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Agricultural Areas and Forests: The Case Regions Polimlje-Ibar

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Abstract: Among the growth potential regions Polimlje-Ibar primary importance occupies land. The structure of the surface by way of use, applying the method we have found alternate splitter type of secondary distribution of agricultural areas with a higher share of forests and barren land small share ($PP_3Š_2N_1$). The structure of agricultural land use is predominantly pasture stand type of agricultural land with a higher share of meadows (P_4L_2). Direction with equal participation of vegetables, animal fodder and fodder grain participation and uncultivated arable land ($Po_2Sk_2Ž_1No_1$), characterized by are use of the structure of arable land. Forest land and commercial forest area in is region, occupying an area of 110.010 hectares, which means that 38.71% of the territory Polimlje-Ibar, covered with forest vegetation. Finally, the paper suggests not limiting factors of the optimal exploitation of the land fund. One of the priorities of the European partnership is the application of the concept of sustainable development.
Key words: regions Polimlje-Ibar, agricultural areas, forests

Introduction

Regions Polimlje-Ibar is a geographical unit which comprises 20.6% of the total

area of Montenegro (13.812 km²), that is, living in the territory, 18.96% of the population compared to the total population of Montenegro in 2003 (673.094). Territory includes five municipalities: Plav, Andrijevica, Berane, Bijelo Polje and Rožaje with an area of 2.842 km², which is by the census of 2003 year, 127.635 people lived or 44.9 in/ km². Natural resources (land and forest) and its Types qualitative characteristics are favorable for the development of regions Polimlje-Ibar. However, survey analysis that follows shows that agriculture regions are inconsistent with all available natural and social conditions. Discrepancy between available resources and modern agricultural production is determined by the global economic policy, tradition, demographics, economic structure and market. The territory of the regions Polimlje-Ibar insufficient attention was paid to the problems of agricultural development, especially the choice of the optimal structure of production. Also, the present method of management(small plots, tillage outdated, uncoordinated structure of production), is a function of agricultural development. Greater appreciation of agriculture as a primary activity, which can be exploited comparative advantages of regions (see Rajović, 2013 a). The results of this survey were used to examine the authors of farmland and forest regions Polimlje-Ibar and allocate land use trends. This article refers only to the portion of the truth of important issues related to agriculture regions, while other studies, such as those that indicate the typological characteristics of agriculture: social and current owner, organizational, technical and production, of exceptional importance from the viewpoint of scientific knowledge for the proper routing of all social actions and measures of agricultural policy. Of course, they are not the subject of this paper.

Methodology

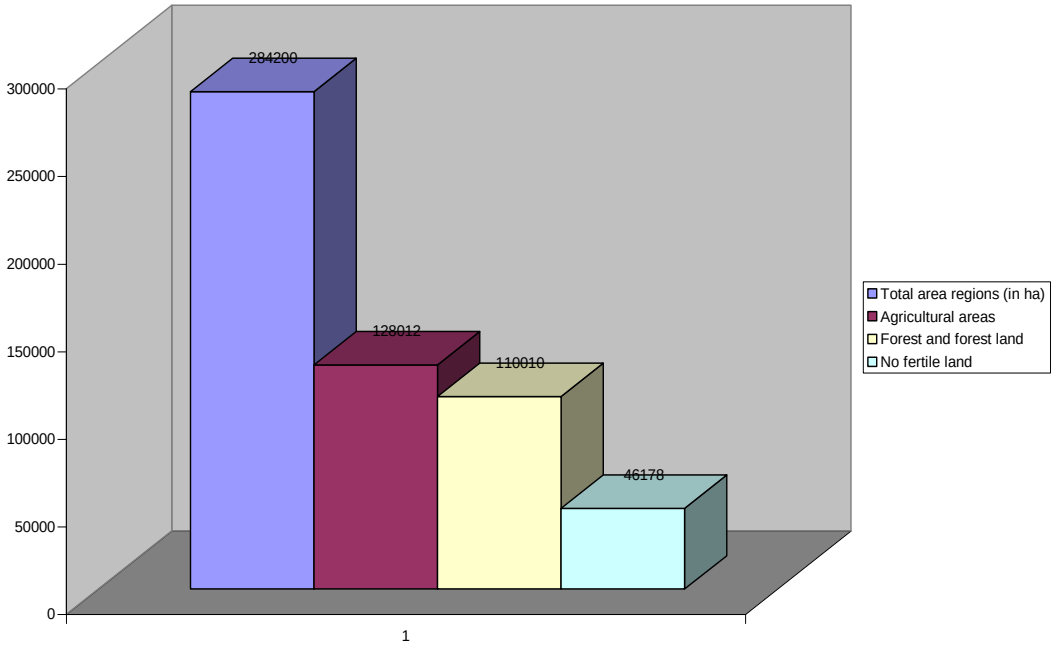
This paper has several objectives. First of all, the analysis aims to determine the structure of land in the area Polimlje-Ibar. The next goal is to show the spatial differentiation of the structural trends of the total use, agricultural and forest

