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## SOME ECONOMIC-GEOGRAPHIC FACTORS DEVELOPMENT OF THE EXAMPLE RURAL AREAS NORTHEASTERN MONTENEGRO

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### ABSTRACT

*The paper analyzes some of the economic and geographical factors of rural settlements northeastern Montenegro. Isolated traffic and geographical position adversely affects their economic and social development. Natural characteristics of space indicate that rural economy is not in compliance with all the natural conditions. Incompatibility between the available natural and current conditions of the rural economy is determined by the overall socio-economic factors of development. The percentage decrease in rural population in the municipality of Berane period 1948-2003 amounted to - 0.22%. However, the municipalities of Andrijevisa and Plav, show significant deviations from these population dynamics. Thus the percentage decrease in population rural the same period was in the municipality Andrijevisa - 49.44%, and the municipality of Plav - 26.8%. The main characteristic of the modern development of rural settlements give industrialization and urbanization processes. Age groups, due to migration and the reduction of fertility change and take on unfavorable characteristics, reduces the proportion of younger and older increases the proportion of the population. . In both cases, the disturbed age structure has a reverse effect on the movement of the population (the size of reproductive contingent), but also to all other structures of the population (the size of contingent employment, population, compulsory school contingent, contingent dependent population ratio). Rating natural conditions aimed at separation of homogenous territorial units with some degree of benefits and limitations for certain types of economic development.*

### KEY WORDS

*Northeastern Montenegro; Geographical location; Natural features; Rural settlements; Population; Economy; Regions.*

The research presented in this paper is modern characteristics of the development of the rural population of north-eastern Montenegro, in the example of the municipality Berane, Andrijevisa and Plav. Natural indigenous strengths and extremely favorable conditions for colonization (relief and hydrographic openness and permeability, fertile land, abundant water, temperate-continental climate, diverse plant life) for centuries attracted people in the northeastern part of Montenegro. Major changes occur in the second half of the twentieth century and in accordance with the changed policy of socio-economic development, which is opposite to the traditional orientation of the population in agricultural activities, encourage the industrialization of the economy and urbanization of society. The process of land reclamation and the transfer of labor in non-agricultural activities accelerated the depopulation of rural areas.

Age groups, due to migration and reducing birth rates will change and take on unfavorable characteristics, reduces 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, compulsory school contingent relationship maintenance). Negative selection has led to a very unfavorable economic structure of the population, from the standpoint of labor and productive capacity. Moreover, these uncontrolled demographic processes are not accompanied by adequate measures other necessary changes in the rural economy, which has been shown that the qualitative properties of optimal favorable population and economic structure, now a component in guiding the trans-

formation of space, the decisive factor in the differentiation and polarization of the environment.

The aim of the research is to show fundamental changes in the total number and spatial distribution of the rural population of the municipality Berane, Andrijeвица and Plav, and analyze 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 in rural areas, constitute a factor of disturbance for its social and economic development of the studied area. Rating natural conditions (geographical zoning of rural territory) has shown that rural economies of the considered area is not in compliance with all the natural conditions, it is a conflict between the existing natural features and terrain of the contemporary rural economy, is determined by demographic and economic structure.

#### RESEARCH METHODOLOGY

The core of the methodological procedure used in this study makes the geographic (spatial) method and included the rural settlements of Berane, Andrijeвица and Plav. To collect data related to basic socio-economic factors of development, we used the statistical method. Comparative method allowed us to economic and geographical factors, factors of development; we look at the northeastern region of Montenegro. Permeated through the entire text of the method and integrity, thanks to which we were able to identify, define and assess possible limitations of the economic and geographic development. The scientific explanation of terms, by two methods: analytical and synthetic. Analytical methods are considered some of the dimensions of the research topic, a synthetic whole, the relations between the subject and suggested measures that derive there from. Since work has essentially synthetic character, the results published in the international literature. Among them this opportunity to emphasize this: Clayton, Dent and Dubois (2000), Ankre and Emmelin (2006), Janvry and Sadoulet (2007), Madu (2007), Liu (2011).

#### GEOGRAPHY POSITION

Of Berane, Andrijeвица and Plav are located in the northeastern part of Montenegro. They cover an area of 1486 km<sup>2</sup>. In this area, it is in rural areas, according to the census of 2003, lived 36 370 inhabitants, or 24.7 in / km<sup>2</sup>. The territory of the observed geographic space, is housed between the Municipality of Kolašin in the west of Podgo-

rica municipality in the southwest, the Republic of Albania to the south, the Republic of Serbia in the east and northeastern, Rožaje the east and the Municipality of Bijelo Polje in the north.

Of Berane, Andrijeвица and Plav have a complex geography that is heterogeneous in nature and with different degrees of preference for use of space. The municipalities except Berane no significant role in the structure of geo-space Montenegro. The geographical position of the Municipality Plav and Andrijeвица is peripheral in relation to the main traffic flows in Montenegro; since that is in this region do not cross the road, with bond functions in the organization of space.

Berane have the most significant traffic position, thanks to the main road. Territory of the municipality, Adriatic highway coming from Bijelo Polje, northwest of Berane through Tivran the gorge into the urban area of Bar and continue east to Rožaje. It is a broad highway of regional importance, which connects the neighboring municipality of Bijelo Polje, Berane and Rožaje and also makes way for Serbia. Wind from Ribarevine according Mojkovac and Kolašin; go to Podgorica and Montenegrin coast. Therefore, the Adriatic highway, a very important factor for current and future economic activity, the municipality. Another important road is the main road Berane - Andrijeвица - Plav, which is the territory of the Andrijeвица Most Bandović, provides over Trešnjevik, to Podgorica, and the Plav territory, Čakor over the stove. Both routes through Trešnjevik (1573 m) and Čakor (1849 m) are impassable during the winter months. Isolated traffic and geographical position adversely affects the economic development of municipalities Andrijeвица and Plav.

#### NATURAL TERRAIN CHARACTERISTICS

Natural terrain features are the basis of existence and progress of each geospatial unit. The distribution of natural resources is a measure of opportunities for the development of a specific territory. The natural resources of rural settlements of Berane, Andrijeвица and Plav challenging opportunities for understanding the development of certain economic activities, particularly agriculture, tourism and construction.

In terms of geomorphology of the territory northeastern of Montenegro's mountainous character. Height difference between the highest (Maja Kolata 2528 m) and lowest (bottom valley Berane 645 m) is 1883 m.



Figure 1 – The geographical position of the municipality Berane, Andrijevica and Plav on the map of Montenegro. Source: ([www.nasme.me](http://www.nasme.me))

So, landforms and configurations height, the slope and under the influence of different substrate properties (forests, meadows, litsolli, fields, orchards), consists of a diverse natural basis, and which may be of importance for the development of agriculture and tourism. The most prevalent and most significant geomorphologic travel motive of this part of north-eastern Montenegro, are the mountains, and tourist areas: Bjelasica, high mountain massif Komovi, Beranska spatial zones and mountain Prokletija system. Namely, the North-Eastern part of Montenegro, are mountain ridges: Prokletije (2372 m), Čakor (1,849 m), Mokra Mountains (1933 m), Cmiljevica (1963 m), Kruščica (1,192 m), Bjelasica (2122 m) and Komovi (2461 m). In the considered area there are two major valleys: Beranska and Plav-Gusinjska less: Andrijevička, Polimska and over the mountain parishes (Šekular, Large, Under Komovi, Upper Village). Mountain ranges split and cut a number of river valleys, which are deep passages their beds, building locally and make the gorge. The most important is certainly gorge Sutjeska.

