TRANSFORMATION OF RURAL SETTLEMENTS OF THE CITY OF MOSTAR IN THE SECOND HALF OF THE TWENTIETH CENTURY

PREOBRAZBA RURALNIH NASELJA GRADA MOSTARA U DRUGOJ POLOVICI DVADESETOG STOLJEĆA

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The paper analyses the transformation of rural settlements in the area of the City of Mostar. It covers all 56 settlements that are grouped according to the criteria of distance from the central urban settlement and the altitude at which they are located. Eight spatial regions of various sizes and characteristics are identified accordingly. Economic, socio-cultural, infrastructural and demographic criteria are included in further analysis. Economic and social structure of individual settlements is also established. Considering that the second half of the twentieth century was the period of industrial development and urbanisation, and thereby intensive processes of depopulation and deagrarisation of rural areas, the authors believe that it was during this period that the transformation was most intense.

Keywords: transformation, rural settlements, City of Mostar, socio-geographic processes

Ovaj rad proučava preobrazbu ruralnih naselja na području Grada Mostara. Uključuje svih 56 naselja koja su grupirana prema kriteriju udaljenosti od središnjeg gradskog naselja i nadmorske visine na kojoj su smještena. Prema tome, ustanovljeno je osam prostornih područja različite veličine i obilježja. U daljnju analizu uključeni su ekonomski, društveno-kulturni, infrastrukturni i demografski kriteriji. Također je ustanovljena ekonomska i društvena struktura pojedinih naselja. S obzirom na to da je druga polovica dvadesetog stoljeća bila razdoblje industrijskog razvoja i urbanizacije, a time i intenzivnih procesa depopulacije i deagrarizacije ruralnih područja, autori smatraju da je u tom razdoblju preobrazba bila najintenzivnija.

Ključne riječi: preobrazba, ruralna naselja, Grad Mostar, društveno-geografski procesi

Introduction

During the second half of the 20th century, the development of industry, infrastructure and transport and modernisation of agriculture resulted in significant changes in rural regions, causing the emergence of new demographic processes, changes in economic activities, land uses, construction, and structure and function of settlements (Egyed, 2012, 9). Rural areas are not synonymous with agriculture any longer, because with the increase of urban-rural migrants and emergence of new functions, they increasingly become similar to city settlements (Roncken, 2006, 8; Estany et al. 2008, 12).

The paper analyses the typology of rural settlements of the City of Mostar and transformation of formerly homogeneous rural area because of socio-geographical processes in the second half of the twentieth century. Industrialisation, urbanisation and polarizing influence of the city encouraged pronounced processes of deagrarisation, deruralisation and depopulation.

The largest part of the area of the City of Mostar covers rural landscape formed as the result of prominent natural characteristics, rural settlements landscape with different functions in space and elements of traditional architecture

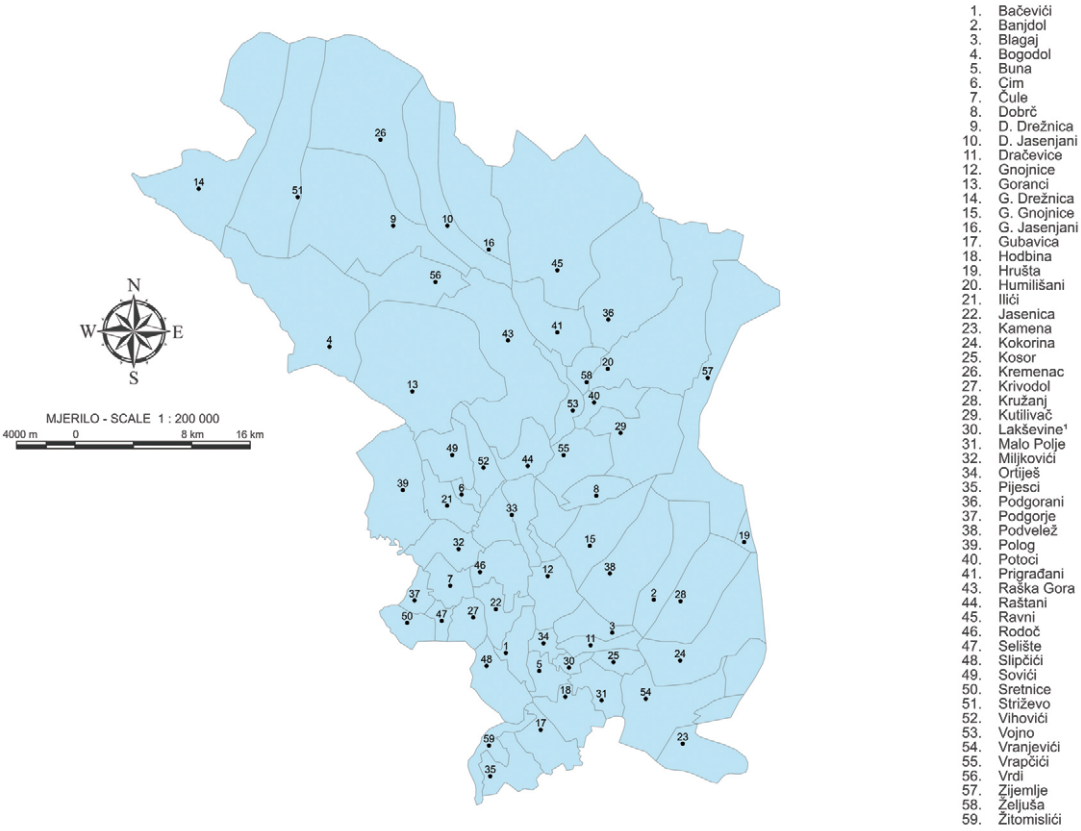

Figure 1 Territorial scope of settlements in the administrative division of the City of Mostar

and agricultural landscape, which give this area a distinctive visual identity and a high cultural, aesthetic and economic value (Andlar et al., 2011, 824). The most predominant rural landscape is agricultural landscape, which is characterized by agricultural activity, farmlands and traditional uses of farmland (Čuka, 2011, 156). The landscape of this area has been constantly changing under the influence of social and economic changes causing significant physiognomic changes (Koščak et al. 1999, 44).