land. Finally, we should point out the limiting factors of the optimal exploitation of the land fund and propose appropriate action in this regard. The research methodology is primarily based on an analysis of existing agro-geographical literature, as well as data on agricultural land and forests, given out by the Statistical Office of Montenegro. The literature include: agricultural monographs, proceedings, textbooks. Were studied and written sources on the internet. In the context of the above, we applied the method to a system of alternating dividers 6/6, developed at the Institute of Geography of the Polish Academy of Sciences (Kostrovicki, 1969 and 1970). This method agro-geographic study of the typology of agriculture, it is the third feature of the index of production agriculture, agricultural determine the orientation of the studied territory (Jaćimović,1976). Review of the literature and concepts in the agrarian structure and the procedure for applying the method, "kolejnih ilorazow" (alternate splitter), gives Tyszkiewicz (1978). The scientific explanation of the concepts in this study, we applied two methods are used: analytic and synthetic. Analytical methods are considered some of the dimensions of the research topic, and a synthetic whole, the interconnections between the case and suggested measures that derive there from.

Analysis and Discussion

The most important natural resource districts Polimlje-Ibar yes land. To enable us to study the agro-complex regions Polimlje- Ibar, it is necessary first to point out the structure and trends of land use, i.e., the relationship between agricultural, forest and barren land. The name "barren" land taken from is official statistics. Does this term is inadequate, this time to avoid giving an opinion. We think that the logical distinction between productive and unproductive land, which is involved in a productive agricultural and forest. The link between the agricultural and forest land there is a close connection between organic and ecological as inefficient use of one threatens the other (Todorović, 1985).

Graf 1 The structure of the land in the area Polimlje- Ibar-2005 (in %)



According to the National Statistical Office of Montenegro in 2005, the total area of the region of Polimlje-Ibar (284.200 ha) of agricultural land was included 128.012 ha or 45.04%, forest (area of forest land and commercial forests) 110.010 hectares or 38.71 ha and 46.178 ha of no fertile land, or 16.25%. In order to comprehensively observe land fund of the considered regions, we joined lines separating the total utilization of the land fund, which has both scientific and practical significance (Todorović,1985). Applying the method of alternating splitter in the system 6/6, we have found in the area Polimlje-Ibar, following the direction of land use:

$PP_3Š_2N_1$- Type of secondary distribution of agricultural areas with a higher share of forests and small share of arid lands[1]

The structure of land use in certain categories is of special importance because it is the result of development and intensity of agriculture, and it expresses the degree depending territorial conditions for the development of certain types of

[1] The variables and their symbols used in the formula: PP-agricultural land, Š- forest and forest land, N-no fertile land.

agricultural production. In Table 1 we present the agricultural land use categories.

Table 1 Agricultural land use categories in the region Polimlje-Ibar 2005 year

Year	2005.	
Category land	u ha	%
Agricultural areas	128.012	100
Fields and gardens	14.828	11,58
Orchards	3.588	2,80
Meadows	44.543	34,80
Grasslands	65.053	50,82

Source: Statistical Office of Montenegro (2006), Agricultural Census 2005, data calculations by the author

