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REGIONAL DEMOGRAPHIC PROBLEMS AND THEIR IMPACT ON THE DEVELOPMENT OF AGRICULTURE IN MONTENEGRO

SUMMARY

The level of development of particular regions is a result of geographical position, which has a great influence on vicinity or isolation in relation to the economic centres. Balanced regional development is one of the most important topics in recent years. Role of the state in the processes of the regional development is being more emphasized, as well as the need for establishing a legal framework and institutions that will deal with regional development in the future.

Three regions are classified due to the Regional Development Strategy of Montenegro: Northern, Central and Southern region. The basic characteristic of regional development of Montenegro is its disproportion. Undeveloped areas of Montenegro are characterized by unfavourable demographic and economic situation. It is expressed in depopulation of the Northern region and high concentration of population and economy in the Central and Southern region. Concentration of population is particularly evident in the municipality of Podgorica. Such trends have negative consequences in the economic, spatial and social areas. Rural areas of Montenegro remains empty, while rural areas in Europe are becoming increasingly important alternative for living and working in relation to the of cities.

The paper analyzes the processes of depopulation of certain regions in Montenegro and their impact on the development of agriculture. In the observed inter-census period (1960-2010), a digressive trend of population in the northern region was evident, which resulted in a lagging of the development of not only agricultural, but also other activities. Factors causing uneven regional development are: migratory movements, peripheral situation of rural areas in the Northern region, deagrarianisation, lack of quality infrastructure and similar. A comparative analysis of demographic changes, migration and regional mobility, as well as agricultural development and changes in the agrarian structure are applied within this paper. Carried out analysis indicates that strategically important areas became depopulated in the observed period, remaining natural resources unexploited. At the same time, in developed centres there was an excessive concentration of population and economy, which led to negative consequences in the economic, social and spatial sphere.

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With the aim of improve regional image of Montenegro in the future, it is necessary to work on the revitalization of the Northern region, in order to prevent its further depopulation.

Key words: regional problems, depopulation, deagrarisation, agriculture

INTRODUCTION

Regional development in general, and particularly in terms of rural development, is not observed as an integral part of the overall socio-economic development. Over decades, the problem of Regional Development has been marginalized and often analyzed as a separate aspect of the overall development. Regional differences were observed mainly in terms of development, so their economic development, social, and particularly demographic specifics were ignored (Milanović *et al.*, 2010).

With the arrival of spatial planning in the modern world, and the need for directing of development, organization and development of geographic space, regionalization is emerging as the most adequate way of politically territorial and spatially functional organization (Vojković, 2003). Regionalization is a complex procedure of great social and development significance.

The idea that sees the regionalism as a two-way concept has remained since the arrival of regional concept until today: the primary objective of regionalism is to be found in the final product integration of the region (Vojković, 2003). Region does exist (Odum, 1952), but it firstly implies to the region as an integral part of the whole.

Increased interest in issues of regionalization was developed in parallel with the raise of awareness about the necessity of global, and therefore harmonized regional development. Establishing of regions, in accordance with the current socio-economic development, should be a framework for regional development policy and a basis for overcoming of the consequences of previous haphazard and uneven spatial and socio-economic development, i.e., a prerequisite for regional harmonized development of the country, and therefore a tool of effective economic policy (Papić, 1987, Petrović, 1957).

Rural development should respond to regional needs, enhance endogenous development, to be launched by regional development policies, as well as to be focused on sustainable development and implement the regional capital (Đorđević and Panić, 2004, Petrović 2009). The main functions of the regional administration should be twofold: on the one hand to strengthen economic identity, motivation and social capital and on the other hand to manage programmes, technical support and monitoring (Stojić Karanović, 2002). Region must be comprehensive natural geographic, anthrop-geographical, economic, historical, ethno-cultural and civilization entity, which that way in its complete individuality, can manifest its advantages in the best manner, but it also must be in line with its environment (Vojković, 2003). Human resources are the main driver of economic development because the productivity relies on them (Zjalić,

2009; Rakić, 2006). Human resources imply knowledge, experience, creativity, innovation and ability of individuals directed to the improvement of society, and therefore it is necessary to constantly invest in them (Đerčan, Bubalo Živković and Lukić, 2010 a). Balanced regional development includes an economic development of rural areas, which means the education of the rural population in technical, technological, cultural and environmental terms. Reaffirmation of underdeveloped regions would have favourable economic and demographic consequences, because it would employ young people, in order to, at least partially, prevent emigration from these areas (Gligorijević and Stefanović, 2009).

