

Analysis of Change in Population Structure: The Case Northeastern Montenegro

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Abstract: This study analyzes changes in the demographic structure of population in Northeastern Montenegro in the example of the Municipality Berane, Andrijevisa and Plav. Population age structure is changing and takes unfavorable characteristics, reduces the proportion of younger and increases the proportion of elderly population. Disturbed age structure has a reverse effect on the movement of the population (the size of reproductive contingent) but also, to all other population structure (size of contingent employment, population, mandatory school contingent, relationship maintenance). Despite significant changes in the demographic structures of all Northeastern Montenegro, retains the characteristics of ethnically very heterogeneous environment.

Key words: Northeastern Montenegro, population, population structure, environment

INTRODUCTION

Question of the relationship between the economy and population can be approached from many sides because of so much importance to attract the attention of many scientific disciplines. But, if the component is population in its demographic organic content, it is apparently possible to approach this issue as follows; from the standpoint of economics, from the standpoint of science and interdisciplinary population-economic and demographic standpoint. The interest here is not the first and the second approach, although of great theoretical and practical importance. Limit ourselves only to the third, so we tried to establish as the economic life in Northeastern Montenegro has changed under the influence of social conditions (Rajovic, 2005).

Northeastern Montenegro is characterized in terms of demographic changes in age and gender, education, economic and ethnic structure of population. Slow transformation of the population have contributed to a number of economic and noneconomic factors. They are among other things, reflected in the rise and rapid decline in non-agricultural rural population, it is a negative selection resulted in a very unfavorable economic structure of the population, from the standpoint of labor and productive capacity (Nikolic, 1978). Such uncontrolled demographic processes are not accompanied by adequate measures other necessary changes in the economy of Northeastern Montenegro which has been shown that the qualitative properties of optimal population and favorable economic structure, now a component in guiding the transformation of space, the

decisive factor in the differentiation and polarization of the environment. I understand the development of integrated as a progressive quantitative and qualitative change of the economy, population and society and relations among them, must take a holistic approach to the problem and it means that it must be observed and explained by a number of different factors, the nature and significance of economic development and evaluate its performance in the whole system (Macura, 1997).

The aim of the research is to show fundamental changes in the demographic structure of population in Northeastern Montenegro and to analyze the tendencies of social and economic development factors. The purpose of the research is to determine how much analyzed and displayed differentiated processes of social and economic development, an overall factor of disturbance of social and economic development of the observed periodically.

MATERIALS AND METHODS

The core of the methodological procedure used in this study makes the geographic (spatial) method which included the Northeastern region of Montenegro, whose composition includes municipalities: Berane, Andrijevisa and Plav. To collect data related to basic demographic and geographic factors of development, researchers used the statistical method. Comparative method allowed us to social development factors Northeastern Montenegro look through the comparison of the population of the municipality: Berane, Andrijevisa and Plav. Permeated through the entire text of the method and integrity, thanks to which we were able to identify, define and assess

possible limitations of demographic and economic development. The scientific explanation of terms by two methods as follows: Analytical and synthetic. Analytical methods were considered certain demographic and economic dimensions of the research topic. Since, research has essentially synthetic character, the results published in the international literature. Among them, this opportunity to emphasize this by Erlandsen and Nymoer (2008), Risman (2004), Wendy and Carter (1999) and Thakur (2011).

RESULTS AND DISCUSSION

Changes in demographic structure of population:

Demographic structures express different quantitative and qualitative characteristics, such as age, gender, activity, education, nationality, religion. Structural characteristics of the population of the Northeastern part of Montenegro are characterized by significant changes in the second half of the 20th and early 21st century which reflect changes in the economy and society. The biological structure of the population (age and sex) is important for current and future demographic and economic development of the region because they derive from it key contingents of the population, both for biological reproduction and for the formation of working contingent.

Changes in the age structure of population: Population age structure of the considered area, due to migration and reducing birth rates will change and take on unfavorable characteristics-reduced the proportion of younger and increases the proportion of elderly people. In both cases, the age structure of a disturbed feedback of the movement of the population (the size of reproductive contingent) but also to all other population structure (size of contingent

employment, population, mandatory school contingent, relationship maintenance) which are essential for the development of population and economic activity in the region.

State and changes in age structure data illustrate the degree of participation of certain age groups in the population. Comparing the age structure of population 1961 and 2003, reveals the changes and development of an asymmetric age pyramid. Great sex-age imbalance in groups secondary eternal older and older population (Table 1), the effects of the 1st and 2nd world war and emigration (especially male) population in the postwar period. There is a significant decrease group of 15-19 years of age due to lower birth rates in wartime 1940-45. Higher share of age group of 0-4, 5-9 and 10-14 years is the result of the increased birth rate in the period after world war II. According to the census of 2003 are due to decreased fertility in the last decade of narrowing the base of the age structure. Note the lack of children <5 years than in the group of 10-14 years. According to the age, the population can be divided in young (0-19 years), middle-younger (20-39 years), middle-elderly (40-59 years) and old (60 years and over). In this region of Montenegro, there is a small proportion of the young generation which in the period 1961-2003, down from 49.18-31.0%. A greater share of generation in relation to 2003, the result is a more natural growth. Participation generation of 20-39 years in the same period slightly increased from 27.89-27.91%. The share of older generations recorded an increase by a group of 40-59 years increased from 14.20-22.68% and a group of over 60 years with 8.73-18.41% (Table 2). In the group of 60-64 years, the population increased from 1802 or 2.86% to 2657 or 4.86% and >65 years of 3696 and 5.87% in 7431 and 13.60% (Table 1).