Thanks to the geological structure in Berane basin contains significant reserves of brown coal and lignite (total reserves amount to 176 231 197 tons). Program development of coal production in Berane basin, would cause intense regrouping and integration of industrial companies and caused the need for capacity expansion (Beran Selo, Dolac). If we add to all this in Miocene coal series Berane basin sediments are priceless and marl reserves, which by its quality meets the requirements of the cement industry and the only reserves Jasikovac, could provide production for two hundred years, should be annually produced 80 000 tons of cement (Boričić, Lutovac, Petrić, 1967). In the vicinity of Berane and Andrijevica are ore metals: lead, zinc, copper, iron and pyrite. From non-metallic mineral deposits occur in building materials: gravel, sand and decorative stones. Numerous deposits of gravel and sand are found in the bed of the river Lim (Plav, Andrijevica, and Berane). Only in Bandović Most, the amount of gravel and sand, available for an annual extraction is estimated at approximately 100-120000 m<sup>3</sup>. Žoljevica on the hill, not far from the urban settlements Andrijevi-

ca, there is a deposit - architectural building stone. Resource estimates of gray marble B + C1 category, amount to 2.223 million m<sup>3</sup>, a reserve of white marble and gray-white belonging to C1 category is 60,000 m<sup>3</sup>. When it comes to the exploitation and processing of marble and ornamental stone, it should be noted that there are multiple sites of different architectural building stone and marble, the most significant: the site Trebačka river, Seoce, Piševska river, stream Babovo, Pčelinjak, Žoljevica ([www.andrijevisa.me](http://www.andrijevisa.me)).

Northeastern Montenegro has a moderate continental climate, with some elements of the Sub Mountain and mountain. As the measurement of meteorological elements is performed only in Berane, so on the basis of these findings are performed on the state of the climate and the municipality Andrijevisa. The mean annual air temperature ranges from 7.3°C in the blue to 8.0°C in Berane and Andrijevisa. According to a vertical gradient with the increase of altitude, mean annual air temperature is lower and amounts to 1000 m elevation 7.0°C at 1200 m above the sea level 6.4°C at 1400 m above the sea level 5.8°C, at 1600 m elevation 5.2°C at 1800 m above the sea level 4.6°C at 2000 m above the sea level 4.0°C. Absolute maximum temperature in July and is 32.6°C in Berane and Andrijevisa, respectively, 31.3°C in Plav. Absolute minimum in January and range from -19.4°C in Berane and Andrijevisa to -20.7°C in Plav. The mean annual relative humidity is 67% in Berane and Andrijevisa and 68% in Plav. Let (July and August) monthly mean relative humidity in the afternoon (14h) is below 45%, and in April below 63%. Cloudiness has an average annual value of 9.0 / 10 in Berane and Andrijevisa, and Plav 9.1 / 10 The lowest average coverage of the sky during the summer and ranges from 5.1 / 10 in Berane and Andrijevisa to 5.2 / 10 in Plav. Mean annual precipitation ranges from 863 mm in Berane, 1152 mm to 1209 mm Andrijevisa in Plav. The least amount of precipitation in July - 50 mm in Berane, 65 mm in Andrijevisa and 64 mm in the Plav. Most precipitation is related to the period from October to December and amounted to Berane of 69 mm to 75 mm, in Andrijevisa of 99 mm to 107 mm in the Plav of 119 mm to 141mm. Prevailing winds in the winter months the northwest and north, south and in other months. North and northwest winds, bringing dry and stable time, perfect for tourism during the summer and winter. Winds from the south direction are diversified in the winter, when making significant amounts of snow per year precipitation. To values of the frequency of wind direction and quiet, with the highest incidence of silence - 410 beloved put (Berane

and Andrijevisa) beloved put and 520 (Plav). The direction of the Lima valley from south to north caused the domination of northern wind Berane 140 per thousand in the southern Plav 140 parts per thousand. Strength of winds between 1.6 and 2.6 in the Plav, not a limiting factor for the development of tourism, but it can not be said of Berane, where the wind strength is between 1.9 and 3.7. (Rajović, 2010).

Hydrographic features a profile of a very diverse and important water resources, as well as natural wealth. In hydrographic terms northeastern Montenegro, belongs to the highly developed hydrographic network. In this sense, in the municipality, there are obvious power potential of the river Lim and its tributaries (Zlorečica Kraštica, River Šekular, Bistrica, Ljuča, Komarača ...). Besides these, there are numerous smaller streams, especially in rural areas: Velika, Murino, Vinicka, Dapsića, Gnjili Potok, Ulotina, Upper Luge... That elevation position of rural settlements, with valorization aspect emphasizes the importance of water management and groundwater. In other words, the use of groundwater for water supply of rural heritage is of crucial importance. Thus, from the source "Dapsićki hot" water supply rural villages Berana: Polica, Upper Budimlja, Dapsiće, Petnjik. With spring "Krkori", located in the area of rural settlements Kut (Andrijevisa) are supplied with water by urban and rural settlements Andrijevisa: Djuliće, Bojoviće, Seoce, Božiće, Prisoja, Slatina, Zabrđe and Trešnjevo. The municipality of Plav feel chronic water shortages in the summer, in the domains of rural communities located at higher elevations. Insufficient water supply of the population follows: Prnjavor, Brezovica, Kruševo, Martinovići ... Water, natural resources, have a range of options from the point - hydropower potential, market valuation and ecology. The economic use, protection and rational approach to water resources, can have very positive effects in the future development of rural settlements northeastern of Montenegro.

In the area of northeastern Montenegro represented between the two types of two types of land cover lines and automorphic to hydromorphic soil and its variations. The first class includes land automorphic undeveloped and underdeveloped land (A - S profiles): litosoli, regosols and colluvial deposits. For the second class (A - S profile) automorphic soil characteristic is continuously developed and conspicuous morphological humus horizon. This class consists of four types: mountain soil, land on marl, limestone and dolomite, rankers and vertisols. The third class consists of land automorphic land (A - (V) - S) and (A - (V) -

R) profile is characterized by the appearance of the horizon (V), which sits on the loose substrate or on a compact system. Within this class is representing by three types of land: eutric camisoles, district cambisol and calc-camisoles. The fourth class consists of eluvia soil - soil illuvials (A - E - V - S, or A-E - V - R) profile: luvisol, podsol and brown podsol soil. As a special class of automorphic anthropogenic land set aside the land that, the treatment has changed its original status. Second row (row B) is hydromorphic soil: epigley, hypogley, alluvial soil and peat. The first category consists of land epigley hydromorphic soil, represented pseudogley and stagnogley. The second class of hydromorphic soils is represented by land: hipogley, enegley, and semigley and amfigley land. The third class consists of hydromorphic soil fluvisol, hums fluvisol. Fluvisol is the most important agricultural production value and type of soil is mostly prevalent along the river valleys. Hums fluvisol as independent genetic type of soil has a profile (A-S-G). The fourth class of hydromorphic soil makes one type of land - lowland required. Relief formed in depressions in which water constantly stagnates above the ground. It is located about: Plavskog, Ridskog, Ursulovačkog, Šiškog, Pešića and Bukumirskog lakes (Rajović, 2011).

For the appearance of the landscape of northeastern Montenegro, is of particular importance biogeography characteristics. Flora consists of forest and grass vegetation. In the lower parts of trees are represented hydrophilic willow, poplar, alder, hornbeam, oak, oak, beech, birch, maple. The belt of beech is most common in the form of four regions: mountain beech (at lower altitudes), mountain beech forest at height 1000 - 1300 m above sea level, sub alpine beech forest at altitudes greater than 1800 m spruce dominated by forests. With some of the mountain, high mountain forests stretch, molike and white bark pine. Above this band is representing by white space and black pine. Some forest stands and makes the dwarf pine, whose propagation exceeds 2000 m, and juniper pine, which ends above 2200 m. Share of total area of forests in northeastern Montenegro is 62 432 ha or 42.02%. Regarding the breeding categories, arranged dominated (high, low and protective). Of the total forest area of regulated waste 56 643 ha or 85.76 %, on a rough 9075 ha or 14.24%. The total density is estimated at 13,882,516 m<sup>3</sup> of which are arranged in an 11,515,912 m<sup>3</sup> or 82.92% of the timber, and disordered 2,367,934 m<sup>3</sup>.

