

# PROBLEMS OF SPATIAL-FUNCTIONAL ORGANIZATION OF JUŽNO POMORAVLJE REGION'S NETWORK OF SETTLEMENTS <sup>1</sup>

*Nikola Kruni , Dragutin Toši , Saša Miliji*

*During the elaboration of the Regional spatial plan of the municipalities of Južno Pomoravlje (Region Južno Pomoravlje) a special attention was paid to its network of settlements. Demographical and functional determinants of this network were analyzed based on the relevant theoretical-methodological concepts and qualitative-quantitative indicators. Settlement network of Južno Pomoravlje was considered as a subsystem of the Republic of Serbia's settlements' system. Correlation and causality between processes of spatial and socio-economic migration of population and functional transformation of settlements have been highlighted, which caused differentiation of the Region's municipalities to: urban cores – peri-urban rings – suburban more or less urbanized villages and rural surroundings. Models of decentralized concentration and micro-developing nuclei are proposed as instruments for decentralization of the Region or its municipalities. Based on the level of spatial-functional integration of settlements, regional as well as municipal and micro-functional – micro-regional structures have been identified. This paper gives conceptual and strategic proposals of spatial-functional organization of Južno Pomoravlje, which are based on settlements' determinants. Authors suggest that functional premises define determinants for the Regional spatial plan and steer the sectoral and strategic decisions.*

**Key words:** *spatial-functional organization, network of settlements of Južno Pomoravlje, decentralized concentration, micro-developing nuclei.*

## BASIC GEOGRAPHICAL AND SOCIO-ECONOMIC CHARACTERISTICS OF THE REGION

Under the term Region, this paper will consider 13 municipalities of the south-east part of the Republic of Serbia; the subject for elaboration of the Regional spatial plan of Južno Pomoravlje municipalities. The Regional spatial plan, total area of 6,289 km<sup>2</sup> (about 7% of the territory of the Republic of Serbia) covers the whole territories of municipalities:

Leskovac, Lebane, Crna Trava, Vlasotince, Bojnik and Medve a in the Jablani ki district (3,520 km<sup>2</sup>), and Vranje, Bosilegrad, Trgovište, Surdulica, Vladi in Han, Bujanovac and Preševo in the P injski district (2,769 km<sup>2</sup>). The size of municipalities varies from 264 km<sup>2</sup> for Preševo and Bojnik, to 1,024 km<sup>2</sup> for the municipality of Leskovac, which according to the area size belongs to the largest municipalities in Serbia. Region has over 468,500 inhabitants living in 699 settlements (Census 2002).

The Region is in the central part of the Balkan Peninsula, situated between Niški, Topli ki and Pirotski districts at the north, Autonomous Province of Kosovo and Metohija at the west, Republic of Macedonia at the south and Republic of Bulgaria at the east. The relief is mostly represented by mountains and valleys –

dominated by Leskovac valley (2,250 km<sup>2</sup>) and the valley of Vranje (900 km<sup>2</sup>), which are connected by the Grdelica gorge (30 km long and 550 m deep), and the high mountain massive of Krajište with Vlasina (1,275 km<sup>2</sup> within the altitude zone between 1,000 – 1,500 m). The territory of the Spatial plan covers the altitude zones of about 195 m (at the north part of the Leskovac valley where South Morava leaves Jablani ki district) up to 1923 m (in the eastern part towards Besna Kobila). The Region is insufficiently developed in the socio-economic sense, and in demographic terms it shows depopulation.

The Region is characterized by numerous features, among which are both potentials and limitations. Comparative advantage of the Region is a specific transport position which

<sup>1</sup> This paper was completed as a part of the project "Approach and the concept of development for the Strategy of spatial development of Serbia" which has been financed by the Serbian Ministry of Science and Technological development.

gives it the primacy in connecting the northern and southern parts of the Balkan Peninsula. This is recognized by development of the European Multimodal Corridor X, which represents the main axis of interregional transport for the Southeast Europe. Corridor X connects Južno Pomoravlje with Niš and Belgrade to the north and Skopje to the south. At the broader view, this corridor is, with its sections and links, relatively concomitant to the secondary corridors and major roads, and it provides contacts with important centers in its surroundings (Sofia, Thessaloniki and Priština). Region is the part of Morava development axis which integrates functional and gravity areas of Smederevo, Požarevac, three-city agglomeration (Jagodina, uprija and Para in), Niš, Leskovac and Vranje. Nevertheless, in the South Morava part of this axis, its influences to the local urban centers of Gornja Toplica, Jablanica, Vlasina, Krajište and Pinja are barely visible (since their settlements are with the continuous demographic exodus, even on the verge of extinction).

The main road connections between the district, regional and municipality centers, together with the energy and communication infrastructure generally exist but they are of inadequate quality. Important natural resources are: agricultural land, geothermal and mineral springs, hydro-potentials, forests and mineral resources. Educational structure of inhabitants in the regional and municipality centers is relatively good. Skilled workforce, who represents a significant comparative advantage, is concentrated in the regional centers, and partly in the municipal centers. In addition to that, favorable natural conditions, rich cultural-historic heritage and multiculturalism enable development of all-season tourism, which is an important driving force for the economic development and solution for other development problems, especially in the border parts of the Region (Dabi, D. 2005).

Development of the Region is constrained by many factors: the unsolved status of Kosovo and Metohija, which is especially reflected on the Land Security Zone at the territory of municipalities Medve a, Vranje, Bujanovac and Preševo; peripheral geographic position in relation to the rest of the Republic; bad condition of the local infrastructure, especially

roads, as well as inadequate number of the national border crossings towards the Republic of Bulgaria and the Republic of Macedonia; poor demographic potentials and demographic situation - negative natural population growth makes the matters worse in combination with negative migratory balance in the majority of municipalities; depopulation in the rural and border line areas, concentration of population in the district-regional and municipality centers, emigration of young and educated population from cities to the centers with developed work functions (Belgrade, Niš, Kragujevac, Kruševac, etc.); social downfall and abandoned agricultural land; fragmented agricultural assets; inadequate presentation and valorization of tourist attractions; inadequate number of stationary capacities and undeveloped tourist-recreational offer; etc.