Revitalization of underdeveloped areas is one of the key factors in the process of accession of Montenegro to the European Union. By means of EUROSTAT, European Union has stated the criteria for administrative territorial organization of European countries through the so-called NUTS system (Nomenclature des unites territoriales statistiques). This categorization insists on the territorial levels of the hierarchical structure of management and unification of the region by size (Stojkov, 2000). The established nomenclature starts from the population size of the territory and suggests five levels of organization of territorial units: NUTS 1 - the state or territorial unit with 4-5 million residents; NUTS 2-level of macro-region with 1-4 million residents; NUTS 3 - level of the district or region with 100,000 to 1 million residents; NUTS 4 - with 10,000 - 100,000 residents and NUTS 5 -level settlement under 10,000 residents. When it comes to the statistical division of Montenegro, according to the Eurostat criteria on division of the country on spatial units for statistics, Montenegro is observed as one region (Regional Development Strategy of Montenegro, 2010-2014). Regardless the fact that Montenegro is considered as one region, there are significant differences in the level of development of municipalities, and thus the areas to which they belong.

The Regional Development Strategy of Montenegro 2010-2014 classified regions: Northern, Central and Coastal region. According to the geographical features, the Northern region is consisted of the following municipalities: Andrijevisa, Berane, Bijelo Polje, Mojkovac, Kolašin, Plav, Pljevlja, Plužine, Rožaje, Šavnik, Žabljak; Central region: Podgorica, Danilovgrad, Nikšić and Cetinje; Coastal region: Bar, Budva, Herceg Novi, Tivat, Kotor and Ulcinj. It should be noted that in the meantime, Petnjica and Gusinje gained the status of municipalities, and their geographical position belongs to the Northern region.

Region must have sufficient size in order to be able to control the appropriate level of its own economic destiny (Derić, Atanacković, 2000). According to the OECD methodology, three regions of Montenegro (Northern, Central and Southern) were observed and the Northern region is consisted of 13 municipalities and it is predominantly rural (59.7% of the population lives in rural areas), while the Coastal (41.7%) and Central (20.4%) belong to the

transition. Agricultural production may not be the only function of rural areas, but there could be a number of other activities that will enhance the growth of the rural economy and the impact on reducing the gap between urban and rural areas.

The aim of this paper is to analyze the demographic changes and socio-economic structure of the population by regions, as well as the analysis of changes in the agrarian structure in the period 1965-2010.