The structure of agricultural areas and the degree of their use are a reflection of the existing physical-geographical conditions, but demographic and economic characteristics of regions Polimlje-Ibar. Specifically, of the total agricultural area (128.012 ha), arable land is pervasive in 14.828 ha or 11.58%. Limiting factors of optimal utilization, farmland was: relief (hilly-mountainous region), fragmentation of holdings, technological and technical equipment production, traditional economy and unfavorable demographic trends. Much less important in the agricultural land have orchards occupying 3.588 ha or 2.80% of total agricultural land. Orchards occupy mainly in the area of Polimlje-Ibar with higher slopes and sunnier slopes exposed, dominant soil is different varieties of forest soil. Negative effects of the small share of arable land and gardens and orchards in the total surface agricultural consequences are not only unfavorable demographic processes and unfavorable economic conditions, but also the spread of housing, transportation, and manufacturing facilities in the zone of greatest concentration of population and economic activity in urban areas regions Polimlje-Ibar. So the total area of are considered regions, barren land with a 16.25% participation. "The expansion of urban areas, industrial and technology parks and infrastructure networks on the one hand and the constant growth of population in urban areas, on the other hand, arable land is decreasing. Deforestation, then translating and transforming barren land into fertile and

arable land, this problem is partially mitigates, but deteriorating ecological balance. At the same time, the dynamic growth of the population, durable growing demand for food and consumer purchasing power, the problem of rational land use is constantly intensified" (Gulan and Umućević,2005).

Meadows alternate with fields and orchards. Frequently occurring loam type of soil and forest soil. If we analyze the share of meadow in total agricultural area of the region and then they cover 34.80% or 44.543 ha. Soil and climatic conditions of the area Polimlje-Ibar, the best favor the spreading meadows, pastures and forests. Therefore, meadows and pastures in the total agricultural area participated with 85.61% or 109.596 ha. Pastures is 65.053 ha, or 50.82% of total agricultural land. Such a large percentage of meadows and pastures in are overall structure of agricultural land, indicating hilly mountainous regions Polimlje-Ibar.

Figure 1 Regions Polimlje-Ibar on the map of Montenegro (Source: Regional Business Centre Berane (2004), marking regions was carried out by the author))

Here, we introduce another very interesting fact. Specifically, "the agricultural land in Montenegro is the largest share of pasture and grassland, and the most extensive land use categories together make up 88% of total agricultural land. In the European Union, no country has such a high proportion of meadows and pastures. Montenegro is the closest indicator of Ireland (73%), Great Britain and Slovenia (60%) "(www.btc.ac.me).

Table 2 Utilization of agricultural land in the area Polimlje-Ibar 2005

Categories of land and culture	ha	%		
		Participation in group	Fields and gardens	Agricultural areas
I. Fields and gardens	14.828		100	11,58
A. Grains	2.776	100	18,72	2,17
Corn	1.847	66,54	12,46	1,44
Wheat	417	15,02	2,81	0,33
Rye	87	3,13	0,59	0,07
Barley	425	15,31	2,86	0,33
B. Vegetables	5.660	100	38,17	4,42
Potato	4.109	72,60	27,71	3,21
Beans	206	3,64	1,39	0,16
Other vegetables	1.345	23,76	9,07	1,05
C. Fodder crops	3.578	100	24,13	2,80
Alfalfa	868	24,26	5,85	0,68
Other cattle fodder	2.710	75,74	18,28	2,12
D. Fallow land	2.814	100	18,98	2,20
II. Orchards	3.588	100		2,80
III. Meadows	44.543	100		34,80
IV. Grasslands	65.053	100		50,82
TOTAL	128.012			100

Source: Statistical Office of Montenegro (2006), Agricultural Census 2005, data calculations by the author

To get an adequate picture of the structure of agricultural land in the regions Polimlje-Ibar and here we apply the method of alternating dividers 6/6 and determine the next course of use of agricultural land:

P_4L_2- Mostly pasture direction of agricultural land with a higher share of meadows[2]

[2] The variables and their symbols used in the formula: O-arable land, V-Orchards, L-Meadows, P-Pastures.