The Region is economically underdeveloped part of the Republic of Serbia (from the total of 13 municipalities, 10 belong to the most undeveloped municipalities in Serbia), and it has lower level of foreign investments in comparison to other parts of the Republic. Human Development Index (HDI) for Jablanički district is 0,735 and for Pijunski district is 0,730 (Republic of Serbia average is 0,821). The core-periphery dichotomy is noticeable at the regional, as well as on the sub-regional levels.

## NETWORK OF SETTLEMENTS

Starting from the fact that settlements are the most distinctive elements of the cultural landscape and that they are the bearers of functional organization as well as the hubs of transformation in the geo-space, here the special emphasis will be placed on their network and the analysis of its determinants. Namely, the effective evaluation of potentials for development and spatial management of the south part of Serbia, where Vranje and Leskovac take eminent positions, should be based on better understanding of historical-geographic development and contemporary situation in its network of settlements.

Demographic determinants of the network of settlements

Settlements of Južno Pomoravlje have a long standing continuity. Although there are some

indications that this area has been inhabited ever since the pre-history period, according to remains of the material and spiritual culture, it is mostly relevant to follow the changes in development of Južno Pomoravlje's network of settlements from the time of its inclusion in the core of medieval Serbia (numerous remains of material culture, written data about settlements that still exist, etc.), through the period of the Ottoman empire, up to the present days. The initial layout for the modern network of settlements was formed in the 13th, 19th and the 20th century, when the demographic changes happened due to population in- and out- migrations. During that time, the network of rural settlements of the scattered and semi-clustered anthropological-geographical and morphological types had been formed, characterized by division of settlements to bigger or smaller hamlets, groups of houses based on kinship, established by occupation of the free land and the clearance of forests, on the slopes and smaller plateaus of the mountain massive, and clustered settlements in the valley of Južna Morava and the lower river courses of Vlasina and Jablanica. In the period from 1960 until today, under the conditions of intensive urbanization, the process of compaction of the suburban and valley villages took place, whereas the mountain settlements were demographically and morphologically scattered.

The settlements of the Region were changed in the process of socio-economic transformation of Serbia based on dynamic changes in the natural movement and in spatial and social redistribution of inhabitants, from rural to urban settlements, and from undeveloped or less developed into more developed regions of the country and partially abroad, as well as from primary to secondary and tertiary activities. The main driving force behind these processes was urbanization initiated by industrialization, where phases successively changed and were differently manifested in time and space, resulting in rapid changes of the network of settlements.

Until the 1970s, the majority of rural settlements had positive natural population growth, which later received a negative pre-sign, due to the emigration of part of the young group of people in the reproductive age. The

combination of natural growth and migration balance conditioned the demographic exodus in rural areas and brought to smaller or bigger polarization in urban centers or in their surroundings.

The majority of rural settlements permanently lost inhabitants, while municipality centers and suburban villages demographically grew. Dispersal of urban influences from the city cores to villages and their surrounding started in the 1980s. Due to the lack of land for construction, as well as because of insufficiently developed public-social, communal, technical infrastructure and suprastructure in the city core, suburban villages became migrant's destinations. As a consequence, their demographic growth was followed by more intensive housing construction and socio-economic transformation expressed in decreasing participation of the agricultural inhabitants in the total and active population, and in increment of a number of non-agricultural households and households with mixed sources of income. Daily commuting of population on the relation between suburban villages – municipality centers was initiated and it triggered the formation of urban agglomerations with elements of daily commuter urban systems (Toši D., Neveni M., 2007). This is typical for Vranje agglomeration, even more so for Leskovac agglomeration which is functionally and in physiognomically connected to agglomeration of Vlasotince and partly to Bojnik. The analogy is noticeable in development of these agglomerations with development of other urban agglomerations in Serbia which are of similar functions and demographic sizes. Development of agglomerations encourages the planned and partially spontaneous relocation of industry from urban centers to suburban villages, where new industrial enterprises and services have been gradually developed.

The urban concentration of inhabitants and functions in municipality centers and demographic exhaustion of rural regions caused by emigration or drop in the natural growth, but mostly due to the combination of the mentioned two, contributed to changes in demographic sizes of settlements: undersized

(dwarf) villages with less than 250 inhabitants (388 villages with 40,871 inhabitants); small villages with 250 to 500 inhabitants (129 villages with 45,480 inhabitants); medium-sized villages which appear as two types: average smaller settlements with 500 to 750 inhabitants (68 with 39,976 inhabitants) and average bigger settlements with 750 to 1,000 inhabitants (44 with 38,518 inhabitants); and big rural settlements with 1,000 or more inhabitants (56 villages with 93,054 inhabitants).