The research area of the rural area of the City of Mostar is determined on the basis of the administrative and territorial organization from 1991 because the paper analyses the transformation of the rural area in the second half of the twentieth century. According to the 1991 census, the total area (of the then Mostar Municipality) covered 1175 km^2 with the population of 126 628 and comprised of 57 settlements (Fig. 1). The average population density for the entire Municipality is was 107.7 inhabitants / km^2. Until 1991, the City of Mostar was an area that included 56 rural settlements with 40% of the total population. According to the OECD typology the study area is predominantley a rural one.

Methodology of the research

The research was based on the relevant domestic and foreign literature and analysis of different geographical and statistical data, which were afterwards statistically processed and graphically presented. The time frame of the research is focused on the period from 1961 to 1991, when the area experienced a more intense social, economic and socio-geographic transformation. The research was conducted within the 56 rural settlements of the City of Mostar. After the Dayton Agreement 1995, a part of the settlement of Gornje Zijemlje became part of the Republic of Srpska, while the settlements of Hrušta, Rabina and Žulja, which had previously been within the Nevesinje

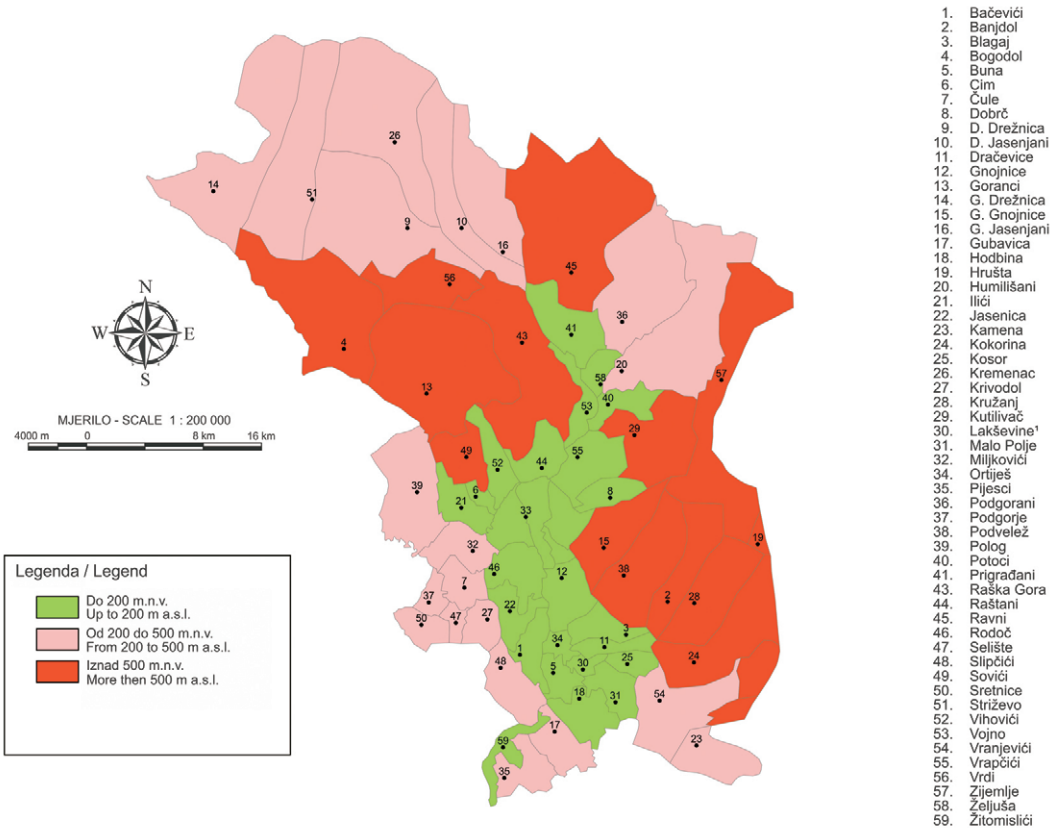

Figure 2 Locations of settlements in population zones in relation to altitude

Municipality, became part of the City of Mostar. Since Mostar is an urban settlement it has not been the authors' point of interest.

The research area was regionalized based on the differentiation of settlements as census-related units, and two criteria were used: the position of settlements in relation to altitude and the road distance from the central settlement of Mostar.

Based on the first criteria, the position of settlements regarding of altitude (Fig. 2), three population zones were identified:

1. lowland zone (A), (settlements in river valleys and fields up to 200 m)
2. hill zone (B), (settlements in lower karst areas from 200 to 500 m)
3. highland zone (C), (settlements situated on higher karst plateaus and mountains from 500 to 1000 m)

Based on the second criteria, the road distance from the central urban settlement, functional and gravitational influence (Fig. 3), the research area was divided into:

1. zone within the 10 km range of road distance (1),
2. zone of the distance 10-20 km (2) I
3. zone of the distance of more than 20 km (3).

The specified spatial pattern of research and analysis established different degrees of transformation in the study area. For the purpose of tabular and graphical presentation of data, the identified zones were marked with letters, and the distances from the central urban area of Mostar were marked with numbers, whereby the regionalisation of the research area into 8 sectors (Fig. 4) was performed (Tab. 1).