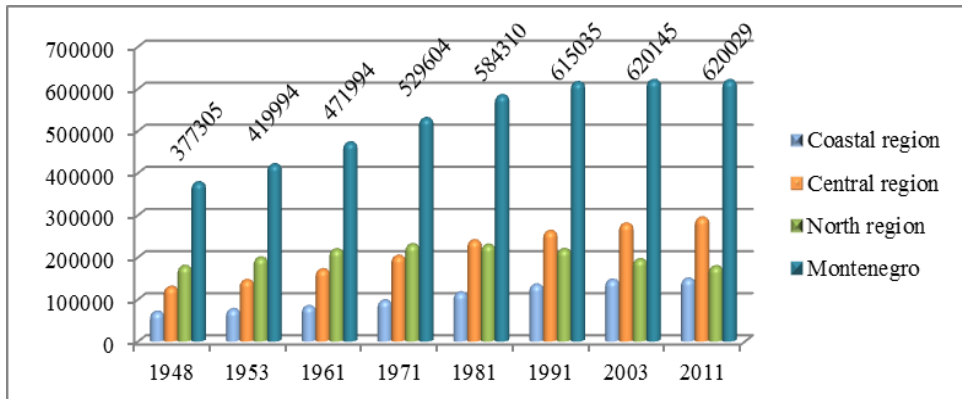
MATERIAL AND METHOD

This paper analyzes the causes of regional and demographic problems in Montenegro and their impact on the development of agriculture and rural areas. The analysis was conducted for the period 1965 - 2010, when agricultural census was carried out in Montenegro. During the research for this paper the work we used the official data of the Statistical Office of Montenegro (MONSTAT), as well as scientific and professional papers that dealt with this issue. Data of the Agricultural Census of Agriculture in Montenegro and Population Census for the period between 1948 and 2010 were used for this paper's analysis. In order to display the data, the statistical tables and graphs were used. Using the relative numbers of structure, it is shown the share of the population of some regions in the total population of Montenegro. Dynamic statistical analysis, namely, the method of calculation of basic and chain indices were used, as well as the methods of descriptive statistics. The paper uses the methods of research at the table "desk research" and methods of comparison. The paper aims to draw attention to the causes of uneven regional development in Montenegro, as well as the consequences of which are reflected primarily in the abandonment of rural areas and neglect of agricultural production.

RESULTS AND DISCUSSION

During the entire twentieth century, Montenegro was typical emigration area. Weak economic development, as well as the severe war damages caused the mass exodus of the population. After the Second World War, the net migration balance was negative in each inter-census period. The value of net migration rate was the highest in the period of 1953-1961 (-7.2 ‰), while the highest annual average (negative) balance was recorded in the inter-census period of 1981-1991 (MONSTAT, 2008). The biggest emigration wave from Montenegro emerged immediately after the end of the Second World War. This is the period of implementation of agrarian reform and colonization of fertile areas, primarily of Vojvodina and Slavonia. Colonization has largely been covered by the population of passive areas (Đurđev, 1995). 5,500 households with a total 31,000 of colonists moved out from Montenegro, which represented 8.2% of the total population in Montenegro (1948). It is characteristic that emigration more than immigration was evident in Montenegro (Kalezić, 1978). Figure 1 shows the movements trends of Montenegrin population by region in the period of 1948 -2011.

Figure 1. Movement trends of Montenegrin population by region in the period of 1948 -2011



Source: *Demographic trends in Montenegro from the middle of 20th century and perspective until 2050, MONSTAT, 2008*

Total population in Montenegro recorded a constant growth in the period from 1948 to 2011. Total population growth is uneven when it is observed by regions. Table 1 shows total population trends in the regions using the base and chain indices, as well as the percentage share of population of particular regions in the total population of Montenegro.

Table 1. Total population trends by regions, percentage share (%), base and chain indices

Year	REGIONS								
	COASTAL			CENTRAL			NORTH		
	Participation in total population (%)	Base index	Chain index	Participation in total population (%)	Base index	Chain index	Participation in total population (%)	Base index	Chain index
1948	18,5	100	-	34,2	100	-	47,3	100	-
1953	18,1	97,84	97,84	34,6	101,17	101,17	47,3	100	100
1961	17,7	95,68	97,79	36,1	105,56	104,34	46,2	97,67	97,67
1971	18,3	98,92	103,39	38,3	111,99	106,09	43,4	91,75	93,94
1981	19,8	107,03	108,20	41,0	119,88	107,05	39,2	82,88	90,32
1991	21,9	118,38	110,61	42,6	124,56	103,90	35,5	75,05	90,56
2003	23,5	127,03	107,31	45,1	131,87	105,87	31,4	66,38	88,45
2011	24,0	129,73	102,13	47,3	138,30	104,88	28,7	60,68	91,40

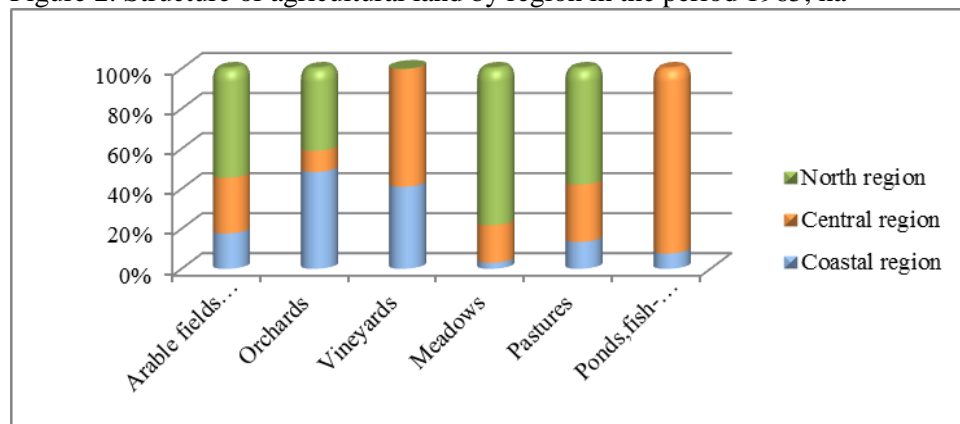
Source: *Calculation of the corresponding author according to the data, MONSTAT (2008)*