Functional determinants of the network settlements

The functional determinants make a group of significant factors for development of the network of settlements. During the industrial phase of urbanization and concentration of inhabitants and functions in the municipality centers, in the geo-space of Južno Pomoravlje, likewise in the major part of Serbia, the process of functional transformation of settlements occurred individually and in the network as a whole. Until the 1970s, the municipality centers only had more or less poly-functional character, while all other settlements were mono-functional, with domination of active population employed in the primary services, mostly within their own husbandries. There were no villages with external, i.e. central functions. Within the domain of public-social infrastructure, primary education was developed, with relatively scattered distribution of schools according to distribution of the contingent of children who should compulsory attain the school. From that time until today, the villages have been functionally transformed under direct or indirect influences of development and diversification of municipality center's functions (Toši, D., Kruni, N., 2004). Functional differentiation of the municipalities' territories and diversification of settlement's functions have been carried out under the conditions of inhabitants' employment in non-agricultural activities, and upon gradual development or slightly more dispersive distribution of the public-social infrastructure facilities in rural areas. (Gr i, M., 1999)

Characteristics of the contemporary hierarchy structure of the network of settlements

According to the Spatial Plan of the Republic of Serbia (SPRS), the Region of Južno Pomoravlje is divided into functional areas<sup>2</sup> of Leskovac and Vranje which coincide with Jablani ki and P injski districts. Leskovac and Vranje are the centers of the regional significance and their influences are felt in the central part of South-east Serbia and in east parts of Kosovo and Metohija, as well as in parts of Topli ki, Nišavski and Pirotski districts. Also, Vranje and Leskovac as regional centers more or less directly respond to trans-border cooperation with the Republic of Macedonia and the Republic of Bulgaria.

The Region's network of settlements is a complex and insufficiently coherent system of 699 settlements distributed in 681 cadastral municipalities where the urban settlement status<sup>3</sup> have the following ones: Vladi in Han (8,338 inh.), Bosilegrad (2,702 inh.), Bujanovac (12,001 inh.), Lebane (10,004 inh.), Medve a (2,810 inh.), Vranjska Banja (5,882 inh.), Vu je (3,090 inh.), Grdelica (1,172 inh.), Sijarinska Banja (568 inh.), and Belo Polje (545 inh.). The municipalities of Trgovište, Preševo, Crna Trava and Bojnik do not have any urban settlements. There are 193,864 inhabitants or 41.4% of the total population in the Region who live in urban settlements, and that is below the average for the Republic.

The role of Leskovac in the spatial-functional organization of the Republic of Serbia/ Jablani ki district/ Leskovac functional region, and territory of its own municipality, is reflected in the following:

<sup>2</sup> The concept of functional areas is introduced in the Spatial plan of the Republic of Serbia, where it is used in sense of territorial grouping of a number of municipalities that are connected to stronger urban/regional center by gravity and by common interest. According to the Spatial plan from 1996, Serbia is divided into 34 functional areas. In the urban geography literature, the functional area is a synonym for functional-urban region.

<sup>3</sup> According to the methodology of Statistical Office of the Republic of Serbia.

- Leskovac is a functional center for 144 settlements of the municipality which gravitate to it, and indirectly for another 336 settlements of the functional region.
- 43.8% of inhabitants in the municipality (156,252) is concentrated in Leskovac. The character of urban settlement have Vu je (3,258 or 2.08% of the municipality inhabitants) and Gdelica (2,383 or 1.5% of the municipality inhabitants). The level of urbanity of the municipality is about 9% below the Republic's level of urbanity. Leskovac is the center of regional urbanization in the area where the river valley of Južna Morava meets the valleys of Jablanica and Vlasina rivers.
- Leskovac is an important center of the South Morava development axis of Serbia which spatially-functionally integrates north-east parts of Kosovo and Metohija, basins of Jablanica, Južna and Velika Morava and Vlasina. By the river valley of Južna Morava, Leskovac is connected to P injski district, whereas via Vlasotince – the sub-center of the functional area, and via Crna Trava, it is connected to Bulgaria. Leskovac is also connected to Kosovo and Metohija via Lebane and Medve a.
- Excellent geographic position of Leskovac is not sufficiently supported by traffic, at least not to the corresponding level (there are no highways and regional roads of adequate quality that would connect Leskovac with its closer or wider regional surroundings).
- In the domain of the functional – integration processes, Leskovac exceeds the territorial scope that was proposed for it by the SPRS as well as by the territorial-administrative organization of the Republic.

The role of Vranje in the spatial-functional organization of the Republic of Serbia/ P injski district/ Vranje functional region, and territory of its own municipality, is reflected in the following:

- Vranje is a functional center for 105 municipality settlements which gravitate to it, and indirectly for another 363 settlements of the functional region.
- 63.1% of the municipality inhabitants is concentrated in Vranje. The character of urban settlement also has Vranjska Banja (5,882 inhabitants – 6,7% of the municipality inhabitants). The level of

urbanity is 14% above the Republic's level of urbanity.

- Vranje is the center of regional urbanization in the south east part of Central Serbia.
- Vranje is a significant center of the South Morava development axis of Serbia which spatially-functionally integrates east part of Kosovo and Metohija, basins of Južna and Velika Morava and far south-east parts of the Republic.
- Excellent geographic position of Vranje is not sufficiently supported by traffic, at least not to the corresponding level (there is no railway of adequate quality, no highways or regional roads of adequate quality that would connect Vranje with its closer or wider regional surroundings; no adequate infrastructure equipment of the Multi-modal Corridor 10, and the adjoined sub-systems).
- Similarly to Leskovac, in the domain of the functional-integration processes, Vranje exceeds the territorial coverage which was proposed for it by the SPRS as well as by the territorial-administrative organization of the Republic.

Generally, it can be concluded that Leskovac and Vranje by their position (geographical, traffic, economic and social) are ranked as the municipality centers and urban settlements of the regional level which accomplish development influences and inducements to the wide regional surrounding. Development impacts and the need for steering the development of Vranje and Leskovac, as well as development of regional-functional environment are numerous, complex and complementary and they include and refer to the whole socio-economic, technological and spatial development. The development has determined the needs for planned direction for spatial and functional systems and the integration of local and regional interest. The basic commitment of the Plan is to constitute more or less balanced development by which coordinated and rational use of space, landscape management and environmental protection will be achieved. Evenly structured, balanced and sustainable development of the municipalities of Jablani ki and P injski districts, i.e. Leskovac and Vranje functional areas, is the precondition for a stronger geospatial integration, which requires active and constant solving of developing

disproportions, by qualitative transformation of the general spatial, economical and social structure.