Table 1: Age structure of population according to census region 1961 and 2003

Age groups	1961		2003							
	Total		Total		Berane		Andrijevica		Plav	
	Number	%	Number	%	Number	%	Number	%	Number	%
0-4	9,554	15.17	3,809	6.97	2,371	6.76	382	6.60	1,056	7.65
5-9	8,417	13.36	4,137	7.57	2,657	7.58	318	5.50	1,162	8.42
10-14	7,460	11.84	4,388	8.03	2,722	7.76	395	6.83	1,271	9.21
15-19	5,549	8.81	4,607	8.43	2,843	8.11	437	7.55	1,327	9.61
20-24	5,940	9.43	4,352	7.96	2,882	8.22	432	7.47	1,038	7.52
25-29	4,527	7.19	3,826	7.00	2,564	7.31	376	6.50	886	6.42
30-34	4,199	6.67	3,477	6.36	2,344	6.68	342	5.91	791	5.73
35-39	2,896	4.60	3,602	6.59	2,370	6.76	374	6.46	858	6.22
40-44	2,315	3.67	3,730	6.83	2,383	6.74	400	6.91	947	6.86
45-49	2,453	3.90	3,476	6.36	2,215	6.32	403	6.97	858	6.22
50-54	2,332	3.70	3,009	5.50	2,013	5.74	340	5.88	656	4.75
55-59	1,845	2.93	2,155	3.94	1,405	4.01	211	3.65	539	3.90
60-64	1,802	2.86	2,657	4.86	1,767	5.04	314	5.43	576	4.17
65+	3,696	5.87	7,431	13.60	4,532	12.92	1,061	18.34	1,840	13.32
Total	62,985	100.00	54,656	100.00	35,064	100.00	5,785	100.00	13,805	100.00

Statistical Office of Montenegro, Census of population

Table 2: Concise classification of the population of the region 1961 and 2003

Years	Age groups							
	0-19		20-39		40-59		60 and over	
	Total	%	Total	%	Total	%	Total	%
1961	30,980	49.19	17,562	27.88	8,945	14.20	5,498	8.73
2003	16,941	31.00	15,257	27.91	12,397	22.68	10,088	18.41

Table 3: Gender and age structure of population by age group per 2003 census

Geo-space	Total	0-14		15-19		20-39		40-59		60 and over	
		M	W	M	W	M	W	M	W	M	W
Berane	35,068	4,029	3,721	1,424	1,419	5,279	4,881	4,053	3,963	2,760	3,539
Andrijevic	5,785	559	536	235	202	853	671	719	635	575	800
Plav	13,805	1,784	1,705	703	624	1,744	1,832	1,533	1,431	1,090	1,359
Region	54,658	6,372	5,962	2,362	2,245	7,876	7,384	6,305	6,029	4,425	5,698

Table 4: The index of aging and the proportion of large age groups in the municipalities of Berane, Andrijevic and Plav 1961 and 2003

Municipalities	Age groups								Index of aging
	0-19		20-60		60 and over				
	Number	%	Number	%	Number	%			
1961									
Berane and Andrijevic	21,128	47.93	19,095	43.32	3,857	8.75			0.18
Plav	9,852	52.09	7,435	39.31	1,685	8.60			0.16
2003									
Berane	10,593	30.21	18,176	51.83	6,299	17.96			0.59
Andrijevic	1,532	26.48	2,878	49.75	1,375	23.77			0.89
Plav	4,816	34.88	6,573	47.61	2,416	17.51			0.50

Statistical Office of Montenegro, Census of population

Young people are considered in which the age group of 0-19 years accounted for >35% and the old one in which a group of 60 years and over accounts for >12% of the population. According to this classification, the studied population of geo-space 1961 was young and the 2003 notes aging. In the period 1961-2003, the share of older population has increased from 8.73-18.46%, a decrease of young 49.18-31.0% (Table 3). If researchers consider that the population aged 0-14 years, young, mature and 15-65 and over 65 years old then in this part of Northeastern Montenegro in 2003, the young population occurred 22.57%, 63.83% mature old and 13.60%.

Coefficient of aging, it is the proportion of persons aged 60 years and over in the total population of the region has increased from 8.73% in 1961 year to 18.41% in 2003. A high proportion of the population >60 years and over in the total population of the region in 2003 and had a single Municipality Berane 17.95%, Andrijevic 23.77% and Municipality Plav 17.74%. The aging index indicates the proportion of the population aged 60 and over, according to the population under 20 years of age. If its value is <0.40, the population is still young and if it is >0.40, the population is showing signs of aging. Aging index of the region in 1961 was 0.17; in 2003, 0.59. Therefore, the population of the region is in the process of demographic aging which manifests itself increase the

percentage of aged and senior secondary eternal at the expense of the young as shown in the accompanying Table 4.

A brief analysis of are exact data of the population age structure in Northeastern Montenegro, just to point out the differences in the age structure of the population in the municipalities, respectively. The changes are reflected primarily in the declining share of young population (0-19 years) in the total population. In the municipalities of Berane and Andrijevic, the share of young population declined in the period 1961-2003 from 47.93-30.21% in Berane or 26.48% in the Municipality Andrijevic. At the same time in the Municipality of Plav in the same period, the share of young population (0-19 years) decreased from 52.09-34.88%. These data indicate that of Berane, Andrijevic and Plav are unable to keep a young population which is certainly a poorly developed economy. The share of elderly population (>60) of the total population in the municipalities of Berane and Andrijevic increased in the period 1961-2003 to 8.75% and Plav to 8.60-17.96% in Berane, 23.77% in Andrijevic and 17.51% in Plav. This finding confirms the index is obtained which in 1961 amounted to municipalities Berane and Andrijevic 0.18-0.16 Plav in 2003, 0.59 Berane to 0.89 Andrijevic and 0.59 in Plav. The share of secondary eternal population (20-60 years) has

increased in the period 1961-2003 to 43.32% in the municipalities of Bar and Andrijevica and 39.31% in Plav Municipality to 51.83% in Berane, 49.75% in Andrijevica and 47.61% in Plav Municipality (Table 4).

Quotas are established on the basis of classification of the population by age group. Along with these changes in population from 1961-2003, researchers changed the stakes of different contingents in the total population. Preschool and school contingent seems young people under 18. Given that researchers do not have statistical data on contingent (0-6 years) and (7-14), researchers will give data for the age group of 0-5 and 5-14 years. According to statistics from the census of 2003, a contingent of 0-5 years has 3809 children, 12334 children 0-14 and 15-19 years those with high school graduates 4,607. The contingent from 0-14 years decreased during the period 1961-2003 from 25431-12334 inhabitants (Table 4).