Data shown in Table 2 indicate that since the Census of 1981, the share of the population of the Southern and Central regions rose in comparison to the total population of Montenegro and the share of the population of the Northern region had declined. Calculated base indexes indicate that in 2011, in comparison to the based year of 1948, population in the Coastal region increased by 29.73%, the

Central by 38.30%, while in the North it was reduced by 39.92%. Chain indices show the changes from one census to another (Despotović *et al.*, 2015).

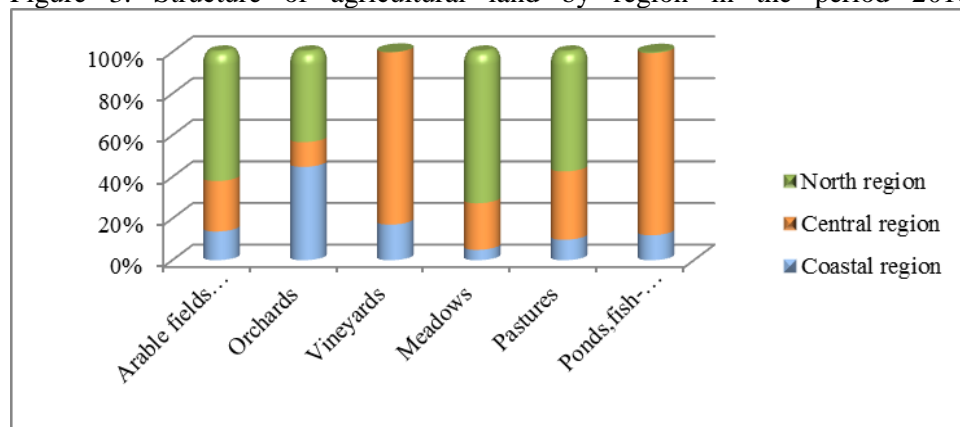
The decline trend in the population of the Northern region caused a weaker pace of development of agriculture. Regarding to that, in the period from 1965 to 2010 there was a change in the structure of agricultural land at the level of the entire territory of Montenegro, as well as in the surveyed regions. As one of the underlying principles of regionalization, natural conditions and land are considered in terms of demo-geographic regionalization, because they are a link between population and the environment, which determines the type of activity of the population, agricultural production and food security of the population of a given region (Vojković, 2003). In this regard, Figure 2 depicts the structure of agricultural land by region in the period 1965-2010.

Figure 2. Structure of agricultural land by region in the period 1965, ha



Source: Calculation of the corresponding author according to the statistical data, *Statistical Review-Agriculture 1947- 1965*

Figure 3. Structure of agricultural land by region in the period 2010



Source: Calculation of the corresponding author according to the statistical data, *Statistical Year Book, 2012*

Table 2. Indices of agricultural land structure by regions, 1965-2010 ha

	Indices of agricultural land structure by regions (1965 -2010), ha						
	Total	Arable fields and gardens	Orchards	Vineyards	Meadows	Pastures	Ponds, fish-ponds, reeds
	2010/1965	2010/1965	2010/1965	2010/1965	2010/1965	2010/1965	2010/1965
Montenegro	88,21	69,33	134,79	311,63	112,58	82,47	106,34
North region	87,62	78,81	142,22	200	104,59	81,57	-
Central region	98,16	59,54	151,22	438	133,95	94,54	100,69
Coastal region	69,82	54,15	124,91	130,10	185,29	60,29	167,36

Source: Calculation of the corresponding author according to the statistical data, 1965 and 2010