As in the major part of Serbia, in the Region as well there has been established the hierarchy of urban centers around which the areals of influence have been formed based upon spatial-functional complementarities (Toši , D., 2000). The hierarchy relations in the network of nodal centers and areas have been influenced by their respective positions in the communal and territorial-administrative organization of the Region.

By and large, there were more forms of nodal centers and areals that have been developed:

- Small urban areals in the rural surrounding established by local concentration of inhabitants and functions in smaller municipality centers which, owing to the location of industry, were transformed from crafts, trade and management centers in settlements of urban type with developed functions of the centers of work. Until the 1980s they had grown by the migration component. The sources of migration were mostly the villages of the immediate surrounding. Typically, they were the centers of emigration municipalities because they were unable to attract by their functional capacities or nodality all inhabitants released from agriculture, thus people had to migrate to urban settlements with developed functions. Such types of urban settlements are the ones that usually have between 5,000 and 20,000 inhabitants. They are the centers of local communal integration. The majority does not have developed threshold of functions, no public or social infrastructure, neither have they had nodality that would accelerate further development. The future will depend on possibilities for diversification of functions and participation in development processes of the wider regional surrounding. Bosilegrad, Bujanovac, Vladi in Han and Surdulica belong to this type in functional region of Vranje, that is Lebane and Vlasotince in the functional region of Leskovac. Certain functions of production and services are concentrated in the municipality centers that do not have the character of urban

settlements (Preševo, Crna Trava, Bojnik) as well as in other smaller urban settlements.

- Smaller or bigger agglomerations of the urban settlements which are in the functional network with their suburbs and with more-or-less urbanized suburban villages are spatially structured as cores of the higher level of nodality for the functionally compatible settlements in the surrounding. Until the 1980s, the functional cores had the role of the growing poles, but later, some of them, acted as the development poles. They had the structure of the industrial-service activity centers which, due to recession and decrease in employment, changed the structure of service-industrial centers. They started to influence the socio-geographic transformation and functional integration of the surrounding and to create smaller or bigger functional-urban regions and daily commuting urban systems, i.e. nodal regions. In some cases, they might grow into the functional-urban areas of the European type (FUAs). Most usually they are the centers of districts. Leskovac and Vranje belong to this group. According to the SPRS they are defined as the centers of the functional areas. Their future role is determined by the position in functional integration of the Republic's territory. (Krunić, N., Tošić, D., 2007).

- By combination of the spatial functional influences that are established between regional, municipality and sub-municipality centers, and municipality centers which do not have urban inhabitants, the conditions for formation of more complex regional functional-urban systems are created in Južno Pomoravlje. They comprise of a number of settlements whose integrity derives from interactions between their structural elements, settlements of various types and different hierarchy. They have a character of the functional-urban regions. This is above all the tripolar agglomeration developed between Leskovac-Bojnik, Leskovac-Vlasotince, and at the north towards Niš. It is similar with the functional networking into polycentric linear agglomeration which develops on the line Surdulica-Vladi in Han-Vranje-Bujanovac-Preševo, although it is discontinuous due to physical-geographical limitations. During the last two decades their functions have been in the continuous recession. A radical,

Table 1. Conditions for functional typology of settlements

Functional type of settlement	Condition
Agrarian	I > or = 60%
Agrarian-industrial	I > II > III
Agrarian-services	I > III > II
Industrial	II > or = 60%
Industrial-agrarian	II > I > III
Industrial-services	II > III > I
Services	III > or = 60%
Services-agrarian	III > I > II
Services-industrial	III > II > I

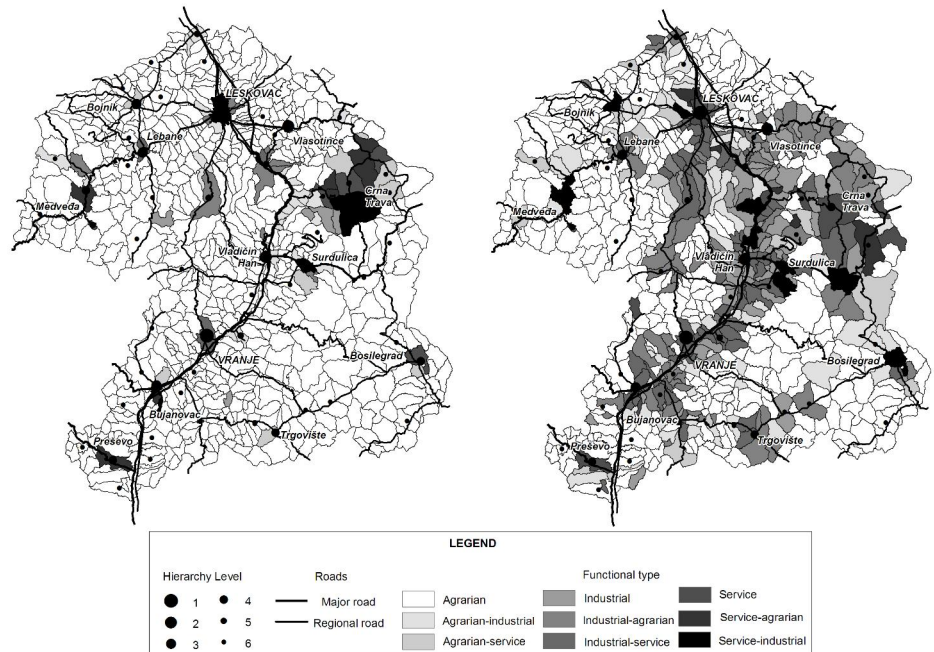
primarily economic restructuring, is yet to follow. Potentially, they will be the carriers of the future evenly distributed and balanced development of this part of Serbia.