Taking into account the habitat conditions and photos sociological composition, grass cover

of northeastern Montenegro can be divide into the damp valley meadows habitats, mountain (mountain) meadows and pastures mainly related to the belt of oak forests and mountain pastures that reach the highest peaks of the mountains. Flora of forests and pastures enriched with various kinds of herbs and edible fungi. Most of them occupy a high place in folk medicine, pharmaceutical production, which is very important for the tourism development. Herbs rich in its diversity, physiological and pharmacological action, and a healthy quantity of raw materials, offers unimagined possibilities in the development of health and educational tourism. The most important species of medicinal plants from the commercial aspects are yarrow, thistle, birch, hawthorn, horsetail, cranberry, gentian, wild thyme, omen, blueberries, mint, blackberry, raspberry, dandelion, thyme, and nettle. From the forest products: hawthorn, juniper, strawberry, cornelian cherries, blackberries, raspberries, blueberries, saffron, rose hip, a mushroom: mushroom, black trumpet mushrooms. However, the most important product makes blueberries, which reaches its annual purchase of about 500 tons. Thanks to the widespread forests, pastures and meadows are diverse landscapes and picturesque, which provides significant environmental and tourism values and makes an attractive area of northeastern Montenegro. Meadows and pastures covered with succulent grass and mountain meadow flowers, so that together with forests, providing a unique landscape-decorative value. The belt of forests is particularly interesting as living space varied wildlife, birds, fish and insects that are. Is the pearl of the unique natural beauty and a spoilt nature? From the aspect of tourism resources and has considerable potential for developing different types of tourism such as hunting, fishing, adventure, adrenaline (Rajović, 2010).

#### RURAL AREAS AND TERRITORY

The administrative territorial structure of the northeastern Montenegro, in the example of the municipality Berane, Andrijevica and Plav comprises 109 rural settlements and 92 cadastral municipalities (1,486 km<sup>2</sup>), where 88 villages with their domains of form category of rural geographic space, but the cadastral municipalities (hereinafter referred to as C.M ). Azanje belongs village Vrševo , C.M. Budimlja - vilage: Zagrađe i Tmušići, C.M. Vrbica -village: Gornja Vrbica, Donja Vrbica i Lazi, C.M. Dolac - vilage Beran Selo, C.M. Zaostro - vilage: Gornje Zaostro, Donje Zaostro i Crljevine, C.M. Javorovo - vilage: Dašča Rijeka i Murovac, C.M. Petnjica - vilage:

Godočelje, Jahovica i Pahulje, C.M. Polica - village Babino, Goražde, Dragosava i Mašte, C.M. Radmanci - village: Lagatori, Ponor i Poroča, C.M. Savin Bor - village: Bor i Orahovo, C.M. Crni Vrh - village Velide, C.M. Šekular - village: Jašovići, Madzgalji, Orah i Radmužovići, C.M. Slatini I and Slatini II belongs village - Prisoja, C.M. Kruševo I and II belongs village: Kolenovići and Višnjevo, while the three village and C.M. - Berane, Andrijevića and Plav belong to the urban environment, and CM Gusinje small town. Within the cadastral municipality Andrijevića are mentioned in addition to urban and two rural villages - Andzelati and Božiče. In addition, the latest statistical classification of settlements, changes were made in a number of places in the municipality Andrijevića, so that the town Andzelati got its new name Andželati, and while there is a new rural settlement Navotina. Changes were made in a number of places in the municipality of Plav. So they formed new village: Babino Polje, Budojevica, Hakanje, Jara, Jasenica, Komarača, Korita and Pepiče.

Area rural village is different and is in the range of 2.59 km<sup>2</sup> (C.M. Skič) to 84.72 km<sup>2</sup> (C.M. Šekular). According to the size of the territory can be divided into three groups: up to 10 km<sup>2</sup> (Bastahe, Bujanje, Vinicka I, Vinicka II, Glavica, Dapsići I, Dobrodole, Dolac, Donje Luge, Zagorje, Zagrad, Lušac, Petnjik I, Petnjica, Pračevac, Pešca, Rovca, Rujišta, Skakavac, Štitar, Kralje, Trepča I, Trepča II, Trešnjevo I, Slatina I, Sjenožeta, Zabrđe I, Gornje Luge, Gnjili Potok, Bojovići, Brezojevica I, Vojno Selo I, Dosude I, Dosude II, Đurička Rijeka, Kruševo I, Martinovići I, Mašnica, Novšiče, Skič), of 10 km<sup>2</sup> to 20 km<sup>2</sup> (Azanje, Budimlja, Buče II, Vuča, Dapsići II, Donja Ržanica, Zaostro, Kaludra, Petnjik II, Radmanci, Tucanje, Gornji Vrh, Andrijevića, Gračanica, Dulipolje, Đulići, Košutići, Kut, Marsenić Rijeka, Oblo Brdo, Seoca, Slatina II, Trešnjevo II, Ulotina, Bogajići, Brezojevica II, Vojno Selo II, Gornja Ržanica, Kruševo II, Martinovići II and more than 20 km<sup>2</sup> (Vrbica, Javorovo, Kurikuće, Lubnice, Polica, Savin Bor, Trpezi, Šekular, Cecune, Jošanica and Zabrđe II, Velika, Vusanje, Grnčar, Donji Meteh, Dolja, Murina, Prnjavor, Hoti).

These groups differ in a number of relevant spatial and demographic characteristics. So in 2003, the first group of up to 10 km<sup>2</sup> in Berane covers an area of 158.2 km<sup>2</sup> and includes 21 rural districts (C.M.), in which lived the rural population of 44.23% of the total rural population of the municipality. The municipality Andrijevića first group of up to 10 km<sup>2</sup> encompassed an area of 64.74 km<sup>2</sup>, and included the 10 rural districts

(C.M.) in 2003 which was 55.41% lived in rural population in relation to the total rural population of the municipality. In the municipality of Plav first group of up to 10 km<sup>2</sup> encompassed an area of 57.17 km<sup>2</sup> that included the 10 rural districts (C.M.) in which he lived 14.88% of rural population in relation to the total rural population of the municipality. Another group of 10 km<sup>2</sup> to 20 km<sup>2</sup>, Municipality included the 12 rural districts (C.M.) with an area of 164.74 km<sup>2</sup> and in 2003 this territory was 30.26% lived in rural population. The municipality Andrijevića, another group of 10 km<sup>2</sup> to 20 km<sup>2</sup>, comprised of 12 rural districts (C.M.) with an area of 171.48 km<sup>2</sup> and in this territory lived 39.39% of the total rural population of the municipality. In the municipality of Plav, size second group is characterized by an area of 85.52 km<sup>2</sup>, six rural districts (C.M.) and the total percentage of rural population of 41.40%. And the third group size in Berane with more than 20 km<sup>2</sup> and an area of 336.97 km<sup>2</sup> and the number of 8 rural districts (C.M.) lived in rural 21.49% compared to the total population of the municipality. The municipality Andrijevića size same group, comprised an area of 103.78 km<sup>2</sup> with 3 rural districts (C.M.) and 5.2% of the rural population. Plav municipality comprises eight rural districts (C.M.) with size group of more than 20 km<sup>2</sup> and an area of 334.11 km<sup>2</sup> in the territory, and lived in rural 43.72% compared to the total rural population of the municipality. "If the current negative trends in the development of the rural population continue in the future, and socio-economic facts point to this conclusion, one can expect a significant violation spatial and demographic balance between the group of rural territories and distribution of the population ...." (Stamenković and Milinčić, 1998).

