municipal centre. With the improvement of the business environment (encouraging entrepreneurship, attracting foreign and domestic investors) in the coming period, the strengthening of binding function of Indija can be expected, as a business, transport and labour resource in the zone of intersection of two Pan-European Corridors VII and X, that is, in the zone of the most intensive development of Serbia. By the intensification of convergent flows, especially daily labour mobility of specific profile (highly educated and highly qualified) outside the area of local integration, the municipal centre of Indija will be positioned as a sub centre within the Belgrade-Novi Sad agglomeration and developed urban centre in Vojvodina (Krunić, 2012). At the same time, locally, further strengthening of territorial cohesion is expected by

improving communication links and levels of the technical infrastructure equipment, public service facility network and strengthening the identity of local areas through the decentralization of functions of labour and dispersion of development impulses in the sphere of entrepreneurship in rural settlements and various forms of complementary relationship.

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References

- Bubalo-Živković, M., Kovačević, T., & Đerčan, B. (2010). Demografske karakteristike vojvođanskih naselja u gravitacionoj zoni Beograda. *Zbornik Matice srpske za društvene nauke*, 131, 269-277.
- Bukurov, B. (1980). Problem određivanja gradskih naselja u Vojvodini. *Zbornik radova Geografskog instituta "Jovan Cvijić" SANU, 32*, 51-60.
- Bukurov, B. (1983). Geografske osnove postanka i razvoja naselja u Vojvodini. *Glas odeljenja* prirodno-matematičkih nauka Srpske akademije nauka i umetnosti, CCCXXXV, 49.
- Ćurčić, S. (2004). Naselja Banata geografske karakteristike. Novi Sad: Matica srpska.
- Dere, K. (1984a). Odlike i prostorna struktura novosadskog regiona. Zbornik radova PMF Univerzitet u Novom Sadu, 12, 63-78.
- Đere, K. (1984b). O problemu veličinske strukture vojvođanskih naselja. *Zbornik radova PMF Univerzitet u Novom Sadu*, 14, 87-93.
- Đurđev, B., & Ivkov A. (1999). *Migracije stanovništva*. U: Davidović R. (Ur.) *Stanovništvo Srema* (str. 44-57). Novi Sad: PMF, Institut za geografiju.
- Đuričić, S. (1991). Prostorna organizacija seoskih teritorija i naselja u Vojvodini. *Zbornik radova PMF Univerzitet u Novom Sadu*, 21, 93-103.
- Grčić, M. (1990). Analiza prostorne organizacije regiona Beograda. Beograd: Ekonomski institut.
- Grčić, M. (1999). Funkcionalna klasifikacija naselja Mačve, Šabačke Posavine i Pocerine. *Glasnik Srpskog geografskog društva*, 79(1), 259-270.
- Jovanović, R. (1988). Sistemi naselja u Šumadiji. Beograd: Geografski institut "Jovan Cvijić" SANU.
- Kojić, B. (1961). Naselja u Vojvodini. Glas odeljenja društvenih nauka Srpske akademije nauka i umetnosti CCL, 10.(str. 63-82). Novi Sad: Matica srpska.
- Krunić, N. (2012). *Prostorno-funkcijski odnosi i veze u mreži naselja Vojvodine*. Doktorska disertacija. Beograd: Geografski fakultet Univerziteta u Beogradu.