### SPATIAL FUNCTIONAL RELATIONS AND LINKS IN THE REGION

With aim of determining the dominant spatial-functional aspects, processes, relations and links in the Region and in its sub-divisions,

Table 2: Change of functional types of settlements in the period 1971 – 2002  
Source: IAUS, 2008

Functional type	1971	2002	Change 1971-2002
1. Agrarian	29	73	+44
2. Agrarian-industrial	9	20	+11
3. Agrarian-service	590	337	-253
<b>Agrarian types total</b>	<b>628</b>	<b>430</b>	<b>-198</b>
4. Industrial	5	65	+60
5. Industrial-agrarian	11	71	+60
6. Industrial-service	5	67	+52
<b>Industrial types total</b>	<b>21</b>	<b>203</b>	<b>172</b>
7. Service	5	12	+7
8. Service-agrarian	9	5	-4
9. Service-industrial	7	13	+6
<b>Service types total</b>	<b>21</b>	<b>30</b>	<b>9</b>



Picture 1: Comparative presentation of changes in function of the settlement's types in 1971 and 2002 (IAUS, 2008)



there have been analyzed the demographic and socio-economic indicators and they were put in the context of the settlements' functions and the system of settlements. Emphasis is placed on the functional transformation of settlements (based on the change in structure of inhabitants' activities), on changes in types of migrations of the inhabitants (the combination of natural and migration components of the population movements), as well as on the change in the level of socio-geographical transformation of settlements-urbanization and deagrarianization (the share of inhabitants active in agriculture, households without agricultural husbandries, the share of employed population in the total active population which is occupied).

The transformation processes of functional

settlements of the Region are carried out in line with the general trend in the Republic. However, it seems that there exist certain peculiarities reflected in the diminished role of the regional centers in transition from agrarian to service settlements. In 1971, 628 settlements belonged to the agrarian type, while in 2002 there were 430, i.e. 198 less. The transition was carried in the direction of secundarization and tertiarization of the agrarian type of settlements, hence out of 590 settlements of the agrarian type, only 337 (253 less) were left; the number of agrarian-industrial settlements increased from 29 to 73 (44 more), and of the agrarian-service settlements it increased from 9 to 20 (11 more). The agrarian type of settlements is still domineering, but there are no hierarchically significant settlements in this group (Table 2,

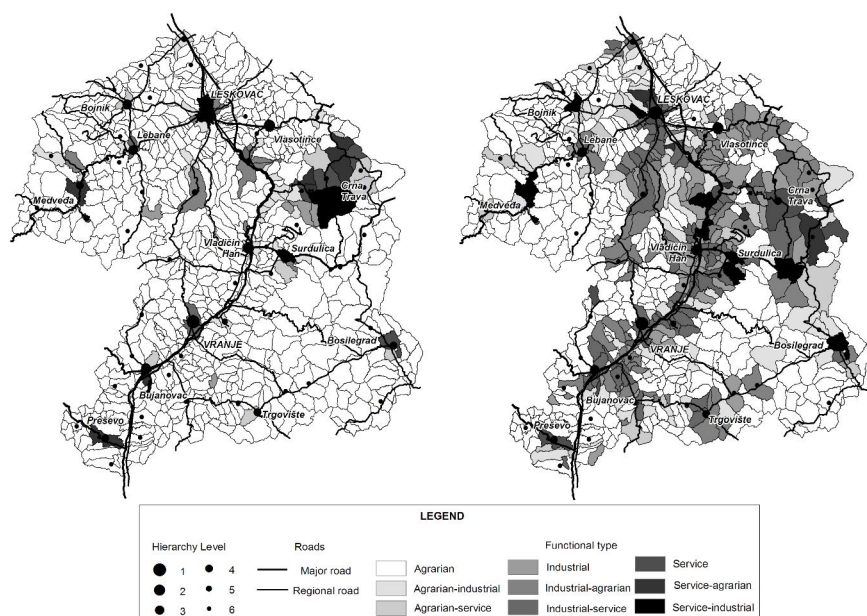
Picture 1).

Indicators on the population activities structure change demonstrate the strongest development of the secondary sector, thus the whole Region has kept the "industrial" character. At the beginning of the period of observation when the first effects of industrialization of the country were shown, there were only 21 settlements in the Region whose inhabitants were active in the secondary sector, while this number increased to 203 until the year 2003, i.e. It increased for 172 settlements. Almost equal increment happened in structure of these settlements: the number of industrial and industrial-agrarian settlements increased for 60 (from 5 to 65, or from 11 to 71), while the number of industrial-service settlements increased from 6 to 67 (52 more). Also, the number of settlements of service, i.e. tertiary character had increased. Still, it should be emphasized that the social mobility of population from the primary to other sectors of activities had been of less intensity here when compared to other, more developed parts of Serbia (functional areas of Novi Sad, Kragujevac, Valjevo, Užice, a ak, etc.). The total number of settlements of the tertiary sector increased for 9 (from 21 to 30); the service settlements increased from 5 to 12 (+7); the service-agrarian ones decreased for 4 (from 9 to 5), while the number of service-industrial settlements increased for 6 (from 7 to 13).

The typology of population movements is based on the relationship between the natural and migratory component, according to which the settlements are classified into two basic types: small group of immigration and the large group of emigration ones. The general trends on the Republic's level is that the immigration settlements are municipal and urban centers, settlements with specific functions, suburban and the settlements close to the important transport corridors. Emigration settlements have worse traffic-geographical position; they belong to the type of primary rural settlements and are located mainly in the hilly-mountainous parts of the Republic, i.e. at the higher altitudes. However, in the Region, we came across the examples that stand out of the mentioned general trend (Table 3, Picture 2).

Table 3: Settlements' structure according to the types of migration of inhabitants from 1981 to 2002  
Source: IAUS, 2008.