Table 1 Spatial pattern of the research

Zone	Road distance from the central urban settlement of Mostar		
	up to 10 km (1)	10-20 km (2)	more than 20 km (3)
Lowland zone up to 200 m a.s.l. (A)	Cim, Dračevice, Gnojnice, Ilići, Jasenica, Lakševine, Ortiješ, Raštani, Rodoč, Vihovići, Vojno, Vrapčići **Sector 1A**	Bačevići, Blagaj, Buna, Hodbina, Humilišani, Kosor, Kutilivač, Malo Polje, Potoci, Prigrađani, Željuša, Žitomislići **Sector 2A**	- - - - - -
Hill zone 200-500 m a.s.l. (B)	Čule, Miljkovići **Sector 1B**	Gubavica, Krivodol, Pijesci, Podgorani, Podgorje, Polog, Selište, Sretnice **Sector 2B**	Donji Jasenjani, Donja Drežnica, Gornja Drežnica, Gornji Jasenjani, Kremenac, Striževo, Slipčići, Vranjevići **Sector 3B**
Highland zone more than 500 m a.s.l. (C)	Sovići **Sector 1C**	Goranci, Raška Gora, Vrdi **Sector 2C**	Banjdol, Bogodol, Dobrč, Kružanj, Gornje Gnojnice, Kamena, Kokorina, Podvelež, Ravni, Zijemlje **Sector 3C**

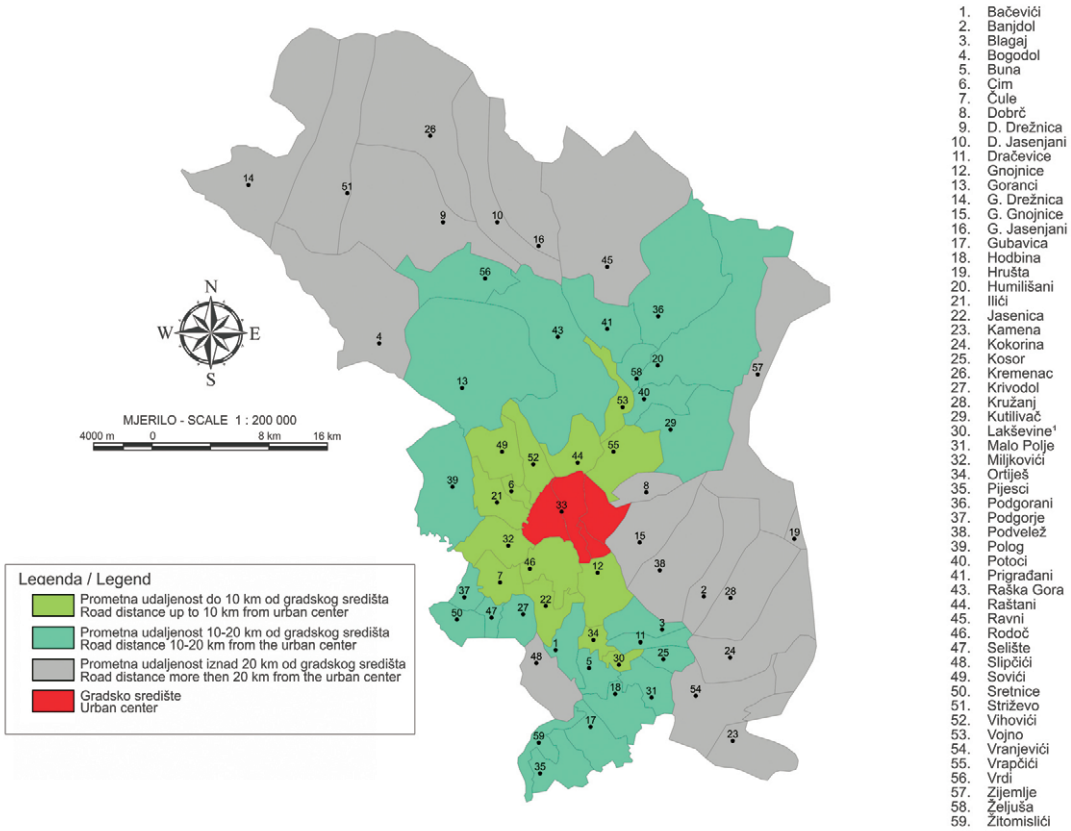

Figure 3 Division of settlements according to the road distance from the central urban settlement (functional and gravitational influence)