Labor force (15-64 years) increased from 33858 or 53.75% of the total population of the region, the 34891 or 63.84%. This change is significant because of the recruiting contingent labor as a carrier's overall development. Male labor force population (15-64 years) accounted for 18883 in 2003 or 34.54% of the total population or 69.07% of the total male population. Female labor force population (15-59 years) accounted for 15658 or 30.48% of the total population or 57.33% of the total female population.

The before mentioned characteristics of the population of the Northeastern part of Montenegro are largely influenced by migration flows. The rural settlement areas considered emigration, emigration of labor and fertile contingent narrow the younger age groups, reducing the birth rate in this respect and slow down the influx of new generations of working contingent. For the possibility of demographic sustainability is an important relationship between the population in the fertile, fertile and post childbirth. Since, the above mentioned characteristics of the process of population decline in the region may provide further reduction the fertile and fertile groups as well as an increase in fertile post age groups. At this point, researchers want to emphasize that and accept the opinion that the age structure, the intensity, shape and direction is determined, the general structure of human activity, reflecting the degree of development of the economy.

Policy of economic development of the Northeastern part of Montenegro as indeed in all of former Yugoslavia after the 2nd world war was directed towards strengthening the secondary and tertiary activities. This allowed the creation of new jobs in predominantly non-agricultural secondary activities, mostly in industrial companies. Industry is not only employed surplus labor from agriculture (in 1948 the region was 66.66% rural population) but it attracted a work force and the advanced

industrial centers of the former Yugoslavia. This is a classic example that in fact many invisible workforces that has been insufficiently or only a few employees in agriculture, rapid development and large industries at the outset of this development and went to activate it (Jacimovic, 1983). Foregoing analysis suggests that the motives of leaving agriculture were multiple. Researchers will be in the opinion, reduced to one essential:

Supply with conditions for non-agricultural production in which it could achieve more productive work and therefore higher and more stable income. Whether it is a labor intensive or economic activity, society, nature, within the limits of their capabilities shall provide the means of production and other conditions that allow the employee's permanent employment of labor for which such opportunities at the individual agricultural land in this part of Northeastern Montenegro in most cases it was no.

Existential security which stems from the high degree of certainty that the inclusion of non-agricultural activities outside the region, generates income-means for existence. In agricultural production on an individual property in the region which is still subject influence of external factors, there is uncertainty, both in terms of achieving yields of certain crops and the price at which to sell their products, all of which leads to considerable fluctuations in the amount of the income. Therefore, there is fear in ensuring the safety of the material conditions for maintaining its own existence.

Engaging in employment in non-agricultural activities the individual farmer on that basis is entitled to health care (yourself and your family) and the conditions for a pension which is an important element of social security and general conditions of life in the city provide far greater opportunities for education and a cultured life, full-service health care and other benefits that the city has in relation to the village which is an important motive for migration or emigration, especially of young people.

Based on the foregoing, it was concluded that the economic measures too late. Beginning of the 70' of the 20th century was a watershed moment. That in this period to start with small businesses, build roads faster electrification of rural villages, now considered the space, you may not be offered the typical image of a good part of the region of the country which is treated and considered underdeveloped.

Changes genders structure: Gender structure represents the share of male and female population in the total population. In the Northeastern part of Montenegro for example, municipalities Berane, Andrijevica and Plav, there is a phenomenon that is more female than male population (1961) or more male than female population (2003). Gender balance in the population structure was disrupted in the 1st and 2nd world war and the

consequences more noticed in earlier censuses. According to the census in 1961 in limited geographic space have been a mild balancing male and female population with 49.44% male and 50.56% female population. Share of male population in the period 1961-2003 has increased from 49.44-50.02% and female decreased from 50.56-49.98%. These average values will be different, especially if seen by municipalities. In Berane and Andrijevica are much greater differences between male and female population and the greater the imbalance between them and greatly enlarged in 2003. Then it was 50.03% male and 49.97% of female population in the Municipality of Berane, 43.07% male and 56.93% women in the Municipality Andrijevica to 48.87% males and 51.13% women in 1961 (Table 5).

Numerical tendency of equalization of male and female population are observed in the Municipality of Plav. In 1961, it was almost a gender balance 50.77% males and 49.23% women in 2003 researchers have a slight preponderance of women from 50.35-49.65% of men.

Masculinity rate shows the number of men per 1,000 women. According to the census of 2003 the rate of masculinity in the region amounted to 1000.8%, considerably <977.92% in 1961. In the municipalities, Berane and Andrijevica masculinity rate in 1961 were 955.80 and in 2003 ranged from 1001.2% in Berane to 1034.1% in the Municipality Andrijevica while in the same period in the Municipality of Plav decreased from 986.0-1031.47%.

The age-sex structure of the 2003 census in the region, the apparent higher proportion of male population and 39 years of age while in others greater participation of women. In the age groups of the population, the group of

0-14 years accounted for 11.66 and 10.91% male female population, 15-19 years, 4.32 and 4.11% male and female, 20-39 years 14.41% male and 13.51% female, 40-64, 13.73% male and 13.80% female and ≥65 years, 5.84 and 7.71% male female population. The Municipality Andrijevica larger share of the male population and 64 years of age in the total population, Municipality Berane of up to 40 years of age whereas in Plav, greater participation of the male population aged 20 and in the age group of 40-64 years, men have nearly equal and female population (Table 6).