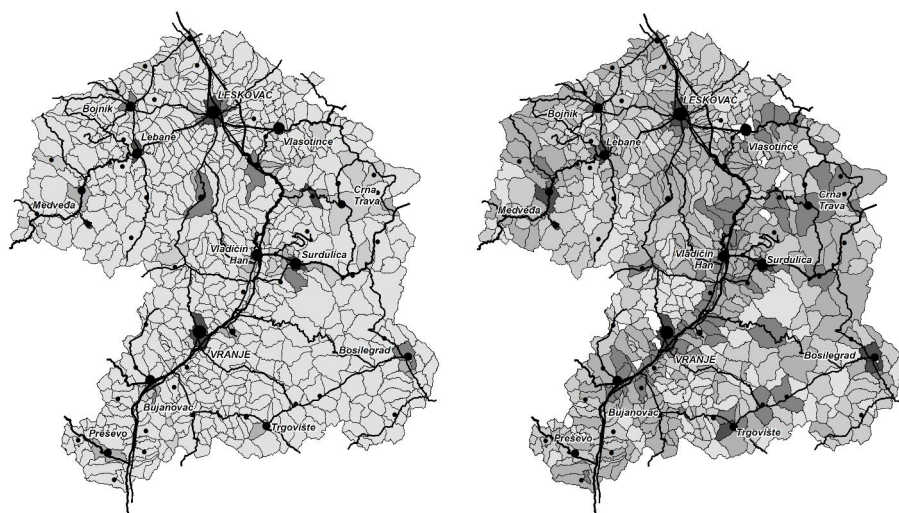
ype of migration	1981/91.*	1991/2002.**	Change
I1 expansion by immigration	40	20	-20
I2 regeneration by immigration	0	0	0
I3 weak regeneration by immigration	14	46	+32
I4 very weak regeneration by immigration	12	66	+54
<b>Total Immigrational type</b>	<b>66</b>	<b>132</b>	<b>66</b>
1 emigration	76	54	-22
2 depopulation	0	0	0
3 significant depopulation	141	73	-68
4 extinction	370	398	+28
<b>Total emigration type</b>	<b>587</b>	<b>525</b>	<b>-62</b>



Picture 2: Comparative presentation of changes in types of inhabitants' migrations 1981/91 and 1991/02 (IAUS, 2008)

able 4: Socio-geographical transformation of settlements from 1981 to 2002  
Source: IAUS, 2008

Socio-geographical transformation	1981	2002	Change 1981-2002
City	9	10	+3
More urbanized	11	77	+66
Less urbanized	22	209	+187
On threshold of urbanization	52	253	+201
Rural	589	117	-472



Picture 3: Comparative view of socio-geographical transformation of settlements in 1981 and 2002 (IAUS, 2008.)

The number of immigration settlements was 66 in 1971, while the emigration ones accounted for even 587. Until the year 2002, the number of immigration settlements increased to 132 (66 more) while the number of emigration settlements decreased to 525 (62 less). According to detailed analysis, it is shown that immigration and emigration happen under the conditions of continuous reduction of natural growth. Intensity of the emigration-immigration processes weakened due to reduction of emigration base, and it often brought to extinguishment of emigration base in rural areas. Immigration is contributed to a large extent by relocation of population from Kosovo and Metohija, which was intensive in the last decades of the last century.

Socio-geographical transformation is expressed in the level of urbanity of the

Region's settlements and it is compatible with the general trend in the Republic. According to the typology of settlements based on socio-economical indicators (Toši, D., Obradovi, D., 2003) in the period from 1981 to 2002, socio-geographical transformation was most intensive in the peri-urban rings of Leskovac and Vranje, in the villages near to the municipality centers and along the main roads. These are the territories which got a certain character of urban-rural continuum, so their future development should be planned for, with special emphasis on defining development zones and increase of general level of communal equipment. Deagrarianisation process and the successive concentration of population and functions partly had the unplanned and uncontrolled character. Certain types of socio-economic transformation are expressed by

dispersion of urbanity to the rural areas and are felt in the settlements with higher degree of agrarian tradition, which are isolated in terms of traffic and are permanently losing the population. Regardless their positive features, the changes in socio-economic structures of population in the depopulated settlements do not affect the slowing-down of depopulation processes and in most cases they bring to forming of demographical depression. Declarative support for revitalization of the Region's villages does exist, but there is no realization of this goal. According to the model that is usually applied in our country, urban influences have gradually diffused from city centers to the rural areas and they encompassed many settlements (Table 4, Picture 3).

Improvements and planned development of physiognomic features and contents of peri-urban settlements and initial urban nuclei according to their role in the planned system of settlements, would also contribute to environmental protection, preservation of landscape, protection and preservation of architectural and cultural-historic heritage and to creation of the urban milieu in these settlements (Maksin – Mišić, M., 2005). The imperative is to give impetus to social-economical transformation of the rural settlements by the centers of settlements communes – secondary urban nuclei, on the one side, and by urbanity diffusion from regional and sub-regional centers on the other.

#### MODEL OF VERTICAL AND HORIZONTAL DIFFERENTIATION IN THE NETWORK OF SETTLEMENTS

On the basis of spatial functional relations and connections that are substantiated on the territory of the Region and in its surroundings, the vertical-functional and horizontal-spatial hierarchies are identified in the network of settlements. Functional connections and relations in the Region are characterized by insufficient coherency (insufficient development of functional connections between the municipality, sub-regional and regional entities). With aim to develop a coherent spatial-functional organization of Južno Pomoravlje, on the basis of natural-ecological, demographic, socio-economic and

other characteristics of its geo-space, the following model for the future multilevel hierarchy in the network of settlements is proposed:

1. The first hierarchy line is represented by Vranje and Leskovac as regional centers of similar functional capacities whose zones of influence exceed the borders of P injski and Jablani ki districts.
2. The second hierarchy line is represented by Vlasotince as sub-regional center. This position is given to it by excellent geographical and traffic position. The similar positions have Vladi in Han and Surdulica as cores of the bi-polar agglomeration of the same name.
3. The third hierarchy line is represented by municipality centers of relatively small influential zones to socio-geographic transformation of the surrounding, which include Bujanovac, Bojnik and Lebane.
4. The next hierarchical line is represented by municipality centers that have partially developed urban functions, such as Bosilegrad, Trgovište and Crna Trava in the eastern part; Preševo in the south, and Medve a in the north part of the Region.
5. Other urban settlements are in the group of centers of the community settlements of general or specific functions.