General population density is one of the basic demographic characteristics that indicate the spatial distribution of population. It is in the range of 17.0 in / km<sup>2</sup> in rural areas of Andrijevića, 17.8 in / km<sup>2</sup> in the C.M. Plav in the rural area of Plav, to 35.4 c / km<sup>2</sup> in rural areas of Berane. Thus, the settlement of this geographic part of a group rarely populated rural areas.

From the established density, we can conclude, that this arrangement of the rural population had its causes in the economic underdevelopment of the municipality Berane, Andrijevića and Plav. The basis for their diversion is adequate rural policy, rural planning and special project plan for the revitalization of rural settlements and territories.

Table 1 – Groups of rural municipality districts Berane, Andrijevisa and Plav on the surface of and participation in the total rural geographic (km<sup>2</sup>) and population in 2003

The majority group	Number C.M.	Surface C.M.	%	Population	%
Berane					
To 10 km <sup>2</sup>	21	158,2	23,98	10.306	44,23
Of 10 km <sup>2</sup> to 20 km <sup>2</sup>	12	164,74	24,96	7.981	34,26
More than 20 km <sup>2</sup>	8	336,97	51,06	5.005	21,49
Andrijevisa					
To 10 km <sup>2</sup>	10	64,74	19,04	2.544	55,41
Of 10 km <sup>2</sup> to 20 km <sup>2</sup>	12	171,48	50,44	1.809	39,39
More than 20 km <sup>2</sup>	3	103,78	30,52	239	5,2
Plav					
To 10 km <sup>2</sup>	10	57,17	11,99	1.263	44,23
Of 10 km <sup>2</sup> to 20 km <sup>2</sup>	6	85,52	17,94	3.513	41,40
More than 20 km <sup>2</sup>	8	334,11	70,07	3.710	43,72

Source: Bakić et al and Statistical Office of Montenegro, Census of Population (appropriate year), calculations by

True picture of the disposition of the rural population in the northeastern part of Montenegro, it is difficult to assess. It is useful to ask why the border in rural areas to 500 inhabitants. This is the minimum number of inhabitants will assure the development of certain central functions, which will serve a wider area (Simonović and Ribar, 1993). Although in this population, rural settlements are divided into two groups (0 - 100 and 100 -500 people), for both can be said to belong to a group of rural settlements, which are substantially flat. In this first, size group (18 villages) has further depletion trend of space, a second group (63 villages), this trend is mitigated.

Today is very unevenly distributed network of settlements in limited geographic space making the rural areas with small populations? Most of them are from 100 - to 500 and 28 in Berane, Andrijevisa 17 in the municipality and 13 in the municipality of Plav. The total number of rural settlements from 0 to 100 residents in the municipality of Berane is 17, in the municipality Andrijevisa 4 in the municipality of Plav second From 500 to 1000 population in Berane 10 rural village in the municipality Andrijevisa 2, in the municipality of Plav 6. Over 1000 people are 5 to the village and the municipality Berane. It is noticeable lack of settlements with over 1000 inhabitants in the municipalities Andrijevisa and Plav. Only in this settlement, we can talk about the real potential for the development of central functions, and this size appears as other important Joins in numerical terms.

The existing network of rural settlements in the area under consideration is the consequence of uneven population density and population concentration. A large number of rural villages and 500 residents (83 settlements) are not suitable for modern vital flow of economic development in municipalities Berane, Andrijevisa and Plav. Namely, there is a lack of rural villages with rural

center of over 1000 inhabitants (municipalities Andrijevisa and municipalities Plav) as a category that would link the primary rural settlement municipality, with the center of the region - Berane.

Beginning of the seventies of the twentieth century was the crucial years of the moment. That in this period to start with small businesses, build roads faster electrification of rural villages, rural settlements of today Berane, Andrijevisa and Plav, might not provide the typical image of a good part of rural settlements of Montenegro, which is treated and considered underdeveloped.

#### SOCIO-ECONOMIC DEVELOPMENT FACTORS

The appearance of depopulation of rural villages in the municipalities of Berane, Andrijevisa and Plav is the result of reducing their overall population. The percentage decrease in rural population of Berane amounted in the period 1948-2003 - 0.22%.

However, the municipalities of Plav and Andrijevisa, show significant deviations from these population dynamics. Thus, the percentage reduction rural population during the same period amounted municipality Andrijevisa - 49.44%, and the municipality of Plav - 26.8%. So, until sixty years ago in a rural area northeastern of Montenegro, there is human life in full force, but today that same area, a rural territory that is empty. Remain in them, almost exclusively elderly households whose life expectancy is low.

The population issue, in addition to the rural exodus and population concentration in urban areas, came to the fore negative natural increase. The birth rate in 2003 shows that for every 1,000 residents born 11.1 Andrijevisa children in the municipality, the municipality Berane 12.5 and 12.9 in the municipality of Plav.

Table 2 – Distribution of the population to population in rural village

Characteristic	Municipality Berane	Municipality Andrijevica	Municipality Plav
Rural areas to 100 inhabitants	Bastahe 70	Kuti 49	Novšići 82
	Velidje 29	Cecuni 77	Višnjevo 86
	Vuča 26	Oblo Brdo 69	
	Zagrad 55	Sjenožeta 95	
	Jašovići 33		
	Lješnica 60		
	Murovac 43		
	Lazi 99		
	Kruščica 97		
	Orah 90		
	Pahulje 89		
	Ponor 65		
	Tmušići 36		
	Skakavac 83		
	Rujišta 59		
Pračevac 43			
Poroča 33			
Rural areas from 100 to 500 people	Crljevine 116	Andzelati 134	Koljenovići 157
	Lagatori 420	Božići 250	Hoti 169
	Tucanje 378	Bojovići 128	Mašnica 299
	Radmanci 313	Gnjili Potok 111	Grnčar 191
	Štitari 282	Gornje Lige 150	Dolja 126
	Crni Vrh 144	Gračanica 307	Skič 302
	Savin Bor 261	Dulipolje 134	Kruševo 342
	Rovca 105	Đulići 130	Bogojevići 427
	Radmudzevići 106	Zabrđe 302	Gornja Ržanica 266
	Orahovo 130	Jošanica 162	Meteh 452
	Kurikuće 115	Košutići 143	Đurička Rijeka 274
	Kalica 146	Kralje 228	Dosude 265
	Kaludra 267	Prisoja 348	Velika 417
	Jahovica 148	Marse. Rijeka 353	
	Javorovo 117	Seoca 117	
	Zagorje 317	Trepča 238	
	Zagradje 280	Ulotina 243	
	Dragosava 171		
	Donje Zaostro 149		
	Donja Vrbica 406		
	Dobro Dole 134		
	Dašča Rijeka 115		
	Gornje Zaostro 236		
	Godočelje 229		
	Glavica 126		
	Vrševo 267		
	Bubanje 213		
	Medzgalji 207		
	Mašte 206		
	Lubnice 245		
	Bor 213		
	Babino 436		
Azanje 136			
Rural areas from 500 to 1000 people	Gorazde 560	Trešnjevo 539	Brezojevica 947
	Gornja Vrbica 536	Slatina 405	Martinovići 689
	Dapsići 728		Prnjavor 944
	Donja Ržanica 810		Vojno Selo 639
	Lužac 823		Vusanje 866
	Petnjik 669		Murino 545
	Vinicka 607		
	Petnjica 565		
Trpezi 773			
Buče 1.000			
Rural areas with more than 1000 people	Donje Luge 1.861	-	-
	Pešca 1.721		
	Dolac 1.293		
	Budimlja 1.694		
	Beran Selo 1.483		

Source: Statistical Office of Montenegro, Census of Population (appropriate year), calculations by



So in terms of territorial distribution of fertility, we can draw the following conclusions:

1. The birth rate would be more likely, that there is a higher standard of living, better conditions of employment, housing,

2. Education, childcare and those rural communities are no longer an inexhaustible source of manpower and population.

The mortality rate shows that for every 1,000 people in 2003 died in Berane 3.21, in the municipality Andrijevica 15.7, and the municipality of

Plav 8.69 people. The biggest change in the relationship between fertility and mortality, and thus change the rate of natural increase had Andrijevica municipalities. The municipalities in 2003 had a negative natural increase -4.6‰. In the municipality of Plav population growth that year was 4.21‰, and Berane 9.29‰. In the future we should expect a stagnation of population growth rate, due to the migration and adaptation of the current population in limited space, a new lifestyle and family members in planning.