- Lukić, V. & Matijević, D. (2006). Opštine u Vojvodini sa najvećim udelom izbeglica: Uticaj na dinamiku i strukturne karakteristike populacije. Zbornik Matice srpske za društvene nauke, 121, 103-110.
- Lukić, V. (2005). *Izbegličke migracije iz Bosne i Hercegovine u Beogradu*. Beograd: Geografski institut "Jovan Cvijić" SANU.
- Marković, R. (1923). Inđija prilog za proučavanje naselja u Vojvodini. Novi Sad: Matica srpska.
- Matijević, D. (2009). Prostorno-funkcionalna povezanost naselja opštine Stara Pazova sa urbanim sistemom Beograda. Beograd: Geografski institut "Jovan Cvijić" SANU.
- Miletić, R. & Todorović, M. (2003). Industrija dunavsko-moravske osovine razvoja u funkciji regionalne integrisanosti prostora Srbije. U: R. Nurković (Ur.), *Regionalna razvojna problematika BiH i susjednih zemalja u procesu pridruživanja EU* (str. 139-148). Tuzla: PMF Odsjek za geografiju.
- Statistical Office of the Republic of Serbia (1974). Census of Population, Households and Dwellings in 1971. Population activity, vol. 10 (Popis stanovništva, domaćinstava i stanova 1971, Stanovništvo delatnost, knjiga 10). Belgrade: Statistical Office of the Republic of Serbia.
- Službeni list opštine Inđija (2014). *Local Economic Development Strategy of the Municipality of Inđija 2014-2020* (Strategija lokalnog ekonomskog razvoja opštine Inđija 2014-2020). Inđija: Službeni list opštine Inđija.
- Stamenković, S. & Gatarić, D. (2008). Neki prostorno-demografski aspekti dnevne interakcije Beograda i okoline. *Glasnik Srpskog geografskog društva*, 88(2), 45-50.
- Statistical Office of the Republic of Serbia (1977-2007). Municipalities in Serbia 1976, 1991, 1996, 2001, 2006. (Opštine u Srbiji 1976, 1991, 1996, 2001, 2006). Belgrade: Statistical Office of the Republic of Serbia.
- Statistical Office of the Republic of Serbia (2004). Census of Population, Households and Dwellings in 2002, Categories and gender, vol. 6 (Popis stanovništva, domaćinstava i stanova, 2002. Delatnost i pol, knjiga 6). Belgrade: Statistical Office of the Republic of Serbia.
- Statistical Office of the Republic of Serbia (2006-2013). Demographic statistics 2002-2012 (*Demografska statistika u Republici Srbiji*, 2002-2012). Belgrade: Statistical Office of the Republic of Serbia.
- Statistical Office of the Republic of Serbia (2013a). 2011 Census of Population, Households and Dwellings in the Republic of Serbia, Population, Migration, vol 9 (Popis stanovništva, domaćinstava i stanova, 2011 u Republici Srbiji. Migracije, knjiga 9). Belgrade: Statistical Office of the Republic of Serbia.
- Statistical Office of the Republic of Serbia (2013b). 2011 Census of Population, Households and Dwellings in the Republic of Serbia, Population, Economic activity, vol. 7 (Popis stanovništva, domaćinstava i stanova, 2011 u Republici Srbiji. Ekonomska aktivnost, knjiga 7). Belgrade: Statistical Office of the Republic of Serbia.

- Statistical Office of the Republic of Serbia (2014a). 2011 Census of Population, Households and Dwellings in the Republic of Serbia, Population, Comparative overview of the number of population in 1948-2011, vol. 20 (Popis stanovništva, domaćinstava i stanova, 2011. u Republici Srbiji Uporedni pregled broja stanovnika 1948-2011,knjiga 20). Belgrade: Statistical Office of the Republic of Serbia.
- Statistical Office of the Republic of Serbia (2014b). 2011 Census of Population, Households and Dwellings in the Republic of Serbia, Population, Industry, vol. 15 (Popis stanovništva, domaćinstava i stanova, 2011 u Republici Srbiji, Delatnost, knjiga 15. Belgrade: Statistical Office of the Republic of Serbia.
- Šećerov, V., Nevenić, M. & Tošić, D. (2009). Funkcionalna urbana područja odnos sela i grada (tematska sveska). Statističko-analitičke osnove Strategije prostornog razvoja Republike Srbije. Beograd: Republička agencija za prostorno planiranje; Geografski fakultet Univerziteta u Beogradu.
- Tošić, D. & Nevenić, M. (2007). Dnevni urbani sistem prostorni izraz dnevne migracije stanovništva. *Demografija*, 4, 163-176.
- Tošić, D. & Obradović, D. (2003). Savremene tendencije u razvoju mreže naselja opštine Smederevo. *Glasnik Srpskog geografskog društva*, 83(2), 31-44.
- Tošić, D. (1999). *Prostorno-funkcijski odnosi i veze u nodalnoj regiji Užica*. Doktorska disertacija. Beograd: Geografski fakultet Univerziteta u Beogradu.
- Tošić, D. (2000). Gradski centri faktori regionalne integracije Srbije. Glasnik Geografskog društva Republike Srpske, 5, 83-96.
- Veljković, A., Jovanović, R. & Tošić, B. (1995). *Gradovi Srbije centri razvoja u mreži naselja*. Beograd: Geografski institut "Jovan Cvijić" SANU.
- Zeković, S. (2009). Regional competitiveness and territorial industrial development in Serbia. Spatium, 21, 27-38.