Rate femininity shows the total number of women per 1000 men. Femininity rate ranged from 1046.24 in the municipalities of Berane and Andrijevica and 969.48 in the Municipality of Plav in 1961, to 967.0 in the Municipality Andrijevica, in Municipality Berane 998.7 and 1014.1 and the Municipality of Plav in 2003 year. At the level of femininity region rate was 1022, 57-1961 and 999.2-2003. Thus, higher rates of femininity have Plav Municipality but municipalities Berane and Andrijevica. This may be due to migration of male or female immigration population. Given, the more narrow confines of economic development, employment of female labor force in the region goes far slower than men because of the structure of economic activity which requires more male labor force. Taking for example in the region, there are favorable conditions for the development of the textile industry and handicrafts which were engaged to a female work force, this production could have a significant impact on increasing employment of women. Engaging female labor force in the economy of the region would have more supplementary character which would provide the security of existence women both in society and in the family.

Table 5: Population by sex 1961 and 2003

Geo-space	Total	Men		Women		Rate masculinity	Rate femininity
		No.	%	No.	%		
1961							
Berane and Andrijevica	44,072	21,538	48.87	22,534	51.13	955.80	1046.24
Plav	18,913	9,603	50.77	9,310	49.23	1031.47	969.48
Region	62,985	31,141	49.44	31,844	50.56	977.92	1022.57
2003							
Berane	35,068	17,545	50.03	17,523	49.97	1001.20	998.70
Andrijevica	5,785	2,941	43.07	2,884	56.93	1034.10	967.00
Plav	13,805	6,854	49.65	6,951	50.35	986.00	1014.10
Region	54,658	27,340	50.02	27,358	49.98	1000.80	992.20

Table 6: Age-sex structure of population by age group (%) 2003

Geo-space	By age groups in gender (Total population, %)									
	0-14		15-19		20-39		40-64		65 and over	
	M	W	M	W	M	W	M	W	M	W
Berane	11.49	10.61	4.06	4.05	15.05	13.92	13.79	14.11	5.64	7.28
Andrijevica	9.66	9.27	4.06	3.49	14.75	11.60	15.06	13.78	7.31	11.03
Plav	12.92	12.35	5.09	4.52	12.63	13.27	13.03	13.03	5.73	7.43
Region	11.66	10.91	4.32	4.11	14.41	13.51	13.73	13.80	5.84	7.71

Statistical Office of Montenegro, Census of population

Changes educational structure of population: The factor that may affect the development of population, educational characteristics is also important. Considering the educational characteristics of the population in addition to the independent value of this factor is can point to the impact they have on economic development (Milic, 1980).

The transformation of the observed geographic space in between 1961-2003 is also reflected in changes in the educational structure of population. The influence of cultural and educational level of the population is held directly and indirectly to economic development through the quality of work, adoption of innovations, changes in lifestyle. The educational structure is an important indicator of the quality of the human factor and this is an important feature may be explained by other causes and characteristics of phenomena.

Literacy is one of the main indicators of the educational structure of population. According to the census of 1961, it was the municipalities Berane and Andrijevica 15.86% in the Municipality of Plav 22.52 and 17.86% in the region of the illiterate population, aged over 10 years. It should be noted that education was included mainly men while the female population was literate individual. Of the total illiterate population in 1961 was in the municipalities of Berane and Andrijevica 76.76% in the Municipality of Plav 72.56 and 77.03% in the region of women in relation to the total population, aged over 10 years. From 1961-2003, the illiteracy rate has decreased in Berane at 1.83%, the Municipality Andrijevica to 2.99% in the Municipality of Plav to 4.96%, respectively in the region of 2.74%. Of the total number of illiterate women in the region accounted for 85.05%. In this period, there was a rapid industrial development of the region and such proportions, acknowledges the influence of patriarchal elements of society and the neglect of education for female students.

Comparing the age structure of the illiterate population in the municipalities in the region 1961 and in 2003, it can be concluded that the shares of a young illiterate population (10-19 years), the total illiterate population increased in the municipalities of Berane and Andrijevica the period 1961-2003 to 4.00% (male 7.55%, female 3.10%) to 4.06% (male 15.46%, female 2.02%) or in Berane (1.73% male, 2.05% female) in the Municipality Andrijevica 5.52% (5.56% male, 5.49% female) in the Municipality of Plav with 5.52% (male 5.56%, female 5.49%) to 1.90% (6% of male, female 1.20%). Shares of the illiterate population (20-34 years) in the period 1961-2003 were reduced in the municipalities of Berane and Andrijevica with 14.09% (male 7.63%, female 15.73%) to 5.63% (12.37% male, women 4.42%) and in Berane 2.89% (7.41% male, 2.05% female) in the Municipality Andrijevica 22.70% (male 11.89%, female 26.78%) in Plav with 22.70% (male 11.89%, female 26.78%) to 2.92% (male 5%, female 2.56%). Shares of the illiterate population (35-64 years) in the period 1961-2003 were reduced in the municipalities of Berane and Andrijevica with 57.84% (male 45.48%, female 59.19%) at 17.81% (male 28.87%, female 15.84%), respectively in the Municipality Berane 14.5% (male 62.96%, female 5.48%) in the Municipality of Andrijevica with 52.63% (male 52.43%, female 52.71%) and the Municipality of Plav with 52.63% (52.43% male, 52.71% female) to 24.82% (male 24%, female 24.96%). Shares of the illiterate population (≥ 65) in the period 1961-2003 increased in Berane and Andrijevica with 24.07% (39.33% male, female 21.98%) to 72.5% in Berane (43.30% male, female 77.72%) and 80.88% in the Municipality Andrijevica (male 29.63%, female 90.41%) in the Municipality of Plav with 19.15% (30.12% male, female 15.02%) to 70.36% (male 65%, female 71.28%) (Table 7). The above analysis shows that in the age structure of the illiterate population, mainly elderly people prevails,

Table 7: Illiterate population aged 10 and over by age and sex (1961 and 2003)