Functions of centers for the settlements' communities are performed by municipality sub-centers and rural community centers: in the municipality Vranje, the function of the municipality sub-center of a specific spa function has Vranjska Banja, while the function of the rural community centers have Vlase and Rataje; in the municipality Bujanovac function of the rural community centers have Muhovac, Trnovac, Nesalce, Bilja a, Žbevac and Klenike; in the municipality Preševo, the rural community centers are Šajince, Donji Stajevac and Radovnica; in the municipality Bosilegrad, the rural community centers are Suvojnica, Ma katica, Vlasina, Okruglica and Klisura; in the municipality of Vladi in Han, rural community centers are Stubal, Jagnjilo and Žitora e; the City of Leskovac has municipality sub-centers Grdelica, Vu je and Brestovac and rural community center Pe enjevce; in the municipality Crna Trava, rural community

centers are Ruplje, Brod, Sastav Reka, Preslap and Gradska; in the municipality Medve a, municipality sub-center is Sijarinska Banja, rural community centers are Tulare and Lece; in the municipality Lebane, rural community centers are Prekop elica, Lipovica, Grgurovica and Šilovo; whereas in the municipality Bojnik, rural community centers are Konjuvce, Lapotince and Kosan i .

#### PROBLEMS OF STRATEGIC DECISION ON THE FUTURE DEVELOPMENT OF THE NETWORK OF SETTLEMENTS

There are various options and aims for organization of the network of settlements, but the main strategic issues in development of the network of settlements in the municipalities could be summarized in the following way:

- Should further concentration of functions and population be encouraged in the municipality centers or should the model of decentralized concentration be applied based on more-or-less balanced distribution of a number of municipality sub-centers of the same or different hierarchical position?
- Should the functions of micro-developing centers be advanced in municipality sub-centers and in which ones, or should they be developed in terms of functions of services and public-social infrastructure?
- Should the sub-centers be developed in line with the concept of "basic needs", which is founded on urban and rural economy integration for the local market needs, or should they be developed with aim of the export trade?
- Should the new work places be opened according to distribution and qualitative-quantitative characteristics of the inhabitants, or should they be concentrated in the urban center with development of daily commuting of the labor force with development of the necessary traffic infrastructure?
- How to secure development of public-social infrastructure in the scarcely populated rural areas encompassed by the intensive depopulation?
- How to use the housing stock in the depopulation villages?

- How to balance the development of discontinuous and dispersed rural settlements with the need for more rational concentration of economic functions and obliging services in the rural community centers?
- Should the objects of public-social infrastructure be located in settlements of the peri-urban ring, which would consequently been given the functions of the rural community centers, or should they be observed as settlements for directing and transferring the influences between municipality center and distant rural centers?

#### CONCEPT OF DEVELOPMENT OF THE NETWORK OF SETTLEMENTS – DECENTRALIZATION OF FUNCTIONS

Decentralization of work functions and creation of sub-migration systems in the Region would enable sub-regional entities and individual municipalities to apply the model of decentralized concentration of people and functions. The Model of decentralized concentration responds to principles of sustainable development, it is rational in terms of use of space, resources, energy and transport (Gr i , M., 2004)<sup>4</sup>. Under the conditions in our country, the most suitable instrument for implementation of the decentralized concentration model is the application of the micro-developing nuclei. Micro-developing nuclei are mainly the settlements with developed public-social infrastructure and activities from the service sector, and in them are located the new industrial plants which are adapted to modern technologies, ecological standards and to the local raw materials' use. They encourage development of production which is based on the local resources (wood, livestock products, fruits, etc.), opening of new work places and development of dual (complementary) occupations for the inhabitants. In parallel with agriculture, the industry, craft, trade, catering, tourism and public-social infrastructures are

<sup>4</sup> For the implementation of the decentralized concentration model under our economic conditions, see: "Development strategy of Kosjeri municipality - Chapter: Development and distribution of industry", by M. Gr i .



developed. Complementarities of agriculture with other activities lead to slowing down of depopulation and to the socio-economic transformation of villages. Consequently, the renewal of villages and revival of rural economy should be grounded on creative integration of the contemporary production and consumption tendencies as well as on integration of the local heritage, resources, culture, tradition and knowledge. Without stimulating evaluation of work and without public affirmation of the quality and the way of rural life, the inhabitants could not be retained in rural areas, nor can their development be improved in spatial and economic terms (Toši, D., Neveni, M., 2005). Micro-developing nuclei might provide supplement for the rural and city economy<sup>5</sup>.

The second, but the most important function for development of settlements is residence. After agriculture and forestry, the residence function is the biggest occupier of space and the basic element of the integral spatial and urban planning. The key development indicators of this function are dispersion of inhabitants, flats, objects and services of the public-social infrastructure. Complementary to the residence function are the services of public-social character (education, culture, social security, health provision, veterinary, communal-hygienic services), supply, traffic,

leisure, etc. Under the conditions of urban polarization and depopulation of rural areas, and because of constant economic crisis, the existing housing stock needs to be treated as one of development resources in settlements. The imperative is a planned stimulation and orientation of housing and housing-business development in the rural regions. The rural population should be provided with conditions for building quality residences and objects of the rural economy, or with quality reconstruction of the existing buildings, with provision of the modern infrastructural standards (public-social infrastructure, hygienic- sanitary conditions, traffic, telecommunications, information technologies, etc.) and with respect of indigenous principles and forms of economic, social, ethnic and cultural components or the organization of life in this part of Serbia.