Table 3 – Basic demographic factors of rural settlements in the municipalities of Berane, Andrijevica and Plav (in %), 2003

Characteristic	Municipality Berane	Municipality Andrijevica	Municipality Plav
Index of population growth in 2003/48	-3,49	- 49,44	-31,44
The number of rural inhabitants per km <sup>2</sup>	35,4	17,0	17,8
Number of births per 1000 inhabitants	12,5	11,1	12,9
Number of deaths per 1000 population	3,21	15,7	8,69
Natural growth	9,29	-4,6	4,21
Participation of the rural population of 0-19 years in the total rural population	30,34	26,83	34,01
Participation of the rural population of 20-39 years in the total rural population	28,98	26,76	26,73
Participation of the rural population of 40-59 years in the total rural population	21,93	23,15	20,65
Participation of the rural population of 60 or more years in the total rural population	18,75	23,26	18,62
Index of aging	0,62	0,86	0,55
Participation of women in the total rural population	49,16	49,65	50,31
Participation of rural male population in the total rural population	50,84	50,35	49,69
The rate of femininity	967,1	986,2	1012,3
The rate of masculinity	1034,1	1014,0	987,8
Participation of the population without any qualifications in the total population aged 15 and over	3,92	6,82	8,36
Participation of people with incomplete primary education in the total population aged 15 and over	11,61	13,37	18,43
Participation of the people who have completed primary education in the total population aged 15 and over	28,69	29,77	29,86
Share of population with completed secondary education in the total aged 15 and over	44,15	42,27	32,80
share of population with completed college education in the total aged 15 and over	4,16	4,14	2,98
share of population with completed higher education in the total aged 15 and over	5,53	3,16	4,82

Source: Statistical Office of Montenegro, Census of Population (appropriate year), calculations by

Population growth is the result of natural relations of movement and migration processes. If a rural area of northeastern part of Montenegro would not be the migration of the population, then the growth rate and population growth were the same, that there would be a territorial population balance. "However, this situation actually exists nowhere" (Ilić, 1973). There is no municipal Berane, Andrijevica and Plav. Thus, the northeastern part of Montenegro, has a complex demographic

components related to population growth and to notice that these components between territorially distributed unevenly causing the demographic imbalance, unstable economic conditions. These facts, as well as uneven economic development, compared to other municipalities of Montenegro, causing significant migration movements. These processes are the seventies were intense. "Therefore, their amounts in the general public are often taken as an important proof of the vitality of our

socio-economic system. However, in our opinion, the right score can be obtained if the process is put in an objective framework or, if you locate the temporal, geographical and socio-economic "(Ilic, 1973). How long and to which level of population growth municipality should fall very hard to say because we do not have the necessary indicators of economic development in the future. But if the population growth rate is still declining, the northeastern part of Montenegro may be in the coming time, get into a lot of difficult economic situation, due to demographic aging and reduce the Working Population.

Age groups, 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, compulsory school contingent relationship maintenance), which are essential for the development of population and economic activity in rural settlements of Berane, Andrijevica and Plav.

According to the age of the population can be divided into young (0-19 years), middle-younger (20-39 years), middle-elderly (40-59 years) and old (60 years and over). In the northeastern part of Montenegro, there are a small proportion of young people, and it ranges from 26.83% in the municipality Andrijevica, 30.343% in Berane, up 34.01% in the municipality of Plav. Participation generation of 20-39 years is 26.73% in the municipality of Plav, 26.76% in the municipality Andrijevica and 28.98% in Berane. The share of older generations, or a group of 40-59 years, ranged from 20.65% in the municipality of Plav, 21.93% in Berane, up 23.15% in the municipality Andrijevica. In the group of 60 or more years, the population was 18.62% in the municipality of Plav, 18.75% in Berane and 23.26% in the municipality Andrijevica.

The aging index indicates the proportion of population aged 60 and over, according to the population under 20 years. If its value is less than 0.40 the population is still young, and if it is greater than 0.40 showing signs of aging populations. The index of aging rural population of the northeastern part of Montenegro ranges from 0.55 in the municipality of Plav, 0.62 in Berane, to 0.86 in the municipality Andrijevica. Thus, rural municipality population is in the process of demographic aging, which manifests itself increase the percen-

tage of aged and older adult at the expense of the young. The above characteristics of the population are heavily influenced by migration flows. The rural settlement 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.

Gender structure is part of the male and female population in total population. At the level of rural settlements in the northeastern part of Montenegro, it is moving in the municipality of Andrijevica 50.35% male, 49.65% female, Municipality of Berane 50.84% male, 49.16% of the female population in the rural municipality of Plav 49, 69% male and 50.31% of the female rural population. Masculinity rate shows the number of men per 1,000 women. According to the census of 2003, the rate of masculinity in Berane was 1034.1% to 1014.0% Andrijevica municipality, the municipality of Plav 987.8%. The rate of femininity shows the number of women per 1000 men. It ranged from 986.2 in the municipality Andrijevica, 967.1 in Berane and 1012.3 in the municipality of Plav. As shown, a higher rate of femininity is the municipality of Plav, but of Berane and Andrijevica. This may be the result of male emigration and immigration of the female population.

Because, the more narrow confines of economic development, employment of female labor force is going much slower than men, because of the structure of economic activity, which requires more male labor force. Taking for example, in the municipality Andrijevica, there are favorable conditions for development of textile industry and handicrafts, which would be the most engaged female workforce, this production can be significantly affected by the greater employment of women. Involvement of female labor in the economy would have several additional characters that would ensure security of existence of women in society and family.

Educational attainment is an important indicator of the educational structure of population. However, the Statistical Office of Montenegro presents data on educational attainment at the level of municipalities and municipal secretariats Berane and Blue also does not have data on the level of settlements. Therefore we are forced to population by educational attainment in Berane and Blue show at the municipal level, and thanks Andrijevica Municipal Secretariat of Education at the village level. According to data for 2003 in Berane - No school was 3.92%; incomplete primary educa-

tion had 11.61%, 28.69% primary education, secondary education and 41.15% college education 4.16 % and higher education 5.53% of total population aged 15 and over. The municipality Andrijevica - proportion of rural population without any qualifications is 6.82% with incomplete primary education is a 13.37% have completed primary education was 29.77%, with secondary education 42.27%, 4.14% higher high and 3.16% of total rural population aged 15 and over in Plav municipality years. Data are: no educational qualifications were 8.36% with incomplete primary school, 18.43% from 29.86% primary education, second-

ary education 32.80%, 2.98% college and higher 4.82% of total population aged 15 and over.

This educational structure is unfavorable for any modernization of the economy. Her eases and overcome the requirement for rehabilitation and sustainable development. Based on these data, it is no reflection on the poor population of interest Berane, Andrijevica and Plav, 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.