Areas	Variables	Total	10-19	%	20-34	%	35-64	%	≥ 65 and unknown	%
1961										
Berane Andrijevica	Total	6,995	280	4.00	986	14.09	4,046	57.84	1,683	24.07
	M	1,416	107	7.55	109	7.63	643	45.48	557	39.33
	W	5,579	173	3.10	878	15.73	3,302	59.19	226	21.98
Plav	Total	4,260	235	5.52	967	22.70	2,242	52.63	816	19.15
	M	1,169	65	5.56	139	11.89	613	52.43	352	30.12
	W	3,091	170	5.49	828	26.78	1,629	52.71	464	15.02
Region	Total	11,255	515	4.57	1,953	17.36	6,288	55.86	2,499	22.21
	M	2,585	172	6.66	247	9.56	1,257	48.62	909	35.16
	W	8,670	3243	2.80	1,706	19.68	5,031	58.02	1,590	19.50
2003										
Berane	Total	640	26	4.06	36	5.63	114	17.81	464	72.5
	M	97	15	15.46	12	12.37	28	28.87	42	43.30
	W	543	11	2.02	24	4.42	86	15.84	422	77.72
Andrijevica	Total	173	3	1.73	5	2.89	25	14.50	140	80.88
	M	27	-	-	2	7.41	17	62.96	8	29.63
	W	146	3	2.05	3	2.05	8	5.49	132	90.41

Table 7: Continue

Geo-space	Variables	Total	10-19	%	20-34	%	35-64	%	≥65 and unknown	%
Plav	Total	685	13	1,90	20	2,92	170	24.82	482	70.36
	M	100	6	6	5	5	24	24.00	65	65.00
	W	585	7	1,20	15	2,56	146	24.96	417	71.28
Region	Total	1,498	42	2,80	61	4,07	309	20.63	1,086	72.50
	M	224	21	9,38	19	8,48	69	30.80	115	51.34
	W	1,274	21	1,65	42	3,30	240	18.84	971	76.21

Table 8: Structure of population by educational attainment in 1961 and 2003 (Population aged ≥15)

Geo-space	No school		Incomplete primary education		Primary education		Secondary education		College education		Higher education		Unknown	
	No school	%	%	%	%	%	%	%	%	%	%	%	%	%
1961														
Berane and Andrijevisa	11,422	35.68	15,740	49.17	2,708	8.46	1,816	5.67	117	0.37	194	0.61	17	0.05
Plav	6,332	47.62	5,860	44.07	699	5.26	334	2.51	30	0.23	33	0.25	9	0.05
Region	17,744	39.17	21,600	47.68	3,407	7.52	2,150	4.75	147	0.32	227	0.50	26	0.06
2003														
Berane	1,070	3.92	3,171	11.61	7,837	28.69	12,062	44.15	1,137	4.16	1,511	5.53	530	1.94
Andrijevisa	313	6.69	614	13.12	1,367	29.21	1,941	41.47	190	4.06	145	3.10	110	2.35
Plav	862	8.36	1,902	18.44	3,080	29.86	3,384	32.80	307	2.98	497	4.82	284	2.75
Region	2,245	5.31	5,687	13.44	12,284	29.03	17,387	41.09	1,634	3.86	2,153	5.09	924	2.18

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there is an urgent need for comprehensive scientific and social insight and guidance for their future. However to determine the optimal structure of illiteracy, lack the range of relevant statistical data, such as the structure of illiteracy from 35-49 years, age and educational structure of the active agricultural population, productive work and the like. Bearing in mind that generally comes to an illiterate farming population in rural areas of the considered area, it is not possible to significantly increase agricultural production and application of modern agricultural and agro amelioration measures. Thus, lack of working-age population and a lack of agricultural labor and the educational ability of those who remain in rural areas are important demographic characteristics of the agricultural population in the Northeastern part of Montenegro. In terms of modern economic stagnation, rising unemployment and falling living standards of quality, development of clear and precise economic development projects, it seems more certain than before. Educational attainment is another important indicator of the educational structure of population which is also unfavorable. Although, positive changes are evident in the period 1961-2003, given that the proportion of people without educational qualifications in the region decreased from 39.16-5.31% with incomplete primary education from 47.69-13.44%, however formal education is required height. According to the census of 2003 with no educational qualifications was 2245 or 5.31% of total population aged 15 and over, incomplete primary education had a 5687 or 13.44% of the population. Completed a full primary school was 12284 or 29.03% of the population with secondary education were 17387 or

41.09% with higher education 1634 or 3.86% and a high 2153 or 5.09% of the population aged 15 and over (Table 8).

In the period 1961-2003, there were significant changes in the structure of the population by educational attainment by municipalities. The ratio for 1961 is as follows: Municipal Berane and Andrijevisa, no school 11 422 or 35.69%, incomplete primary education 15,740 or 49.15%, primary education 2,807 or 8.46%, secondary education, 1816 or 5.67%, more 117 or 0.37% higher and 194 or 0.61% of total population. That same year, 1961 in the Municipality of Plav, the majority of the population without any qualifications or 6332 was 47.62%, followed by incomplete primary education 5860 or 44.08%, primary education 699 or 5.26%, mean 334 or 2.51%, over 30 or 0.23% and 0.24 or higher 33% of the total population.

According to data for 2003 in Berane, no school was 1,070 or 3.92%, incomplete primary education had a 3171 or 11.61%, primary education 7837 or 28.69%, secondary education or 41.15 or 12,062% more 1,137 or 4.16% higher and 1,511 or 5.53% of total population aged ≥15. The Municipality Andrijevisa, no school was 313 or 6.69%, incomplete primary education had 614 or 13.12%, primary education 1367 or 29.21%, 1941 central or 41.47%, over 190 or 4, 06% higher and 145 or 3.10% of total population aged 15 and over. Data for the Municipality of Plav look like this: No school has 862 or 8.36% with incomplete primary education 1902 or 18.43%, from primary school 3080 or 29.86%, secondary education, 3384 or 32.80% or 307 higher 2.98% and a high 497 or 4.82% of the total population aged 15 and over.

This educational structure is unfavorable for any modernization of the economy in the region. Her eases and overcome the requirement for rehabilitation and sustainable development. Based on these data, it is no reflection of the weak interest of the population of the Northeastern part of Montenegro to be educated or to educate their children. The cause of the relatively small number of people with higher education is certainly in poor material resources but the fact that much after completing secondary education, leaving the region due to the inability to be employed in it.