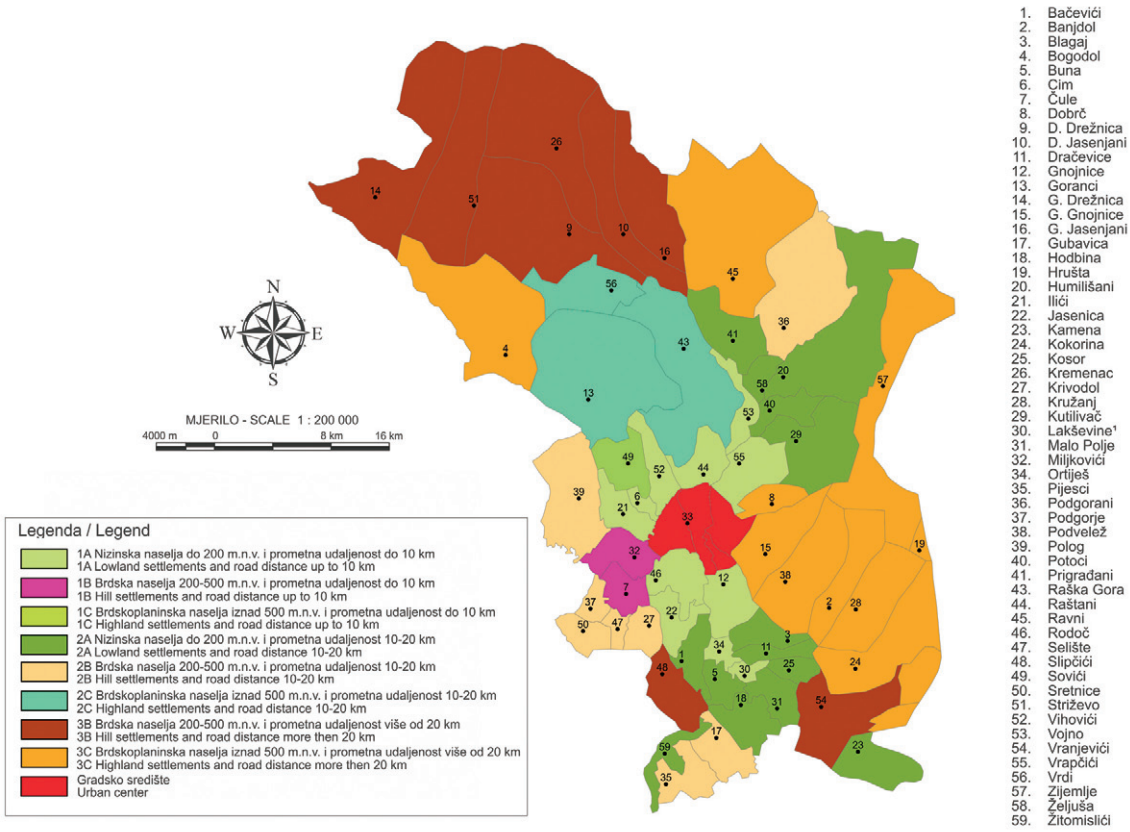

Figure 4 Division of the research area into sectors according to the altitude and road distance from the main central settlement

Research

Population trends and structures are an important indicator of socio-geographic transformation of the given area. Trends in total population number, spatial distribution and demographic processes of the area are the direct result of natural and spatial movements, socio-economic valuation of the natural-geographic basis and socio-economic processes, but also economic, social, cultural and other factors (Markotić, 1983, 74).

The development of industry, urbanisation, economy, improved transport system and urban functions in Mostar provoked deruralisation and deagrarisation of rural areas, resulting in significant changes in population trends.

One of the basic characteristics regarding population is distinctive internal and external migrations. Out of all the municipalities in Herzegovina, only the municipality of Mostar is immigrational (Markotić, 1983, 216), which leads to the increase in total population movements and causes pronounced commuting of the employed population. The largest number of immigrants is reported in the areas within the road distance up to 10 km (1) and lowland zone (A), and the lowest number in the areas within the road distance > 20 km (3) and highland zone (C). According to the 1971 census, external migration processes predominantly involved inhabitants of the villages within the hill (sectors 2B, 3B) and highland zones (sectors 1C, 2C and 3C), (Čuljak, 2014, 69).

Data (Tab. 2) indicate that trends in total population number depend on the road distance within the research area. The highest population growth is registered in the area within the road distance up to 10 km from the city centre (1) and lowland zone (A), while population decline

is evident in the area within the road distance of more than 20 km from the city centre (3). Decrease of population in hill and highland areas and the increase of population in the lowland area are the result of emigration trends in the period from 1971 to 1981. Depopulation is especially significant in the area of road distance of more than 20 km.

The tertiary period in late 1980s, the economic crisis and the war in Bosnia and Herzegovina (1992-1995) caused further negative changes in highland area population trends and provoked depopulation, which left negative consequences for future development of this area.

Table 2 Population trends in the period 1948-2013

Sector/distance/zone	1948	1953	1961	1971	1981	1991	1948-1991		2013*	1991-2013	r
							D	r		D	
Lowland zone of road distance up to 10 km (Sector 1A)	6993	8642	11795	15052	19861	23614	16621	237.7	25579	1965	8.32
Hill zone of road distance up to 10 km (Sector 1B)	659	672	724	675	647	638	-21	-3.2	703	65	10.19
Highland zone of road distance up to 10 km (Sector 1C)	180	195	133	94	46	17	-163	-90.6	10	-7	-41.2
AREA OF ROAD DISTANCE UP TO 10 km (1)	**7832**	**9509**	**12652**	**15821**	**20554**	**24269**	**16437**	**209.9**	**26292**	**2023**	**8.34**
Lowland zone of road distance 10-20 km (Sector 2A)	6811	6949	7789	9387	11921	13608	6797	99.8	14015	407	2.99
Hill zone of road distance 10-20 km (Sector 2B)	3876	4049	4277	4239	3965	3946	70	1.8	3415	-531	-13.5
Highland zone of road distance 10-20 km (Sector 2C)	3429	3367	2945	2541	1686	1122	-2307	-67.3	320	-802	-71.5
AREA OF ROAD DISTANCE 10-20 km (2)	**14116**	**14365**	**15011**	**16167**	**17572**	**18676**	**4560**	**32.3**	**17750**	**-926**	**-4.96**
Hill zone of road distance > 20 km (3B)	3784	4014	4377	4485	4171	3690	-94	-2.5	2787	-903	-24.5
Highland zone of road distance > 20 km (Sector 3C)	4433	4714	5128	5305	4651	4128	-305	-6.9	1013	-3115	-75.5
AREA OF ROAD DISTANCE > 20 km (3)	**8217**	**8728**	**9505**	**9790**	**8822**	**7818**	**-399**	**-4.9**	**3800**	**-4018**	**-51.4**
LOWLAND ZONE (A)	**13804**	**15591**	**19584**	**24439**	**31782**	**37222**	**23418**	**169.6**	**39594**	**2372**	**6.37**
HILL ZONE (B)	**8319**	**8735**	**9378**	**9399**	**8783**	**8274**	**-45**	**-0.5**	**6905**	**-1369**	**-16.6**
HIGHLAND ZONE (C)	**8042**	**8276**	**8206**	**7940**	**6383**	**5267**	**-2775**	**-34.5**	**1343**	**-3924**	**-74.5**
TOTAL	**30165**	**32602**	**37168**	**41778**	**46948**	**50763**	**20598**	**68.3**	**47842**	**-2921**	**-5.75**

Note : D – Intercensal Change of Population of City of Mostar by rural settlements 1948-1991, 1991-2013
r – rate in the total change inhabitants number (%)

* preliminary results

Source: *Population, Household and Housing Census, Comparative overview of population and households 1948, 1953, 1961, 1971 and 1981*, Federal Institute for Statistics, Belgrade, 1986; *Population, Household, Housing and Farm Census, Population by settlements, Population by gender and age*, Statistical Bulletin 257, Federal Institute for Statistics, Sarajevo, 1998; *Census of Population, Households and Dwellings in B&H 2013, Preliminary results of census by municipalities and settlements*, Statistical Bulletin 195, Federal Institute for Statistics, Sarajevo, 2013.