Table 4 – Basic economic and geographical factors of rural settlements of Berane, Andrijevica and Plav (in %), 2003

Characteristic	Municipality Berane	Municipality Andrijevica	Municipality Plav
Participation of the rural agricultural population in the total rural population	10,05	10,06	20,95
Active participation of the rural population in the total rural population	36,86	32,54	33,04
Dependent part of the rural population in the total rural population	46,33	52,83	52,51
Participation of rural population with personal income in total rural population	16,43	19,16	13,77
Participation of rural women of working age in the total rural population	28,13	24,77	27,40
Participation of rural males of working age in the total rural population	33,32	34,04	30,85
Utilization of rural female labor contingent	20,27	22,19	17,12
Utilization of the male contingent of rural labor	42,19	44,83	38,46
Active participation of the rural population that works in the agriculture	16,36	16,67	26,67
Active participation of the rural population that works in the industry and mining	20,58	23,01	15,15
Active participation of the rural population of rural works in the construction industry	3,63	2,76	1,13
Active participation of the rural population that works in the traffic	6,63	6,85	3,10
Active participation of the rural population that works in the retail and hospitality	12,56	11,45	11,26
Active participation of the rural population that works in the craft	3,30	2,04	3,80
Active participation of the rural population that works in the social services sector	29,90	30,37	31,25
Active participation of the rural population that works in the outside activities and the unknown	7,04	6,85	7,20

Source: Statistical Office of Montenegro, Census of Population (appropriate year), calculations by.

Economic-geographic factors point to the development of social and economic life of the rural population. Examines a number of ways - through the proportion of agricultural and non agricultural, active and dependent, active rural population by sectors. Agricultural and rural non-agricultural population in proportion to each other indicates the level of land reclamation. The share of agriculture in the total rural population in Berane is 10.05%, in the municipality Andrijevica 10.06% and 20.95% Plav municipality. "The rural population is increasingly exceeded the non-agricultural occupations, socio-economic exceeded is a traditional agricultural space has changed, especially along the main traffic routes "(Grčić, 1994).

Consider some indicators of economic activity of rural 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 rural population of the northeastern part of Montenegro.

1. The degree of utilization of contingent work shows the relationship of demographic potential that is of working age and active rural population. It is calculated as  $R_k = (R: Pr) * 100$ , where Ra - active rural men (15 - 64 years) and rural women (15 - 59 years) population, Pr - male and female total rural population, the same age (working contingent) The indicator for the rural

settlements of Berane is 33.32% male, 28.13% female, in the municipality Andrijevica 34.04% male, 24.77% of women in the municipality of Plav 30.85% male, 27.40% female.

2. The general rate of activity shows the number of active per 100 rural inhabitants. Calculated as  $Ra = (Ra R) * 100$ , where  $Ra$  - total active population,  $R$  - the total rural population of the municipality. For the rural settlements of Berane general activity rate was 36.9%, 21.30% of Andrijevica and Plav 32.5%. The general rate of activity of the male population (the total male) in Berane male is 27.65%, female 11.6%, in the municipality Andrijevica 31.10% male, 11.36 female in the municipality of Plav 23.88% male, 9, 32% female.

3. Economic dependency ratio represents the ratio of dependents and persons with personal income, the active rural population. It is obtained by the formula  $Fc = (Pi + P1) : Ra$ , where  $Pi$  - dependent rural population,  $P1$  - active rural population. For 100 active rural populations in 2003 in rural areas of Berane there were 170.2 dependents and persons with personal income, the municipality Andrijevica 293.9, and 205.2 municipalities Plav.

Proportion of dependent rural population in the total of Berane is 46.33%, in the municipality Andrijevica 42.94% and 52.83% Plav municipality. Number of dependents per 100 active rural populations is in Berane 126, in the municipality Andrijevica 203, in the municipality of Plav 319. This much dependent participation of the rural population is due to aging is the decline in the share of young rural population and the increase of rural population with personal income. The share of rural population with personal income in Berane is 16.36%, in the municipality Andrijevica 19.67%, in the municipality of Plav 26.67%.

The structure of the rural population by activity reflects primarily industrial development. In fact, agriculture was in 2003 absorbed 16.36% of the active rural population in the municipality Berane, 16.67% at the level of Andrijevica and 26.67% in the municipality of Plav. The secondary sector activities, viewed individually, are quite uneven. Of all secondary activities had the most intensive development industry. From the division of the active rural population by type of activity shows that the active rural population employed in industry and mining accounted in Berane 20.58%, 23.01% in the municipality Andrijevica and 15.15% in the municipality of Plav. Space industrialization and urbanization in the northeastern part of Montenegro has a specific character. This follows from the fact that the existence of industrial concentration greatly agreed with the hierarchy

in the network of settlements. The highest concentration is in the urban area Berane. It main much related to traffic and market position. Our research noted little evidence of active participation of rural population employed in the craftsmanship (municipality Berane 3.30%, 2.04% Andrijevica municipalities, municipality Plav 3.80%). The construction of the active employees of rural population ranges from 1.13% in the municipality of Plav, 2.76% in the municipality Andrijevica to 3.63% in Berane. The general socio-economic development of the complex has a direct bearing on the level of development of tertiary activities. Thus, the active participation of rural people in transport costs in Berane 6.63%, in the municipality Andrijevica 6.85%, in the municipality of Plav 3.10%. It is much more active participation of rural population employed in retail and hospitality and to share ranges from 11.26% in the municipality of Plav, 11.45% in the municipality Andrijevica to 12.56% in Berane. According to data given shows a relatively high proportion of the rural population in social activities in Berane 29.90%, in the municipality Andrijevica 30.37%, in the municipality of Plav 31.25%. Certainly the consequences of a polycentric network of education and health in the northeastern part of Montenegro. The high position given these contingent educators (teachers, doctors) who perform professional duties in rural areas, and this entails an increase of administrative workers and other non-economic activities. In the group of outside activities and unknown 7.04% of the population participates in Berane, 6.85% in the municipality Andrijevica and 7.20% in the municipality of Plav.

Without going deeper into the theoretical considerations, based on economic and geographic factors for the development of rural settlements in the northeastern part of Montenegro, we can conclude that due to specific geographical conditions, there was a structural deformation and territorial disparities, which led to polarization between the seats of the Municipality and its hinterlands, and between urban settlements Berane, Andrijevica and Plav other settlements in their surroundings.

#### **GEOGRAPHICAL ZONING OF RURAL TERRITORY**

Rating natural conditions aimed at separation of homogenous territorial units with some degree of benefits and limitations types of economic development. Based on traffic position geographical, natural features of the ground, it is possible in the northeastern part of Montenegro, separate areas with different economic advantages for profitable

production. However, one should bear in mind that some components of natural resources and change in a small area (changing slope, exposure, genetic types and soil productivity).

Taking into account the natural conditions of the Upper zoning Polimlja (Rajović, 2005), basic planning criteria of rural territory (Simonović and Ribar, 1993), the use-value of the combination of favorable and limiting factors, we can distinguish three relatively homogeneous area for the development of rural economy.

**I Area rural territories (A) - including valley Berane, Andrijevica, Polimlje and Plav-Gusinje basin** of high and low mountainous terrain up to 1100 m elevation within the zone, can be singled out rural territory wholes of a lower hierarchical level.