Arable land is mostly used for sowing harvest. In area, where corn was grown grains is the dominant region of Polimlje-Ibar (1.847hectares or 66.54%). However, the total area under maize fields and gardens accounts for 12.46% and 1.44% of the total agricultural area. Thus, areas sown with maize are small and primarily determined by the amount of rainfall during the growing season, especially the government deficit in July and August, when the corn is in the process maturation grain. Stable yields of maize in regions Polimlje-Ibar may be provided irrigation of arable land. However, if one takes into account the temporal and spatial distribution of water suitable for irrigation is insufficient, and that they mainly used for irrigation of vegetable crops, then small amounts of water remain so available for irrigation area under maize. Wheat is the most abundant plant other crops in the area (417 ha or 15.02%). Are total area under wheat fields and gardens accounts for 2.81%% and 0.33% of the total agricultural area. Despite cultivars of use and considerably modern agricultural practices, especially in Bijelo Polje and Berane valley, wheat yields significantly determined by the agro-climatic conditions. However, the cultivation of wheat in regions Polimlje-Ibar, decreases significantly due, in large costs of its production and labor shortages, and because of the simple reason it's cheaper to buy bread in the shops than "look at the wheat field and worry about what will be her next race and the effort and expense" (Јаћимовић,1971). The grain structure similar changes have occurred in the rye and barley. Thus rye harvested areas in the region amounted to 87 ha, or 3.13%, barely 425 ha or 15.31% of the total area under cereals. Are total area under rye fields and gardens accounts for 0.59% barley with a 2.86%% and 0.07% with rye and barley, with 0.33% of the total agricultural area. Both cultures tolerate cold, drought, and even moisture, and succeed where other cultures would be difficult to adapt. In addition, the area under these crops is not great, because grown for subsistence and small areas and less fertile soils. Greatest importance in are diet of the area, despite changes in the way of growing a fodder with natural grasslands and arable land under livestock fodder. Moreover, as fodder and corn is used to feed livestock.

In 2005 the area of fodder production was 3.578 ha or 24.13% of the total arable land or 2.80% of the total agricultural area, sown area of alfalfa amounted 868 ha or 24.26% of total area under forage crops or livestock 5.85% compared to arable or 0.68% of total agricultural land. In the same period the area under other livestock forage crops (clover, vetch and mixture of herbs), encompassed an area of 2.710 hectares or 75.74% of total area under livestock fodder or 18.28% compared to arable or 2.12% of total agricultural land. The main reason for under-sown areas under cattle fodder is due to poor implementation, technology inappropriate select varieties and protective measures. Areas under natural grasslands amounts 109.596 ha. The surface of 44.543 ha of meadows and pastures 65.053 ha share in total agricultural area, and meadows with 30.80%, pastures.50.82%. Dying of sheep and goat farming in this region, all-over fields and pastures win a variety of shrubs and weed communities. Weed vegetation occurs in a large number of species in agricultural areas, along roads and boundaries. The representatives are: Nettle, dandelion, spurge, wild oats, bonito, buttercup, bur ….. A combination of mechanical, chemical and biological methods can be suppressed weeds only during a rotation crop rotation, however, but in the next, he reappeared. Vegetable farming is one of the most intensive field crop production in the region Polimlje-Ibar, given the effort and the realized production. Total area under vegetable crops in 2005 amounted to 5.660 hectares or 38.17% of the total arable land, or 4.42% of the total agricultural area. Potato is the official statistics dominant vegetable crop. Under these vegetable crops there were 4.109 ha or 72.60% compared to the total sown area under vegetable crops or 27.71% of total arable or 3.21% of total agricultural land. The basic problem is even larger sown area under potato is the fact that despite the use of quality planting materials (the Dutch seed potato and homemade potato), the unfavorable rainfall patterns in the second half of the growing season. Beans grow best in fertile soil and loose, particularly at the upper flood plains regions. Traditionally sown as intercrop maize, but the penetration of sunlight hinders its development. It has caused the so-called bean planting "Pure culture." The total

area under bean in the region Polimlje-Ibar in 2005 amounted to 206 hectares, or 3.64% of the total area under vegetable crops or 1.39% of the total arable land, or 0.16% of the total agricultural area. Other vegetables (onion, cabbage, cucumbers, pumpkins, peas ....) are very widespread in the region. Area planted to these kinds of vegetables amounted to 1.345 hectares or 23.76% of the total area under vegetable crops or 9.07% of the total arable land, or 1.05% of the total agricultural area. The introduction of new varieties, improved agricultural technology and organization of production, planted area under "other vegetables" may be increased due to the favorable natural and ecological conditions in the area Polimlje-Ibar.