Transformation of rural settlements of the City of Mostar

Socio-economic development

After the Second World War socio-economic development, industrialisation and urbanisation deepened the gap between rural and urban areas. Changes in physiognomic characteristics are a consequence of the development of non-agricultural activities, changes in the socio-economic structure of population, increased number of daily commuters and changes in land use. Introduction of traffic, construction of utility infrastructure, construction of water reservoirs, industrial facilities located in city suburbs and along roads, and recreational and vacation zones, provoked the transformation of rural settlements to urban ones or the change of agricultural to urban cultivated landscape.

In the lowland part of the research area, the change of physiognomic appearance is influenced by industrial and various production facilities and construction of collective and family residential buildings around urban centres (Cim, Ilići, Vihovići Vrapčići, Rodoč, Jasenica, Potoci, Buna, etc.), causing increased secondary urbanisation (Vresk, 1990, 106) and expansion of the city to the adjacent rural settlements. In these settlements the most obvious physiognomic changes are evident, they are more urbanised, and with pronounced daily migration of the employed population. Economic development in settlements along the traffic route M-17 and in the area of Rodoč and Bišće Polje has led to the development of a trade and business zone with different structures, and part of the residential zones has been converted to business ones. The most evident negative physiognomic changes can be seen at the outskirts of the city. In that zone a number of illegally constructed buildings can be found, which are mainly characterized by the inadequate utility infrastructure. In the settlements near the city, agricultural land is being converted into construction land. Numerous residential buildings for refugees and displaced persons were constructed in the settlements of Ortiješ, Buna, Žitomislići and Vrapčići after the last war. In remote settlements of the highland area with higher degrees of depopulation or emigrated population (Zijemlje, Gornji Jasenjani and Donji Jasenjani, Ravni, Kamena, Bogodol etc.), traditional architectural elements (stone houses, stables for livestock, terraces, drystone walls, etc.) increasingly disappear from the agricultural landscape, provoking alteration in the visual appearance of the entire settlement.

Abandonment of villages, agriculture and employment in non-agricultural occupations increasingly lead to the occurrence of uncultivated areas "social fallow", which is manifested in the spread of meadows and underbrush in place of former cultivated agricultural areas (Crkvenčić, 1982, 3). Changes in the appearance of rural settlements are influenced to a higher degree by the construction of vacation property or reconstruction of old residential buildings in the settlements of Goranci, Rujište, Blagaj, Buna, Kosor, etc., whose aspect, size and attractions depart from the traditional architectural heritage of the area. In the settlements of Blagaj and Buna that have tourist attractions, a large number of recreational and vacation facilities, motels and rooms for rent has been constructed, resulting in formation of an urban and tourist landscape.

Work and housing functions

In addition to the housing function, the settlements of Vrapčići, Bačevići, Rodoč and Buna have a pronouced work function, because the industrial facilities are located in these settlements (Brown Coal Mine, Tobacco Factory, Aviation and Metal Industry Soko, Alumina and Aluminum Factory, Cotton Industry Đuro Salaj, Agricultural and Food Conglomerate Hepok, Unis, Hekom, Velmos etc.). The functional character of these settlements is manifested by a high proportion of daily commuters coming to these settlements to work (Crkvenčić, Malić, 1988, 152). After the last war, most of these factories were completely destroyed, privatized or reconstructed only to a lesser extent. Construction of factories encourages housing in the suburbs and formation of settlements close to these factories. Immigration of population, persons becoming independent and subsequent separation of families lead to an increase in residential buildings in the settlements around city centres (Cim, Ilići, Vihovići, Raštani, Rodoč, Vrapčići, etc.). Former vacation properties in the immediate vicinity of the city (Raštani, Vrapčići, Buna, and Blagaj) are increasingly being converted into permanent places of residence in order to solve housing issues and because of preferences for residing in a peaceful environment.

Offer and concentration of services and supplies

Services and supplies are unevenly distributed. More distant rural settlements are oriented to larger suburban settlements for supplies. Nowadays, grocery stores, small craft workshops and catering facilities are found in most settlements. For everyday needs, the population is supplied in shops within the settlements, and for other goods mainly in the city. The suburbanisation process in the settlements of Vrapčići and Rodoč and along the traffic route M-17 has led to opening of numerous commercial buildings for various purposes, stores for furniture, sanitary equipment, ceramics, car showrooms, construction materials, gas stations, etc. (Interex, Obi, Jysk, Keš, Minipex, Mimaco, Kanila, Sjemenarna, Lignum etc.). With the opening of 17 clinics, health services have also improved in the rural settlements.

The function of education

The function of education is distributed unevenly in space. Elementary schools in remote settlements and settlements with pronounced depopulation were closed down in 1970-ies. Elementary schools can today only be found in the settlements of: Ilići, Cim, Kruševo, Rodoč, Podveležje, Gnojnice, Blagaj, Buna, Vrapčići, Potoci, Vojno and Drežnica. Children from smaller rural settlements still go to school in larger rural settlements. Kindergartens, elementary and high schools, institutions of higher education and research institutes are located in the urban settlement of Mostar, so this is still one of the reasons for emigration of population from rural areas.