Movement trend of entire Montenegrin population by region for the period of 1948-2011, indicates that there was an evident intense internal migration. Northern region recorded a continuous decline in population, while the Central and Southern region recorded a significant increase in the population. If we observe the structure of agricultural land, it is seen that the area of the Northern region accounts to about 60% of the total agricultural land in Montenegro, the Central region 29,70% and Southern 9.8%. The uneven distribution of the population, compared to the structure of agricultural land, has contributed to the neglect of agricultural production. Indices of structure of agricultural areas in Montenegro indicate that in the period 1965-2010, total agricultural area decreased by about 11.27%, arable fields and gardens are at the top, whose reduction is by 30.67%. If it is observed by the regions, total agricultural land was reduced the most in the Coastal region (30.18%), followed by the North (11.79%) and in the Central region - only by 1.84%. Arable land and garden areas recorded the largest drop in the Coastal region (45.85%), Central (40.46%) and the North (21.19%). Orchards areas recorded growth in all three regions, with the largest growth recorded in the Central region (51.22%), and lowest in the Coastal region (24.91%). In the period after the Second World War II, Montenegro had high agrarian density in relation to the Yugoslav average (Vukčević, 1963). Due to the post-war migration of the population, there was a radical change in the structure of village and youth population movement from rural to urban areas. Compared to other republics of the former Yugoslavia, in the period between 1953 and 1971, Montenegro recorded the highest growth of the urban population in relative terms (Vujošević, 1990). From the aspect of regionalization, the population must be seen in a wider context than purely demographic, and therefore through the analyzing of historical trends of population development, displacement and territorial organization of the population (Vojković, 2003). To set the population in the regional context means exactly to observe the population as an autonomous bio-social, and geographical system (Radovanović, 1988). The integrity of the system and its demographic

distortion is very easy to be traced through the change of a single demographic characteristic: e.g. declining birthrate is reflected on the changes in age and sex structure, and it is followed by renewal of the workforce and this creates a circular chain of other conditionality (Vojković, 2003). Table 3 depicts regional structure of population of Montenegro form the period of 1961-2003.

Table 3. Regional structure of Montenegrin population, 1961-2003

	1961	1971	1981	1991	2003
North region	46,19	43,44	39,19	37,17	33,01
Central region	36,13	38,28	41,00	42,56	43,30
Coastal region	17,68	18,28	19,81	20,27	23,69
Total	100	100	100	100	100

Source: Sectoral Study 4.9. Spatial Plan of Montenegro until 2020

Analysis of regional structure of the population of Montenegro for the period of 1961-2003 shows that in 1961 the population of the Northern region participated with 46.19% in the total population of Montenegro, but it was constantly declining, and in 2003 it was 33.01%. In the observed period, the Central and Southern region period recorded a constant growth of the population, therefore in 2003 the Central region had a share of 43.30%, Southern 23.69% of the total population of Montenegro. The highest growth was acquired in the Central region, which had the smallest decline in total agricultural area (1.4%) in the period of 1965-2010.

Demographic changes occurred in the period 1965-2010 had an impact on the further development of family holdings in Montenegro by regions. The main characteristic of holdings is their fragmentation and low productivity. Meadows and pastures (87.50%) have the largest share in the structure of agricultural land, while other categories of land account for about 12.50%. Table 4 depicts the family agricultural holdings by size of the class type of utilized agricultural land in the period of 1960-2010.

In the period between two agricultural censuses (1960-2010) there were significant changes in the structure of agricultural holdings². According to the last Agricultural Census, total number of households decreased by about 25% compared to the Census of 1960. According to the Census of 2010, the highest share goes to the households of size from 0.10 to 0.50 ha (31.6%) and a very small number of households with 100 or more hectares (0.87%). Comparing the results of Census of 1960 and 201, it could be seen that in 1960, the largest share accounts to the holdings size of 1-2 ha (18.39%), while the share of households larger than 10 ha were at the level of 13.55%. Analysis of the data indicates a significant change in the number of households by type of using. In the period of fifty years, the share of households increased to 2 ha and it was 55.25%, while

² According to the methodology, Agricultural Census conducted in 1960 did not include households without land, holdings of less than 0.1 ha, holdings of 5-6 ha, but holdings of 5-8 ha. Also, larger households are treated only as holdings of over 10 ha.

according to the Census of 1960, this share was at the level of 38%. The share of households in size from 2.1 to 10 ha, according to the Census of 2010, decreased by approximately 27% compared to 1960. Their share was at a level of 48% (1960), while according to the Census of 2010, it was about 21%. Similar changes occurred in all regions.