Table 3 Sowing structure of arable land in the region Polimlje-Ibar 2005

Year	2005.	
Category land	u ha	%
Fields and gardens	14.828	100
Grains	2.776	18,72
Industrial Crops	-	-
Vegetables	5.660	38,17
Fodder crops	3.578	24,13
Uncultivated arable land	2.814	18.98

Source: Statistical Office of Montenegro (2006), Agricultural Census 2005, data calculations by the author

According to the data from Table 3 in the structure of the arable area in 2005, there was 18.72% in wheat, vegetables 38.17%, cattle fodder 24.13% and uncultivated arable land 18.98%. Arable land is the most important category of land. However, the statistics for 2005 show that spontaneously abandoned arable land or planning translated into other categories of land, or alienating for non-agricultural purposes. Adverse changes in are structure of use of arable land is contained in the fact that in 2005 was 2.814 ha of uncultivated arable land, or 18.98%. This much uncultivated arable land area is primarily caused by the appearance of old households that are not able to cultivate their property. To get an adequate picture of the structure of arable land in the region Polimlje-Ibar, and here we apply the method of alternating dividers 6/6 and determine the next course of using arable areas:

$Po_2Sk_2Ž_1No_1$- Type the equal participation of vegetables, animal fodder and fodder grain participation and uncultivated arable land[3]

"This direction obtained using arable land is a typical reflection of a poorly developed agriculture, where arable land is not used rationally"(Todorović,1985). We will briefly indicate the four major problems in using arable surface, and the possibility of their solution:

1. Extensive land use with extensive planting structure,
2. The relatively small size of the estate private estates (with an average of about three acres), which represents a significant obstacle to the farmers become increasingly robin manufacturers,
3. Increased intake of organic matter and low use of organic fertilizers, especially manure,
4. Land degradation. Today the area Polimlje-Ibar, erosive processes caused by water up destroying farmland "(Gulan and Umućević,2005).

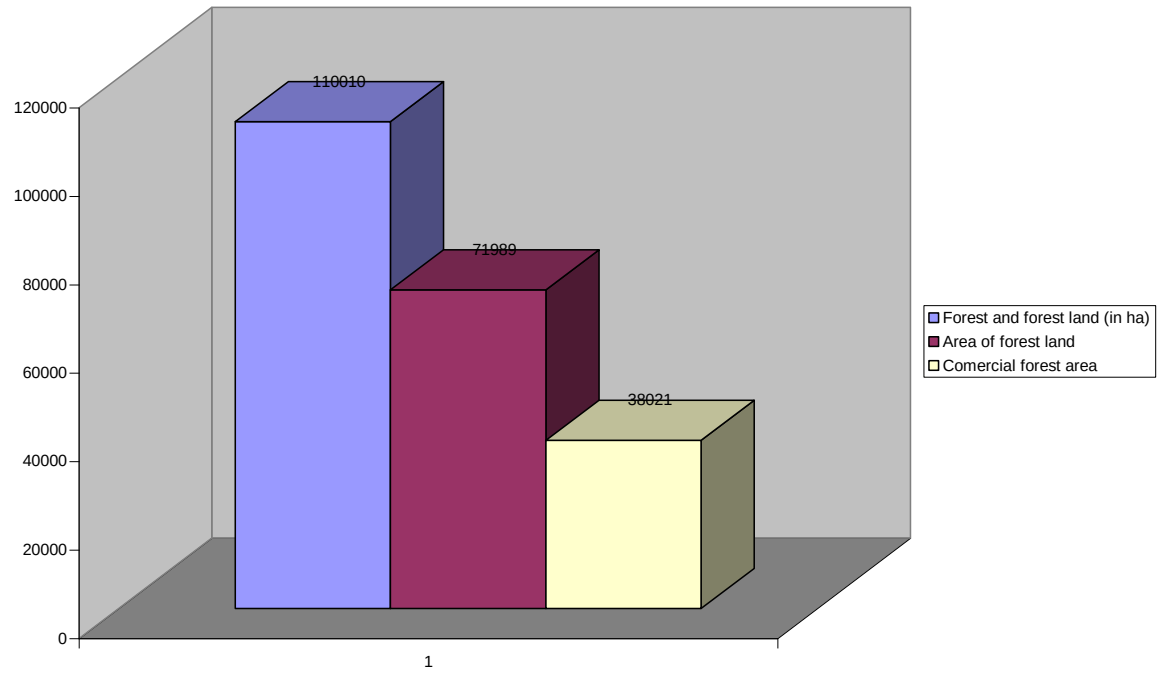
Most pastures and meadows in the area Polimlje-Ibar with a small investment can be a source of healthier and better quality feed, and also the huge potential fodder for integral or organic livestock production. In the case of poor care and utilization of pasture degradation of high-quality grass. Degradation of grass in the pastures in the area, mostly because of the influence comes two groups of factors: environmental and anthropogenic. The environmental group factors Spotlight drought, frost, high temperatures, hail, salt .... in anthropogenic: proper care and use, proper selection of grass and clover, and their relationship, the correct choice of fertilization techniques, proper organization of grazing. Good organization in the region Polimlje-Ibar timely would include mowing, cleaning debris pasture in the pasture; prevent the development and spread of weeds and other plants, UNDERSOWING natural grasslands and grassland biodiversity Reclamation. These factors depend exclusively with the human factor, and they are extremely important for the yield and quality of grass mass. These factors