The function of vacation and use of leisure time

The function of vacation and use of leisure time appear with the improvement of road traffic and a larger number of cars. The appearance of vacation and recreational places and facilities leads to changes in the spatial structure (Ruppert et al. 1981, 125). Resorts and beaches in the immediate vicinity of residence are mainly used for day trips. Numerous vacation properties have been constructed and older buildings were reconstructed in the settlements of Buna, Blagaj, Goranci, Kosor, Drežnica and the resort of Rujište. Sports and recreation centre in Buna is devastated and has yet to be reconstructed. Fields for local soccer clubs are also constructed in rural settlements (Blagaj, Rodoč, Potoci, Cim, Buna, Jasenica etc.). Rural tourism is still undeveloped. Preserved natural landscape, the mountainous area of Čabulja-Prenj-Čvrsnica, Rujište, Diva Grabovica, a large number of cultural and historical monuments, the Neretva River and the former recreational centre in Buna can be used to promote and develop tourism.

The change of functional structure of settlements

The 1991 census distributed the population of Mostar into 56 rural settlements with 290 hamlets. According to statistical criteria (based on population and the proportion of non-agricultural population), it is possible to distinguish urban, mixed and rural settlements. In order to identify urban and rural settlements (Vresk, 2008, 56) created a simple model with four variables: settlement size, percentage of agricultural population, percentage of households without farms, and percentage of employees of a given settlement working in the settlement itself. Urbanisation from the city to the surrounding countryside leads to development of transitional forms of settlements with different degrees of urbanism. In the research area, there is the urban settlement of Mostar with 18 settlements of a mixed type that underwent a great degree of socio-economic transformation, and 38 countryside rural settlements. A large number of mixed-type settlements is indicative of an ongoing deagrarisation and urbanisation process. Mixed settlements with different degrees of urbanization and multiple functions are situated near the city centre, along the course of the Neretva River and along the traffic route M-17, and represent the axis of urbanisation and development.

In the study area, the urban settlement of Mostar is the central settlement with the highest degree of centrality. Centrality of a settlement is determined by the degree of development of service functions of the tertiary and quaternary sectors, or activities that attract population (the functions of supply, education, health care, administration, judicature, financial operations, post and telecommunications, etc.) from the surrounding area. The determination of centrality takes into account population, number of jobs in the settlement, number of daily migrants coming to the settlements, and number of daily migrants going to work in another settlement (Lukić, 2012, 175). In addition to these functions, its centrality is also determined by the work function or high proportion of daily commuters,

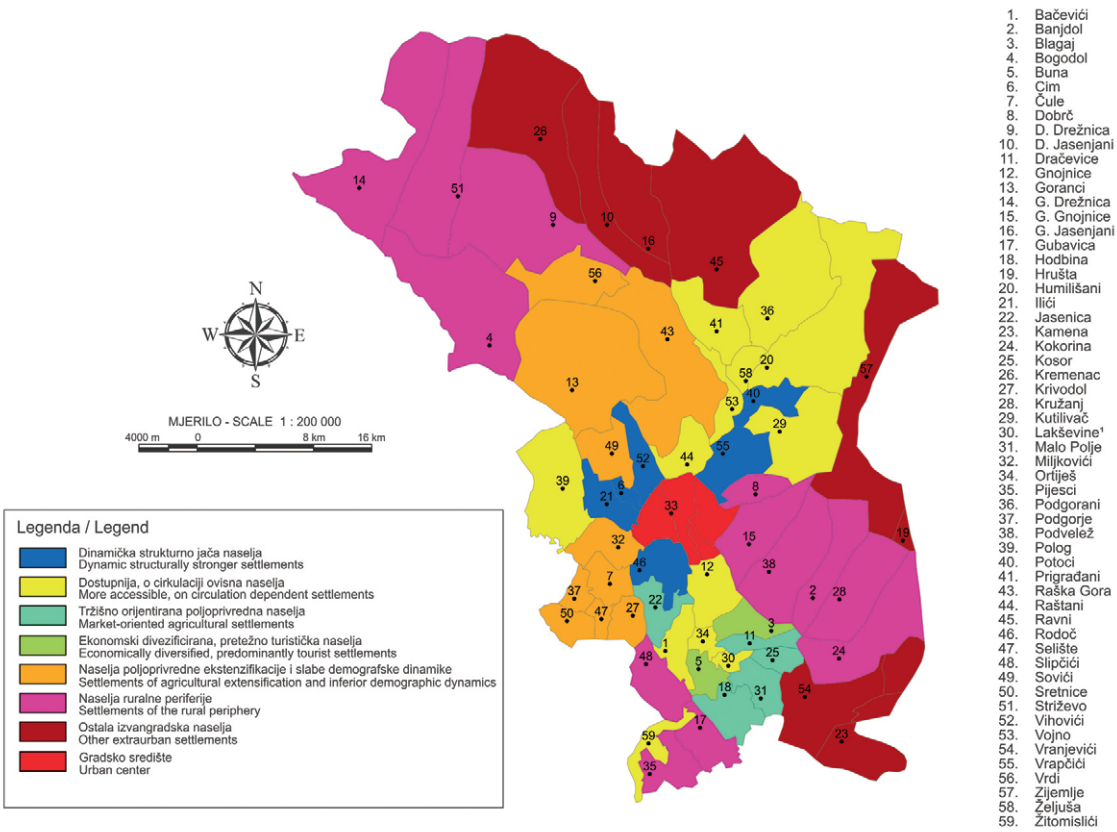

Figure 5 Typology of rural and urban settlements of the City of Mostar

because this settlement has the largest gravitational area (Lukić, 2012, 170).