Changes economic structure: The economic structure of the population shows a significant change in social and economic life of the region. Examines a number of ways are through the proportion of agricultural and non agricultural, active and dependent, active population by activity.

Agricultural and non-agricultural population in proportion to each other indicates the level of land reclamation. The share of agriculture in total in the region during the period 1961-2003 was reduced by 36,799 or 58.42% in 4975 or 9.10%. In the same period, non-agricultural population has increased from 26,194 or 41.58% or the 49,683 or 90.90%. Hence, it was the development of industry and other economic activities facilitate the transfer of labor and urbanization. Non-agricultural population of the municipalities Berane and Andrijevica participated with 46.21% (30,369), the Municipality Plav 30.80% (5825) in 1961, at 93.12% (32,655) in Berane, 91.62% (5300) Municipality Andrijevica, 84.95% (11,728) in the Municipality of Plav-2003. Most of the agricultural population in total had 69, 20% of municipalities Plav in 1961, 15.05% in 2003. In the same period of Berane and Andrijevica had a lower proportion of agricultural population of 53.79 and 8.38% Andrijevica municipalities and municipalities Berane 6.88%. The population is increasingly exceeded the non-agricultural occupations, socio-economic exceeded is a traditional agricultural area has changed, especially

along the main traffic routes (Greic, 1994). In Table 9 not enter data for 2003, relating to the work-people staying abroad up to 1 year: Municipalities Andrijevica 21 people or 0.36% of total population, the Municipality Berane 106 or 0.30% or 109 municipalities Plav 0.79%, respectively for the region of 236 or 0.43%. Statistics does not provide information on persons working abroad up to 1 year in the census of 1961.

According to the socio-economic factors of the population is divided into three groups: The active population, persons with personal income and dependents. According to census figures 1961 and in 2003, there have been significant changes in population structure towards these groups. Active population in a given period was increased to 1.443 persons. The movement of population varies by Municipality in Berane and Andrijevica increased by 2.132 persons and the Plav declined by 689 persons.

Consider some indicators of economic activity of the population, the degree of utilization of contingent work, the overall activity rate and the coefficient of economic dependence. They give a realistic picture of actual economic activity of population.

The degree of utilization of contingent work shows the relationship of demographic potential that is active and working age population. It is calculated as $R_k = (R_a:Pr) \times 100$ where R_a -active male (15-64 years) and/or female (15-59 years) population, Pr -male and or female total population of the same age (contingent work). The indicator for the region is 42.11% male, 23.40%, 23.40% female and the Municipality Berane 42.73% male and 25.63% female in the Municipality Andrijevica 45.84% male, 25.66% female and 82.87% for the Municipality of Plav 38.72% male and 16.65% female (Table 10).

The general rate of activity shows the number of active per 100 inhabitants. Calculated as $R_a = (R_a R) \times 100$, where R_a total active population, R -a total population of the region. For the region, it was 33,34%. The general rate of activity of the male population (the total male) was 42.11% and female (in the overall female) 23.40%.

Table 9: Socio-economic structure of the population 1961 and 2003

Geo-spacer	Total	Agricultural		Non-agricultural		Actively		Supported = dependent		With personal income	
		Number	%	Number	%	Number	%	Number	%	Number	%
1961											
Berane and Andrijevica	44,080	23,711	53.79	30,369	46.21	13,635	30.93	29,059	65.92	1,386	31.50
Plav	18,913	13,088	69.20	5,825	30.80	5,250	27.76	13,069	69.10	594	3.14
Region	62,993	36,799	58.42	26,194	41.58	18,885	29.98	42,128	66.88	1,980	3.14
2003											
Berane	35,068	2,413	6.88	32,655	93.12	13,477	38.35	15,591	44.46	5,924	16.89
Andrijevica	5,785	485	8.38	5,300	91.62	2,320	40.10	2,365	40.88	1,079	18.65
Plav	13,805	2,077	15.05	11,728	84.95	4,561	33.04	7,249	52.51	1,886	13.66
Region	54,658	4,975	9.10	49,683	90.90	20,358	37.19	25,205	46.11	8,889	16.26

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Table 10: Labor force population by sex 2003

Geo-space	Working age			Share of contingent labor in the total population			Active population performing occupation			Utilization of contingent work		
	Total	M (15-64)	W (15-59)	Total	M	W	Total	M	W	Total	M	W
Berane	21,801	11,538	10,263	62,17	32,90	29,27	7,560	4,930	2,630	34,68	42,73	25,63
Andrijevisa	3,467	1,959	1,508	59,33	33,86	26,07	1,258	898	387	36,28	45,84	25,66
Plav	8,133	4,246	3,887	58,91	30,76	28,16	2,291	1,644	647	28,17	38,72	16,65
Region	33,401	17,743	15,658	61,11	32,46	28,65	11,136	7,472	3,664	33,34	42,11	23,40

Table 11: Active population by type of activity in the region 1961 and 2003

Activities	1961		2003		Index 2003/61
	Number	%	Number	%	
Agriculture	12,596	66.69	1,568	14.08	12,45
Industry and mining	997	5.29	2,045	18.36	205,10
Construction	1,297	6.87	286	2.57	22,05
Traffic	250	1.32	664	5.96	265,60
Trade and catering	416	2.20	1,591	14.29	382,50
Health care	429	2.28	830	7.45	193,50
Social services	1,449	7.67	2,829	25.41	195,20
Outside activities and unknown	1,451	7.68	1,323	11.88	91,18
Only the active total	18,885	100.00	11,136	100.00	58,97

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Economic dependency ratio represents the ratio of dependents and persons with personal income, according to the active population. It is obtained by the formula $F_c = (P_i + P_1) : R_a$ where P_i -dependent population, P_1 -persons with personal income. At 100 active people in 1961 are 233.6 came dependents and persons with personal income and 167.7 in 2003.