#### WHAT NEXT? QUO VADIS?

The answers to the questions raised require a dynamic, diversified and integral approach to solving problems in the formation of sustainable hierarchical system of settlements in the Region. The observed trends point to the significant loss of functions of the regional centers, despite the common opinion on the ever intensive centrality of urban environments (which can refer only to the Belgrade centrality in relation to other macro and regional centers), hence they should be continuously developed and strengthened (in terms of their economic, public-social, service, central functions), particularly in Leskovac and Vranje. Also, the future will bring the restructuring and technological upgrading of the secondary activities in the municipal centers.

This will release workforce from the industry and civil-engineering that will then seek employment in the tertiary and quaternary sector of activities, both in the Region as well as in other centers with more developed work functions. With this in view, the activities of these sectors should be developed and raised to a higher level.

**In the secondary municipality centers as well as in the settlements which are the centers of communities, it is necessary to achieve the conditions for development of public-social infrastructure, to make selective concentration**

of productive and non-productive activities and to give them the role of micro-developing center by securing territorial – horizontal and technological – vertical complementarities and compatibilities of urban and rural economics. If possible, the production should be based on the local raw materials and on the local labor force and it should be generated in the existing industrial plants which are located in rural settlements. The agriculture must be developed in such a way to retain the young work force on the rural husbandries (animal husbandry, property enlargement, and complementarities to agriculture, i.e. rural and other kinds of tourism).

The local infrastructure is one of the key constraints for development of the Region, thus the quality of the road network is necessary to be improved in order to achieve better accessibility of the rural inhabitants to the municipality center and sub-centers. The facilities of public-social infrastructure should be located in line with distribution of users of these services (rationalization of the elementary schools' network, development of institutions for the pre-school child care in bigger rural settlements and in centers of the rural communities, development of health, social and veterinary services in rural parts of the municipalities, enforcement of medical centers by financial and professional restitution). Daily commuting should be enabled by development of public transport for workers and students to the regional, sub-regional, municipal centers and centers of the settlement communities.

A special problem in the definition and implementation of strategic decisions is that territorial and functional competencies of regional centers of Serbia have not been defined, nor their hierarchy has been established. The same applies to the regional and municipal centers<sup>6</sup>. Finally, there is an

<sup>5</sup> In order to promote functional transformation of a purely agricultural villages, it is necessary to locate industry in this villages (smaller or larger industrial facilities) as well as the activities of tertiary-quaternary sector (which will not only have the goal of providing services to the population, but to engage it in work – i.e. to develop the central functions) and give them the role of micro-developing nuclei on the one side, and on the other, they should be linked by the quality network of roads and should have better public transport, with encouragement of the daily commuting of the labor and slowing down the population's emigration. In order to become a micro-developing center or micro-developing nucleus, the settlement has to be developed up to the "functional threshold", i.e. with minimum of functions, which will instigate the spatial-functional organization of the surroundings. With aim of the functional homogenization of geospace, still without illusions about the possibility of urban-demographic concentration in the micro-developing nuclei, D. Toši recommended this model in elaboration of Strategies for a number of municipalities and regions of Serbia (Kosjeri, N. Pazar, Tutin and Sjenica) as well as in elaboration of the Spatial plans (City of Belgrade, Smederevo and Kladovo).

<sup>6</sup> Although the SPRS defined 34 functional areas whose borders are not always identical with the borders of districts, the Regional plans generally treat the area of certain districts. The concept of functional area is introduced by the SPRS and it is used in terms of territorial groupings of municipalities that have common interest and are associated with strong gravitational urban centers, i.e. regional center (Deri, B., Atanackovi, B., 2000.). In the spatial planning practice

open dilemma: how to create political and legal framework to resolve the issues of legislative-functional subsidiarity, i.e. vertical and horizontal distribution of competence, obligations and responsibilities in planning between the state of Serbia, region, cities and local communities.

The question - what next or quo vadis (?) will be addressed by a strategy that will be based on the following principles:

1. Polycentricity which is instrumented by the nodality basis
2. Hierarchy in systems and networks of settlements
3. Complementarity between urban settlements and settlements of its closer or farther surroundings
4. Functional specialization of smaller centers and functional diversification of bigger urban centers
5. Integrality in socio-economic and functional sense
6. Social, economical, functional and ecological sustainability in the networks and systems of settlements
7. Functional coherency of the central places with settlements of functional interdependency

within the European Union, the functional areas are defined as functional-urban regions. Regarding the dilemmas of spatial planners about the concept of decentralization of Serbia for a balanced regional development as well as about the role of regionalism in it, or evi , D. (2004) wrote in the paper: "Decentralised Serbia" and its spatial development: question of the instrument and the question of concepts", in "Sustainable spatial, urban and rural development of Serbia", Belgrade, IAUS. In this paper, the author emphasizes the issues related to legislative-functional subsidiarity, i.e. vertical and horizontal distribution of competence, obligation and responsibilities in planning between the state of Serbia, region, cities and local communities. This is not a problem of Serbia alone. Although the national professional and scientific literature tends to idealize the situation in the European Union, it has actually been far from ideal, and this can be described in words of the President of the European Commission José Manuel Barroso "One of the deepest problems of Europe... is the discontinuity between public policy makers and citizens", see Barroso, J. M. (2005). A new European Realism, in The World in 2006, London: The Economist.

## 8. Subsidiarity in the planning decision-making, as well as the responsibility in implementation of planning decisions

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