As a nodal centre, the settlement of Mostar with its surrounding rural area makes a connected spatial and functional whole – nodal region. By certain rules, other settlements are grouped around the single central settlement. Distribution of centres in space is related to their principal function, which is to supply the population. The spatial distribution of centres need to be such that the smallest possible number of larger centres supply the largest possible number of smaller centres in the least possible distance. In the lowland area the population concentration is higher, and Potoci, Buna and Blagaj represent smaller central settlements that have a role of regional centres and are better equipped with local functions and infrastructural elements. These settlements have a registry and post offices, a clinic, an elementary school, a police department, a pharmacy, grocery stores, etc. that attract population from neighbouring smaller rural settlements. The presence of central settlements of a higher rank of significance is one of the fundamental prerequisites for demographic stabilization in peripheral areas (Pejnović, Lukić, 2009, 91). In the highland area with fewer settlements, the local centres for neighbouring rural areas are: Goranci, Drežnica, Miljkovići and Podveležje. In these settlements there is a shop, a clinic, an elementary school (grades 4-8) and a local office. As their population has declined, these settlements have lost their former significance and today mainly represent sites for development of rural tourism. Other rural settlements are more or less equipped settlements and settlements without functions.

Bosnia and Herzegovina lacks a developed typology of rural areas. The guideline for analysis of variables in the research area was the typology process, which was the basis of the analysis of variables of socio-economic characteristics of rural settlements in Croatia (Lukić, 2012, 227) to identify seven types of rural and urban settlements (Fig. 5) which are comparable to the rural area

of the City of Mostar. Although individual types overlap in the research area, by comparing the applied typology, it is possible to identify:

1. Dynamic structurally strong settlements, are the settlements inhabited by large populations, are located in close vicinity of the city and along the traffic route M-17 (settlements: Cim, Ilići, Vihovići, Vrapćići, Potoci, Rodoč, Blagaj and Buna). These settlements have a pronounced secondary urbanisation, with a larger proportion of commuters and are well equipped in terms of infrastructure.

2. More accessible, settlements dependent on circulation are mainly small in size and more remote from the main roads (the settlements of Polog, Ortiješ, Lakševine, Bačevići, Žitomislići, Raštani, Vojno, Kutilivač, Humilišani, Podgorani, Prigrađani, Željuša). These settlements have more pronounced rural characteristics, have a higher proportion of agricultural population, employ commuters, and less developed functions.

3. Market-oriented agricultural settlements are mainly situated in the lowland part of the area where there is a higher proportion of arable land and in which agriculture is mostly developed for people's own needs or focused on the surrounding market. Such settlements are the following: Hodbina, Kosor, Malo Polje, Blagaj, Buna, Dračevice and Jasenica.

4. Economically diversified, predominantly tourist settlements have a more developed tourism and catering industry, and give less importance to agriculture. These settlements are mainly situated near the Buna River. It is the settlement of Buna and particularly Blagaj, which has recently been attracting visitors from the wider area with its spring of the Buna River.

5. Settlements of agricultural extensification and inferior demographic dynamics are Čule, Krivodol, Sretnice, Selište, Miljkovići, Podgorje, Goranci, Sovići, Raška Gora and Vrdi.

6. Settlements of the rural periphery are Banjdol, Dobrič, Gornje Gnojnice, Podvelež, Kokorina, Kružanj, Goranci, Bogodol, Donja Drežnica, Gornja Drežnica, Striževo, Slipčići, Gubavica and Pijesci.

The settlements of agricultural extensification and inferior demographic dynamics and the settlements of rural periphery overlap in the research area, and are mainly situated in hill and highland areas at higher altitudes. Depopulation is pronounced in these settlements and they are inhabited by a small aging population. A high proportion of meadows, pastures and rocky terrains contributed to the poor development of agriculture, mainly for subsistence. Neglected landscape can be observed and is caused by deagrarisation and aging population.

7. Other extra urban settlements are the settlements outside the rural periphery, inhabited by very few residents and unequipped in infrastructural terms. These are the settlements of: Zijemlje, Ravni, Donji Jasenjani, Gornji Jasenjani, Kamena, Vranjevići, Rabina, Žulja and Hrušta.

Conclusion

Transformation of the rural landscape of the City of Mostar under the influence of socio-geographic processes in the second half of the twentieth century was manifested differently in spatial units of the research area. Intense population movements during the period from 1961 to 1991 were an outcome of the improved traffic accessibility, locations of industrial and commercial facilities, and existence of functions in the city and its surroundings. Depending on the variables: road distance from the central settlement and location of 56 rural settlements by altitude, regionalization into eight sectors was carried out:

A1 lowland zone up to 200 m a.s.l. and road distance up to 10 km from the city centre,

A2 lowland zone up to 200 m a.s.l. and road distance of 10-20 km,

A3 lowland zone up to 200 m a.s.l. and road distance of more than 20 km,

B1 hill zone from 200 to 500 m a.s.l. and road distance up to 10 km from the urban centre,

B2 hill zone and road distance of 10-20 km from the urban centre,

B3 hill zone and road distance of more than 20 km from the urban centre,

C1 highland zone and road distance up to 10 km from the urban centre,

C2 highland zone and road distance of 10-20 km from the urban centre

C3 highland zone and road distance of more than 20 km from the urban centre

Population decline is noted in hill and highland settlements. The war in B&H caused further negative changes in population trends. Emigration of rural population to the settlements near the city centre or to the city itself led to depopulation and changes in the age and sex structure of population. Analysis of the age structure shows a decline in the proportion of young people, and increasing proportion of the elderly in all spatial units, especially in settlements of the highland area more remote in terms of transportation. Some settlements are even faced with extinction.

Development of industry, urbanisation and traffic caused the processes of deruralisation, depopulation and deagrarisation. These processes are an outcome of the polarizing effect of the city, employment of population in secondary and tertiary industries, daily migrations and socio-economic transformation of population. The processes of depopulation and deagrarisation are expressed in the entire rural area, especially in the settlements of the highland area of a larger road distance from the urban centre, which is also indicative of the importance of the development of road network for the socio-economic development.