[3] The variables and their symbols used in the formula: Ž-grain, I-Industrial Crops, Po-Vegetables, Sk-cattle-fodder, No-uncultivated arable land

depend exclusively with the human factor, and they are extremely important for the yield and quality of grass mass (Euđen and Lukaćev,2012).

Forest land and commercial forest area in the region Polimlje-Ibar, according to the National Statistical Office of Montenegro in 2005, 110.010 hectares were occupied, this means that 38.71% of the territory of the region and is covered with forest vegetation. Respectively, forestland, comprised 71.989 ha or 25.33% of the total districts Polimlje-Ibar, commercial forests and the area was 38,021 ha or 13.38%. Natural conditions in the area caused the structure of forest communities. The alluvial plains and glacial fluvial terraces Lim and Ibar are characterized by extremely low vegetation. Forests are mostly mixed, while the most common types are: hydrophilic woods willow, poplar, alder, elm, oak, oak, beech, birch, maple.

Graf 2 Area of forest land and commercial forest area the total area in regions Polimlje-Ibar 2005 (in %)



Beech occurs most often in the form of your images: four: beech (at lower elevations), mountain beech forest at altitude 1.000 – 1.300 m altitude, subalpine beech forest at altitudes greater than 1.800 m with spruce-dominated forests. With some of are mountainous stretch of the mountain forests molike and pine.

Above this band represented the expanse of white and red pine. Some forest stands and makes the dwarf pine, whose propagation exceeds 2.000 m above sea level, or juniper us stops above 2.200 m.

Table 4 The structure of forest reserves in the area Polimlje-Ibar 2010

Forest stand	Timber in m^3	%	Gross weight in m^3	%
Hardwood	7.009.279	43,55	59.607	34,20
Softwoods	9.086.995	56,45	114.679	65,80
TOTAL	16.096.274	100	174.286	100

Source: Ministry of Economy of the Government of Montenegro (2011), Resource Map, calculation of data by the author

Regarding the breeding categories, dominated by coniferous forests. Specifically, of are total wood volume of 160.096.274 m^3, coniferous waste 56.45% (9.086.995 m^3), of deciduous trees and 43.55% (7.009.279 m^3). The total gross weight, estimated at 174.286 m^3. In coniferous forests of 114.679 m^3, or 65.80% of the total gross weight and in sawmills 59.607 m^3 (34.20% of total gross weight).