**I Area (B) under the alluvial plains of rivers, river terraces, lake sediments basin Berane, Andrijevica and Polimlje** which has the most favorable conditions for intensive agricultural production, summer tourism, construction and transport development. These are areas with a slope of up to 3° and underexposed exposures. Length of growing season with  $T_d \geq 10^\circ \text{C}$  over 150 days and the sum of active temperature  $T_d \geq 10^\circ \text{C}$  are over 2100° C, allow the cultivation of various plants vegetable crops. However, low values of relative humidity during April (62%) increases the risk of spring frost and dew, and make these areas less favorable for fruit production. Adverse climatic characteristics are associated with a small amount of rainfall during July and August. In summer, (July and August) monthly mean relative humidity in the afternoon (14 h) is below 45%. This low value of saturation of air is with water vapor, a very negative impact on agricultural crops. Large amplitude fluctuations of groundwater in alluvial deposits and the growing use of these waters makes it difficult for irrigation during the summer period. Therefore, the further back from the riverbed increases the depth of underground aquifers and less irrigation. Summer low flow, lack of access to coast, distance from the riverbed, are reducing the possibility of using river water for irrigation. For the alluvial flat alluvial are rivers connected with the land, which was the most important aspect of the production for possible cultivation of most crops. The river terraces as the dominant soil types of various production values, there are eutric cambisols, vertisols, pseudogley and amphygley. According to the natural advantages river alluvial plains and river terraces are suitable for intensive agriculture, particularly crop production. This sub area is very important for the

class trip, a certain summer tourist season and has characteristics of a distinct seasonal occurrence due to climate, or rather the air temperature. Average air temperature in the area during July and August is around 18°C, and mean air temperature over 20°C, it cannot be taken as an absolute rule. First, the local population acclimated to river water temperature are conditions corresponding to an average value equal to or greater than 15°C. Season bathing tourism and recreation at appropriate points may last from 30 to 90 days. (Rajović and Bulatović, 2012). This fact cannot be ignored no matter what it is that the temperature conditions of a relatively modest measure conducive to the development of swimming, and therefore dismissed the coastal population and recreational functions. In relation to the recreational use of available resources of the area value assessment can do in terms of benefits of rowing sports, especially kayaking and canoe. The development of these activities strengthened by almost guaranteed a sufficient amount of water flowing in Lima, but the average decline (Murino - Andrijevica overall fall 75 feet, Andrijevica - Berane 85 m).

At the same profile is registered and mean annual discharge of water, which meets the kayaking as one of the aspects of sports and recreational activities. Mountain water flows in what one of Lima ((except in the sector through Berane Basin) can use for kayaking and canoe. Rowing, sailing, kayaking, walking and hiking tourism are possible on the rivers of this district. Despite favorable conditions for development of agriculture and tourism are this spatial entity characterized by the favorable conditions for development of construction and transport. Any form of development (settlement, infrastructure, industrial facilities, etc) indicates the specific requirements in relation to certain morphometric characteristics. Morphometric requirements for construction, we have defined over from the construction of settlements and roads. The construction of the village is very small gradients (up to 1°) are not optimal, because the removal of atmospheric and water channel requires the formation of slope. However, since this region dominated by gradients of 1-3°, unexposed surface, good structure height (height ratio as an indicator of energy efficiency infrastructure, and express transport accessibility in relation to overcoming height differences) and the construction season lasts about 260 days, we have very good conditions for the construction of settlements and roads. Compared to the corresponding properties of climate, mean annual air temperature around 80-10°C, relative humidity below 75% make this

area suitable for habitation and livelihood of the population. Eating on development traffic characterized primarily for the winter half year. With regard to mean maximum thickness of snow along the route of the main roads in the valley of Lima does not exceed 50 cm in January when the largest amount of snow and the number of days with snowfall lasting from October to May (when the

snow melts already in contact with the ground), this area has good conditions for the flow of road traffic. Considered a whole has the capacity for industrial development because of lake sediments Berane lowland reservoirs are lignite and brown coal, and the river are the locality river Trebačka amount of building stone in the bed of the river Lim deposits of gravel and sand.



Figure 2 – The region of natural conditions by level of benefits for the development and deployment of the economy around Berane, Andrijevića and Plav

Under the rural area of territory that includes the Plav-Gusinje Basin have similar characteristics as the previous agro climatic the region. It is characterized by an inclination of 0-3°, and the unex-

posed southern exposure, altitudes up to 948 m evolution. The dominant soil type is fluvisol, locally present district cambisoles, eutric camisoles, podzol, planohistol (Lake Plav). Different shades

of brown forest allow fruit production. This area belongs to the second class of so-called very favorable land for agricultural production. Length of growing season with  $T_d \geq 10^\circ\text{C}$  over 140 days and the sum of active temperature  $T_d \geq 10^\circ\text{C}$  is about  $1200^\circ\text{C}$ , allow the cultivation of vegetable crops. In summer (July and August) monthly mean relative humidity in the afternoon (14 h) was 46% below the already low value of saturation of air with water vapor, a very negative impact on agricultural crops. This allows the area and the development of summer tourism. Mean air temperatures during July and August is around  $17^\circ\text{C}$ , relative humidity is about 66%, and the water temperature about  $16^\circ\text{C}$ . Swimming season lasts about 45 days. A sufficient amount of water flowing in Lima and the average decline in Plav - Murino (87 m), mean annual water discharge (Lim at the Plav is  $17.8 \text{ m}^3 / \text{s}$ ) meet the needs of canoeing. Rowing, sailing, walking, underwater sports and fishing are possible in the Plav Lake. Also, there are solid opportunities for the development of some sports and recreational activities during the winter season. Us then be influenced by negative values of temperature (which takes about 30-60 days), which would surface, except for some parts of Plav Lake, should be used as a natural ice rink with a previously detailed observation and studious appearance, thickness, quality and capacity of ice as hydrological phenomena present during the winter tourist season. As regards the construction and transport the region from the standpoint of urban building belongs to the class III suitable terrain (due no exposure and vertical belt (948 m) in length no period with frost (124 days)) and class II the point the construction of transport infrastructure (for vertical belt). This sub area can be difficult to characterize performance of road transport; the mean maximum thickness of snow along the route of the main roads can reach 131 cm. The thickness of snow cover can be very difficult obstacle to traffic, especially on windy passes and villages, where the wind forms a high snowdrifts that existing machinery can break a long time.

**I Area ( C ) Under the area of rural territories of high-mountain landscapes of low relief and low-middle mountain regions up to 1100 m of relief**, characterized by mild forms of relief and side slopes of  $6^\circ$  to  $9^\circ$ , greater depth of land covers (luvisols, vertisols, eutric camisols, districts cambisol, sometimes represented rendzina), relief forms are relatively favorable for agricultural production. The land is suitable for the production of various agricultural crops, orchards, and above 1000 m as is mainly woodland (beech-fir forests,

oak woods and forests of black and white pine), pastures and meadows. Bases Balja, the area around the rural settlements in the valley of the river Kralje Kraštica, Trešnjevik (relief and slope of the form ( $3^\circ$ - $9^\circ$ )), are favorable for the production of certain fruits and vegetables. They represent the following area: districts cambisol, iatric camisoles, rankers, colluvial soil et al. Duli-polje the settlements around Zlorečica which flows into rivers Perućica and Kutska (slope  $3^\circ$ - $6^\circ$ ), good production potential of land (marsh gluey soil, eutric camisols, rendzina, districts camisoles, land, meadow), suitable for growing various crops, plants such as alder, field ash, oak, birch, and various types of forests (beech, oak, pine, etc.). Kutski river valley of the river can seen as favorable for the production of certain crops (barley, oats, and corn) and fruit production, from the mouth to the settlement Zlorečica and Cecuni. Further to the source of the geomorphologic features, which make up the system on a particular area are not favorable for agricultural production but mostly there are pastures, meadows and forests. Areas on the left side of Lima from the expansion of Luge until Pepić (inclination of  $3^\circ$ - $6^\circ$ ) with the land (eutric camisols, colluvial soil, vertisols, amphigley land) are suitable for the production of vegetable crops, cultivation of meadows and forests. Areas on the right side of Lima, which include base Rasojevića head, Javorišta, Grahova, Koradzinog hill, Prijedola part between the mouth of the river Piščevske (slope  $6^\circ$ - $9^\circ$ , and  $12^\circ$ ) with the dominant land and districts and eutric cambisols, are relatively favorable for agricultural production. Rural areas of the territory above the valley of Plav-Gusinje of 948 m evolution to 1100 m above the sea level mainly characterized by slopes of  $12^\circ$  to  $20^\circ$ , with the dominant land: calcocambisol, podzol, brunipodzol, rankers, a sporadically occurring eutric and distric cambisoles. Valley of grasshoppers and Bilečko streams, rivers and Jasenička of the Novšića and rivers Velika, as well as part of the left and right side Vrulje are mostly inclined to  $9^\circ$ - $12^\circ$  can be used for agricultural production, while other parts are mostly forest land (forests of spruce, fir, and pine, oak). Mean air temperature in the course of the growing the region of the period about  $12^\circ\text{C}$ , relative humidity of 68%, and the length of the growing season with  $T_d \geq 10^\circ\text{C}$  for 130 days and the sum of active temperatures  $1800^\circ\text{C}$  allows growing of certain vegetable crops. From the standpoint of tourism, this is not the region attractive because of summer and winter holidays are no conditions. An interesting detail can be sulfuric water in the village of