Dependants decreased in the period 1961-2003 from 42,128-25,205. The share of dependent population in the region dropped from 66.88-46.11%. Number of dependents per 100 populations has decreased over the same period from 223-124. The number is 2003 in Berane was 116 in the Municipality Andrijevisa 102, 159 and Plav. Dependent population decline is due to aging is the decline in the share of young population and an increase in persons with personal income. Persons with personal income numbers are increased in the period 1961-2003 from 1980 to 8889. Share in municipalities Berane and Andrijevisa increased from 1.386-5.924 in Berane or the Municipality in 1079 Andrijevisa and the Municipality of Plav with 594 in 1886.

In the period 1961-2003, there were significant changes in population structure by sectors. They are primarily a reflection of the development industry. The number of active persons in the region increased from 18,885-20,328 or reduced if the active population is considered as a population are carried out and to interest people in 7,749.

Agriculture is dominated in 1961 and was absorbed 66.69% of active population. However, the share of active population in 2003 dropped to 14.08% (Table 11). The secondary sector activities, viewed individually are quite uneven. Of all secondary activities was had the most

intensive development industry. It is evident that there are differences in degree of development of the industry and its geographical deployed. The highest concentration of industrial facilities located in Berane. On the other hand, municipalities are located in the mountainous part of the region (Andrijevisa and Plav), one can freely say are in the initial stage of industrial development which obviously has a major impact on their overall development. However, as the construction of industrial facilities related to the urban areas, many villages in their catchment area, particularly those located further away from them and are poorly connected to transport them were beyond the scope of the impact of industry on their transformation in the socio-economically significant settlement. From the division of population by type of activity that we are actively employed population in construction decreased from 6.87% in 1961 to 2.57% in 2003. The general socio-economic development of the complex has a direct bearing on the level of development of tertiary activities. Thus, the share of population increase in traffic during the period 1961-2003 to 1.32% at 5.96% while the retail and hospitality with 2.20-14.29%. According to given data shows increase in population in the social services sector with 7.67% (1961) to 25.41% (2003) as a result of the increase in employment. The number of employees in the cultural and educational, health sector and the result is a polycentric network of education and health. The high position given these contingent teachers (teachers) who perform professional duties in rural areas and this entails an increase of administrative workers and other non-economic activities. The economic structure of the population of the region by sector and business groups shows that in 1961 had

predominantly agrarian characteristics. In the primary sector, activities in relation to the total active was 66.69% of active population. The economic development due to industrialization and urbanization has been accompanied by abandonment of agriculture and the transfer of non-agricultural activities (Rudic, 1973). Since 1961 by 2003, the share of working population works in the primary sector decreased from 66.69-13.78% and in the secondary sector increased from 14.42-27.80% and the tertiary sector from 3.54-19.83%. Noticeably increase the population in the social services sector with 7.67% at 25.40% as in activities outside the sector and the unknown where the share of population increased from 7.68-11.63%. The number of 236 persons working abroad just says, if it once was synonymous diasporas pain and suffering and hard-won earnings in difficult conditions far from his home, now is the kind of return with the possibility of expression of personal freedom in the choice of dealing with the selection types of occupations (Table 12).

Previous analyzes indicate a low level of development of productive forces in the region. If the economic development strategy set so that agriculture, regardless of more or less giving some branches the primary task and activity of the considered space then the goal and the end result can be expected:

- Higher level of food production (and to so-called healthy foods, given the natural conditions in which it is produced)
- Increase in employment (that is regardless of the number of actively employed people lack one of the main causes pronounced emigration)
- Achieving higher levels of income for most people (because the municipality would broaden the income tax provision of the state but from the own production)
- Development of other sectors of the economy (agriculture related and derived from its results but also from other resources, municipalities, such as light manufacturing, small business and tourism)

Table 12: Structure of population groups and sectors of activity in the region 1961 and 2003

Sectors and groups of activities	1961		2003	
	No.	%	No.	%
Only the active total	18,885	100.00	11,372	100.00
The primary	12,596	66.70	1,568	13.78
Secondary	2,723	14.42	3,161	27.80
Tertiary	666	3.53	2,255	19.83
Outside activities and unknown	1,451	7.68	1,323	11.63
Social services	1,449	7.67	2,829	22.88
Working abroad-room up to 1 year	-	-	236	2.08

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Such a set course of economic development and requires initial inputs and financial inputs. This requires coordination of actions which could carry an independent organization which is able to identify and solve economic and social development issues in the region. Such an organization could be called the institutional framework of commercialization of agriculture in the developing Northeastern of Montenegro. In terms of locating specific investments and setting priorities and important steps, not daring to be more important to err or any poor assessment should be kept to a minimum. New economic failures, this region could definitely send to the margins of social events. Apparently, it has been a time of great industrial enterprises when people left their farms and are employed, often by qualifications in industrial plants.

Ethnic structure of population: Despite significant changes in all demographic structures as well as geographic distribution of population, Northeastern Montenegro in the example of the Municipality Berane, Andrijevica and Plav retained characteristics ethnically very heterogeneous environment, reflecting the movement of population, degree of mobility, territorial displacement and biological mixing. The ethnic structure of the region, Serbs have the largest share (41.99%) and Montenegrins (20.43%), followed by Muslims (28.48%), Albanians (5.04%) and other (4.06%). It is interesting to point out the fact that the census of 2003 the majority of Muslims have declared themselves as Bosnia's. Declared themselves as Muslim year 2003 8 (Andrijevica municipalities), 2301 (Berane municipalities) and 788 (Municipality of Plav).