The process of deagrarisation is present in the entire rural area, in the lowland part of the area as a result of employment of the population in secondary and tertiary industries, and in the highland part as a consequence of the processes of emigration, depopulation and aging of population. Deagrarisation caused the number and proportion of the agricultural population to decline, especially in the settlements closer to the urban centre and near traffic routes. As a consequence of incomplete deagrarisation, but also high unemployment, many households are still engaged in agriculture for their own needs. As a result of emigration and abandonment of agriculture during the period from 1961 to 1991, there has been a significant decrease in the number and proportion of agricultural population, and the highest decline in agricultural population is manifested in the settlements of the highland area and greater road distance. During the same period, there was a decrease in the proportion of active farmers in the total population, especially in the lowland area in the distance of up to 10 km as a result of employment in secondary and tertiary industries.

Socio-geographic processes resulted in the transformation of rural settlements and caused morphological-physiognomic and functional changes in space. The processes of secondary urbanisation and suburbanisation, and the appearance of new functions in the settlements in close proximity to the city centre and along the main road M-17, led to their higher spatial development, socio-economic transformation, morphological-physiognomic and functional changes in space, manifested in the expansion of urban lifestyle.

The intensity of the transformation of rural settlements under the influence of the function of work in the city centre decreases with the distance from the city, and the most intense and rapid changes occur in the settlements closest to the central urban settlement. The lowest transformation was undergone by the settlements of the highland area (C1, C2, and C3) which are most distant in terms of transportation, isolated and with a pronounced depopulation.

The different demographic and economic development of the lowland and highland settlements was reflected in the formation of rural and agrarian landscapes. Socio-geographic processes have resulted in the transformation of agricultural landscape, which is manifested in the change of land use, its economic valuation, reduction of agricultural land and change in the structure of agricultural land.

The decreasing proportion of agricultural population both in the total and working population during the period from 1961 to 1991 caused changes in the socio-economic structure of households, uses of agricultural land and reduction of agricultural land.

Emigration, abandonment of agriculture and cultivation of land, especially in the highland area, caused the neglect of agricultural land on which a succession by natural vegetation, overgrowing and reforestation gradually took place, which was confirmed by field research. Traditional elements of architectural heritage (stone houses, stables for livestock, rainwater tanks, drystone walls, etc.), which used to give this area a distinctive visual identity, are increasingly disappearing from the agricultural landscape.

BIBLIOGRAPHY

Andlar, G., Aničić, B., Pereković, P., Rechner Dika, I., Hrdalo, I. (2011): *The cultural landscape and legislation – the situation in Croatia*, Društvena istraživanja, 113/3, 813-875.

Crkvenčić, I. (1982): *The occurrence of fallows and uncultivated plowfields and changes of population of SR Croatia in the last twenty years*, Geografski glasnik, 44, 3-22.

Crkvenčić, I., Malić, A. (1988): *Agricultural Geography: Geographical aspects of agricultural areas*, Školska knjiga, Zagreb, pp. 217.

Čuka, A. (2011): *Transformation of the Dugi Otok Island landscape as a reflection of modern socio-geographic processes*, Doctoral dissertation, University of Zadar, Department of Geography, Zadar, pp. 311.

Čuljak, M. (2014): *The transformation of rural landscape of the City of Mostar as a result of socio-geographic processes in the second half of the twentieth century*, Master's Thesis, University of Mostar, Faculty of Science and Education, Mostar, pp. 195.

Egyed, A. (2012): *Landscape transformation in Rural Areas, Connection Between the Changes of the Function and the Character of the Small Villages on the Example of Three Micro-Region*, Dissertation Booklet, Corvinus University of Budapest, Budapest, pp. 18.

Estany G., Badia, A., Otero, I., Boada, M. (2008): *Socio-ecological Transformation from Rural into a Residential Landscape in the Matadepera Village (Barcelona Metropolitan Region), 1956-2008*, Global Environment, 5, 8-37.

Koščak, V., Aničić, B., Bužan, M. (1999): *The general frameworks of landscape protection for landscape basis of Croatia – Agricultural Landscapes*, In: Landscape, content and methodological map for landscape basis of Croatia, (ed. Furlan Zimmermann, N., Salaj, M.), Ministry of Physical Planning, Construction and Housing, Institute for Physical Planning, Zagreb, 34-73.

Lukić, A. (2012): *Mosaic Outside the City – Typology of rural and urban settlements of Croatia*, Meridijani, Samobor, pp. 256.

Markotić, A. F. (1983): *Demographic Development of Herzegovina*, Ikro First Literary Commune, Mostar, pp. 367.

Pejnović, D., Lukić, A. (2009): *Dynamic and structural problems of rural areas in transition countries: the example of Croatia*, in: Transformation of rural areas in the conditions of transition and integration into the European Union, (ed. Musa, S.), Geografsko društvo Hercegovine, Kupres, 73-93.

Roncken, P. A. (2006): *Rural Landscape Anatomy: public space and civil yards in Dutch rural landscapes of the future*, Journal of Landscape Architecture, 1/1, 8-19.

Ruppert, K., Schaffer, F., Maeier, J., Paesler, R. (1981): *Social Geography*, Školska knjiga, Zagreb, pp. 159

Vresk, M. (1990): *City in Regional and Urban Planning*, Školska knjiga, Zagreb, pp. 194.

Vresk, M. (2008): *Urban and other settlements in Croatia – 2001 allocation model*, Geografski horizont, 54/2, 53-57.

SOURCES

Census of Population, Households and Dwellings in B&H 2013, Preliminary results of census by municipalities and settlements, Statistical Bulletin 195, Federal Institute for Statistics, Sarajevo, 2013.

Population, Household and Housing Census, *Comparative overview of population and households 1948, 1953, 1961, 1971 and 1981*, Table 193, Results for settlements, Federal Institute for Statistics, Belgrade, 1986.

Population, Household, Housing and Farm Census, *Population by settlements, Population by gender and age*, Statistical Bulletin 257, Federal Institute for Statistics, Sarajevo, 1998.

Population, Household, Housing and Farm Census, *Population - comparative data 1971, 1981, and 1991*, Statistical Bulletin 257, Federal Institute for Statistics, Sarajevo, 1998.