Kralje. It can be developed or transitional excursion tourism. From the point of building roads and settlements this region a Class III benefits (due to adverse vertical belt and the northern exposure). The region has opportunities for industry development; in Zagorje coal deposits are located, and the stand Zabrdje deposits of lead and zinc deposits Đulići marble.

**II Area rural territories** - is related to the belt of 1100-1700 m above sea level, locally cut by deep river valleys cut into. This spatial unit characterized mainly with severe forms of the relief angle  $12^{\circ}$  -  $20^{\circ}$ . This region has rolled land cover, with the dominant land: rendzina, podsol, calc-camisoles calcocambisol, calcomenasol, rankers, and in places and districts camisoles suggesting that the predominantly grassland and forest vegetation (forest pine, spruce, beech, oak, fir). This relief unit is suitable for cattle breeding. Length of growing season with  $T_d \geq 10^{\circ}$  C from 91 to 130 days, with the sum of active temperature  $T_d \geq 10^{\circ}$  C to  $1600^{\circ}$  C to  $2300^{\circ}$  C, the mean air temperature in the vegetation period is  $9.5^{\circ}$  C -  $12^{\circ}$  C. Given that, for each food crop biologically determined minimum, the area near the river valleys (for example, Kutski River or at the foot of the Vlahova and Javorišta ) it is possible to grow certain crops (wheat, barley, oats, peas, beans, and rye), orchards and grasslands (dominated eutric camisols and rendzina). From the standpoint of tourism, this area provides opportunities for the development of health and sports and recreational tourism. Moderately and slightly favorable for the development of winter tourism, which provides spaces: Bjelasice, Komova, Cmiljevice, Kofiljače. Average amount of precipitation (snow) from 101 cm to 130 cm. Slopes are mostly from  $12^{\circ}$  -  $20^{\circ}$  and the altitude belt above 1300 m above sea level considered relatively favorable in terms of alpine lake disciplines. Great Šiško and Bukumirsko Lake provide opportunities for the development of picnic and summer tourism, as the summer air temperature of  $14^{\circ}$  -  $15^{\circ}$  C and the water temperature to  $20^{\circ}$  C. In winter the lake under the ice and can be used as a natural ice rink with the previous detailed inspection. Given the presence of mineral deposits (lead, zinc, iron, pyrite), provides the foundation for industrial development. Construction season is from 230 to 250 days, but for certain work (e.g. work with concrete), this period coincides with the length of the free period without freezing temperatures, ranging from 67 to 117 days. The absolute amount of snow in this region may be greater than 200 cm, which is a serious obstacle to the flow of traffic. In this area, there

are numerous mountain pastures. During the winter and summer but here come a large number of climbers from various countries. They are as attractive characteristic of this region and provide a basis for further development of sports, mountain and hunting tourism, as well as the development of ecological tourism.

**III Area rural territories** - include the high mountain belt above 1700 m as in this region exacerbated by the relief, thermal and land conditions. The slope of the spatial structure of the completely dominant slopes is over  $18^{\circ}$ , and slopes over  $20^{\circ}$ . Most land is represented as calcomenasol, litorisoli, rendzina and podsol, so this area under forest vegetation and mountain pastures with blueberry and juniper (except where the parent material litorisoli). Length of growing season with  $T_d \geq 10^{\circ}$  C is less than 90 days, the sum of active temperature  $T_d \geq 10^{\circ}$  C for  $1100^{\circ}$  C and the mean daily temperature is less than  $4.9^{\circ}$  C, a maximum height of snow is greater than 240 cm in the winter months. That is to say that this area suitable for tourism development, there are six lakes (Ridsko, Visitorsko, Pešića, Little Šiško, Big and Small Ursulovačka), which may be used for the development of sports and recreation, sports and various events, sports and hunting, excursion tourism. Also, in this region there are numerous mountain pastures. (Do Kobilja, Lisa, Štavna ...). During the winter, but summer here comes a large number of climbers from various countries. They like the attractive character of this region and provide a basis for further development of sports, hiking and hunting tourism, and to develop ecotourism. It is known to stay at this height suitable for athletes, healthy people, but many patients and normalize the situation by improving defense power of the organism. However, this area is most suitable for the development of sports, skiing, mountaineering, rock climbing, etc.

## CONCLUSION

Development of the total rural population in the municipalities of: Berane, Andrijevica and Plav characterized by increasingly unfavorable demographic processes. In this paper, were found negative demographic trends and economic development. The overall population decline, demographic aging, the educational structure of the rural population are imposed as a leading contemporary demographic processes in rural areas of the northeastern part of 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 of rural settlements is a specific indicator of the trend and intensity of socio-economic processes in the municipalities of Berane, Andrijevica and Plav in the period after the Second World War. 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 rural settlements in the northeastern part of Montenegro.

Development and contemporary arrangement economy is determined by a number of natural characteristics of the terrain. They have shown that rural economies of the northeastern part of Montenegro are not in compliance with all the natural conditions (geographical zoning of rural territory). Inconsistency between the existing natural conditions and the contemporary rural economy is determined by unfavorable socio-economic factors of development.

Since the specificity of the northeastern part of Montenegro exceptional quality of the environment, this aspect was observed complementary excellent synthesis of economic activities (agriculture and tourism), as well as their ecological character. In this sense, many authors, among whom, on this occasion emphasize this (Simonović, 1980, Petrović, 1956/57, Živković, 1977, Perišić, 1985, Bakić, 1988, Rajović, 2005) indicate that the incorporation of modern elements into the existing structure of the rural economy can not be avoided but should apply to be a reflection of our times and our economic opportunities, not to disturb the en-

vironment for centuries in harmony and thoughtfully constructed.

This may, in the case of rural housing stock in this part of north-eastern Montenegro, can be achieved:

1. Continuing the positive trend of permanent and seasonal residence in them, but the simultaneous restoration and preservation of traditional values (which are in rural areas who successfully stood the test of the demographic development and the general trends of degradation (especially in Berane), does not affect new programs), practically in this group not intervene,

2. Connecting elements of rural areas with smaller types of commercial facilities (mini farm), where users are employed as carriers work to do on agriculture, while they are in stages enabled the expansion of rural economic activities,

3. Entering into the existing rural housing and economic capacities of newly "eco" dimensions, with emphasis on manufacturing principles of "health food" - and eco-agriculture and

4. Expansion of rural economic activities in the development of "rural" tourism or "ecotourism", which would be providing accommodation facilities, create conditions for guests and the development of new social and economic quality would reduce emigration from rural areas.

Finally, the economic and geographical problems of rural areas in the municipality: Berane, Andrijevica and Plav to look realistic, without undue optimism, pessimism and even less. The process of general and qualitative transformation of rural settlements will be relatively very slow and time consuming. So you should work on it patiently, but persistently and continuously.

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