In the municipalities Berane and Andrijevica most numerous Montenegrins and Serbs but their number decreases from 31,150 (Montenegrins), 3,920 (the Serbs) 1971 at 8950 (Montenegrins), 16,309 (Serbs) in Berane or the 1454 (Montenegrins), 4027 (the Serbs) in the Municipality Andrijevica, 2003, a share in the structure of 63.12% (Montenegrins), 7.94% (Serbs) to 25.52% (Montenegrins), 46.51% (Serbs) in Berane, respectively 25.13% (Montenegrins), 69.62% (Serbs) in the Municipality Andrijevica. The number of Muslims is also reduced in Berane and with 12,362 in 1971 to 7963 in 2003 and in the structure in the same period from 25.05-22.71%. The Municipality Andrijevica 8 persons declared 2003 as the Muslims was 0.14 compared to the total population. While the share of the Albanian population is a slight decline from 0.18% (of Berane and Andrijevica) in 1971 to 0.10% in 2003 (Municipality Berane). In general, one can expect that trend to continue in the future decline of the population in the region (i.e., the Montenegrin and Serbian and Muslim populations). This is indicated by

Table 13: Ethnic composition of 1971 and 2003

Geo-space	Total	Montenegrins		Serbs		Muslims		Albanians		Other	
		Number	%	Number	%	Number	%	Number	%	Number	%
1971											
Berane i and Andrijevica	49,351	31,150	63.12	3,920	7.94	12,362	25.05	87	0.18	1,832	3.71
Plav	19,542	5,246	26.84	584	2.99	9,401	48.11	3,736	19.12	575	2.94
Region	68,893	36,396	52.83	4,504	6.54	21,763	31.59	3,823	5.55	2,407	3.49
2003											
Berane	35,068	8,950	25.52	16,309	46.51	7,963	22.71	36	0.10	1,810	5.16
Andrijevica	5,785	1,454	25.13	4,027	69.62	8	0.14	-	-	296	5.12
Plav	13,805	765	5.54	2,613	18.93	7,597	55.03	2,719	19.70	111	0.80
Region	54,658	11,169	20.43	22,949	41.99	15,568	28.48	2,755	5.04	2,217	4.06

Statistical Office of Montenegro, Census of population

data from the 2003 census by which is clearly seen population decline in the absolute amounts of the above-mentioned ethnic groups. Because of minor involvement in the ethnic structure of population of: Croats, Slovenes, Macedonians, Hungarians, Gypsies and others the number and percentage are given in the other. This was done because the 1971 total of 1832 people or 3.71% of the total municipal population of municipalities Berane and Andrijevica, in 2003. Municipality Andrijevica was 296 and Berane 1.810 persons of these nationalities. Municipality of Plav characterizes distinct ethnic features and changes. The general characteristics of development of the ethnic structure are the rapid growth of Muslim population on the one hand and significant reduction in the Montenegrin and Serbian population on the other (Table 13).

The participation of Muslims in the total municipal population has increased from 48.11% in 1971 at 55.03 to 2003 the share of the Montenegrin population in the same period reduced from 26.84-5.54%, a Serbian increases with 2.99-18.93%. This demographic trend of increasing Serbian population, it is easily explicable. Namely after the 2nd world war, there were some socio-political reasons that are members of the Serbian population identify themselves as members of Montenegro's mass and that in later censuses (2003), begin to identify themselves as members of the Serbian people.

In the Municipality of Plav, there is also a slight increase of Albanians from 19.12-19.70%. The share of other in the total population of the municipality is reduced from 2.94-0.80%. Given the existing ethnic structure in the Municipality of Plav and the differences that exist with regard to demographic trends in each ethnic group with great certainty can be said that in the future assumes further reduction of the share of the Montenegrin and Serbian populations and strengthen the numerically Muslim ethnic communities. Res still have no precise survey of many relevant features of the current settlement fund and how these settlements, particularly ethnic heterogenic should look like in the future. In addition the knowledge in the field of regional planning are modest

and the migration flows of population in this part of Northeastern Montenegro have not been explored. Large regional differences in economic development in Montenegro which existed and still exists today, nuanced and require different solutions. Requirements to reduce differences in living conditions with economic development largely based in the region.

CONCLUSION

Results of analysis of population trends in the structure Northeast Montenegro indicate the following observations:

In this region, it is noted that the share of young population (<20), the total declined from 49.18% in 1961 to 31.00% in 2003. The share of elderly population (≥60) in the same period increased from 8.73-18.41%. In the region, we can conclude that there was a slight equalization of male and female population.

Share of male population in the period 1961-2003 slightly increased from 49.44-50.02% and female decreased from 50.56-49.98%. At the disproportion of male and female population was affected by increased participation of women in the population caused by migration which is greater participation of men.

Third educational level of population indicates the degree of educational and cultural level of the population. In addition to a significant reduction of illiteracy in the period 1961-2003 gđine with 17.86- 2.74%, this problem is more acute. A significant proportion of the population without any qualifications is 5.31% or incomplete primary education is 13.44 and 29.03% of older people 15 and over has completed primary school.

The process of land reclamation has increased due to the transfer of agricultural labor into non-agricultural activities. As a result in the period 1961-2003 active agricultural population has decreased from 66.69-14.08%. In contrast to secondary sector-active population, performing occupation increased from 14.42-27.80%, 3.54% from the tertiary to 19.83%, the social services sector with 7.67-24.88%. These data indicate, what are the socio-economic changes occurring in the region.

The ethnic structure of the region, Serbs have the largest share (41.99%) and Montenegrins (20.43%), followed by Muslims (28.48%), Albanians (5.04%) and other (4.06%). It is interesting to point out the fact that the census of 2003, the majority of Muslims are declared as Bosnia's.

Analysis of trends in the structure of the population Northeastern Montenegro is characterized by increasingly unfavorable demographic processes. In this study, researchers were found negative demographic trends and economic development. Demographic aging, education and economic structure of the population are imposed as a leading contemporary demographic processes Northeastern Montenegro. The development of demographic structures are essentially marked the contemporary socio-economic processes, such as industrialization, urbanization and land reclamation. In other words, the demographic structure is a specific indicator of the trend and intensity of socio-economic processes that occur in limited geographic space. Demographic and economic reconstruction and stop the negative demographic and economic processes are imposed as a key strategic factor of development and the overall goal of social reconstruction and future economic development of Northeastern Montenegro.

Finally, the demographic-economic problems of the Northeastern part of Montenegro should be viewed realistically, without undue optimism, pessimism and even less. The process of general and qualitative transformation of the region will be relatively very slow and time consuming. So, you should work on it patiently but persistently and continuously.

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