The structure of agricultural holdings, according the agricultural labour force (1960-2010) is different. Households with 1-2 members, observed in absolute terms, are about equal, but their number is 0.5% higher in 2010 compared to 1960. If we compare the other categories of households, it can be seen that they were significantly more numerous in 1960 and that the number declined by about 50% in 2010.

Table 4. Family agricultural holdings by size of the class type of utilized agricultural land in the period of 1960-2010

Family holdings by the size of class type of utilized agricultural land	1960	2010
no land	-	581
< 0,10 ha	-	2.514
0,10<0,50 ha	5.899	15.418
0,50< 1,00 ha	6.900	8.465
1,00< 2,00 ha	11.939	8.865
2,00 < 3,00	8.643	4.076
3,00< 4,00 ha	6.362	2.256
4,00< 5,00 ha	4.586	1.287
5,00< 6,00 ha	8.506	1.056
6,00< 8,00 ha		1.066
8,00<10,00 ha	3.285	588
10,00<15,00 ha	8.798	814
15,00<20,00 ha	-	342
20,00< 30,00 ha	-	323
30,00 < 50,00 ha	-	312
50,00< 100 ha	-	436
100 ha and more	-	425
TOTAL	64.918	48.824

Source: Agricultural Census for 1960 and 2010

Today, the modern family household in Montenegro is "old". This is supported by the fact that 65.7% of total workforce force in the households is 45 years old. Share of male labour force amounts to 60.41%. Common for male and female workers is that the largest share account to group of people who are 65 years old or more. The share of the workforce under 24 is only 6.83 (Agricultural Census, 2010). Problems of age structure are also present in the European Union where on 9 farmers over the age of 55 "goes" one younger than 35 (Jelić *et al.*).

On the whole, demographic and regional problems in Montenegro can be expressed through the following characteristics:

- after the Second World War, the growth has continued of the total population of Montenegro, with a tendency of stagnation in recent years
- ageing of population
- reducing the number of households
- depopulation of the Northern region and rural areas
- reduction of total agricultural area and by regions
- reducing of the number of family households members
- deruralization
- deagrarisation

These regional and demographic problems had influenced on depopulation of rural areas, which was negatively reflected on the overall development of the agricultural and food industry in the period after the Second World War. Demographic depopulation of the Northern region is a limitation for the total and balanced regional development of Montenegro. Evident migration dynamics in spatial and vertical sense, conditioned by human activities, is an important indicator of physical functional connections, which are established in the region and between regions (Vojković, 2003).

CONCLUSION

Problems of regional divisions of some areas are multiple and complex. Balanced regional development is the basis for rapid economic growth and development of any society. The European Union expects that regionalization is implemented in accordance with its criteria, in order to ensure compatibility of the territorial organization of the Member States.

In the post-war period, demographic problems occurred in Montenegro, as a result of evident internal migration, which caused uneven regional development. More specifically, there is a dislocation of the population from North to Central and Southern region. Rural areas are still empty and they are characterized by low population density. As a direct consequence of these processes, there is a lag in development of agricultural production. The share of agricultural population has decreased by about 74% in the last seventy years. Uneven regional development is reflected in the fact that the Northern region covers more than 50% of the national territory, but it is inhabited by only a third of the population. The largest migratory movements are in the direction from the

Northern region to Podgorica, as well as from the Northern to Coastal region, especially in the last ten years.

The consequences of this imbalance of regional development are reflected in the reduction of the number of family agricultural households, reducing the total agricultural area by regions, depopulation of rural areas, as well as reducing the number of members of the agricultural family agricultural households. These phenomena indicate that any violation of the system affects the demographic changes in the context of agricultural activities, available workforce, etc., and this creates a further circular chain of causality.

In the future it is necessary to work due to even overall territorial development and rural areas. This can be achieved by measures which will be aimed at developing the rural economy, as well as on improving the quality of life not only in the Northern region, but also in the Central and Southern.

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