Table 5 Felling of trees and the forest in m^3 in 2010

Total wood volume 174.286 m^3		
Round wood, trimmed and torn tree	105.953	60,79
Firewood	36.437	20,91
Trash	31.896	18,29
Of the total harvest		
State forests	127.511	73,16
Private forests	46.775	12,40

Source: Ministry of Economy of the Government of Montenegro (2011), Resource Map, calculation of data by the author

According to the Ministry of Economy of the Government of Montenegro from 2010 gives the resulting total wood volume in the region Polimlje-Ibar was 174.286 m^3,which of the timber, trimmed and torn wood accounted for 105.193m^3 or 60.79% of the total harvest, firewood to 36.437 m^3 or 20.91% and cull 31.896m^3 or 18.29%. Of the total logging (174.286m^3), the national forests accounted for 127.511 m^3 or 73.16%, on private forest 46.775 m^3 or 12.40%. To forest vegetation played a proper function for economic development in regions Polimlje-Ibar, it is

necessary in the future to pay special attention to the preservation and reproduction of forest reserves, especially commercial forests.

According to internationally adopted definition, sustainable (permanent) forest management "means ... the management and use of forests and forest lands in a way and at such a level, to preserve the biodiversity and productivity, renewal, vitality and potential of forests to be at a level that would meet the relevant environmental, economic and social needs of the present and future generations of both local and national levels, and that without endangering and damaging other ecosystems" (MCPFE, Helsinki, 1993).

Wood processing industry in the region Polimlje-Ibar, which until now, its development directed to finalize the primary production (timber, wood panels .....), should be able to define their production and the production function, would mean the provision of all the products from the forest, which can be valorized through the production of wood volume and other forest products. In addition, as the main forest product occurs virgin wood, either in the unprocessed (sawmill logs, firewood, lumber) or processed form (furniture, cellulose). The other products are some of the woods, which are gaining increasing importance: venison, fish, snails, berries and seeds, mushrooms, resins, essential oils, juices, roots, leaves, lichens, moss peat, stone, gravel, sand and ... ., for which there is no prohibition on the collection.

Before a hundred years or more livestock is largely in the area-Polimlje-Ibar rested on the use of forest products as an energy food, especially oak, beech acorns and wild fruit and chestnut. Today this method of feeding livestock are rest mostly just a memory (see more work Rajović, 2013 b). From the economic point of flora forest (110.010 ha) and pastures (65.053 ha) is enriched with various kinds of medicinal plants and edible mushrooms. Especially important are some types: mushrooms, wild strawberries, raspberries, cornelian cherries, rose hip, blueberries, juniper berries. The area has been registered over 80 medicinal plant species. Most of them are ranked highly in traditional medicine, pharmaceutical manufacturing. In the forests and meadows regions (44.543 ha), are growth of

many types plant species, most of which are edible and medicinal. Many of them have the highest nutritional values: St. John's worth, thyme, wormwood..... used as a tea. The belt of forest in the region is particularly interesting as a living space ranging: wildlife, birds, fish and insects.

One of the priorities of the European partnership is the application of the concept of sustainable development. Some of the opportunities (opportunities) that the forestry sector regions Polimlje-Ibar provide implementation of sustainable forest management are:

1. The possibility of using foreign investment and domestic funds,
2. Establishment of sustainable forest management in line with potential,
3. Reduce pressure on forests concentrated recollection,
4. Increasing percentage of forest cover,
5. Increase the number and quality of wildlife.

During are last 150-200 years of rapid and fundamental change: economic, technical, social, political and cultural conditions marked by are composition and structure of today's forests. So they are on the one hand these historical processes, and on the other development options for present and future society (Öesten and Roeder, 2001).

Conclusion

Our research records, based on similar studies Vujadinović (2008), pointed to the fore several important conclusions:

1. Natural resources (land, forests) with their deployment and qualitative characteristics are favorable for the development of regions Polimlje-Ibar,
2. The most important natural resource is land regions. Of the total area districts (284.200ha), the agricultural surface is 45.04%, of forest land and commercial forests 38.71% and 16.25% arable land,
3. On the territory of the regions Polimlje-Ibar insufficient attention was paid to the problems of agricultural development, especially the choice of the

optimal structure of production. Also, the present method of management is a function of agricultural development. Greater appreciation of agriculture as a primary activity, which can be exploited comparative advantages of regions,

4. Applying the method of agro-geographical study of the typology of Agriculture (alternate method splitter in the system 6/6), we have selected the types (lines) of soil in the area. Separate types (directions) land use districts indicate that agriculture is not in agreement with all available natural and social conditions. Discrepancy between available resources and modern agricultural production is determined by the global economic policy, tradition, demographics, economic structure and market,
5. Forest regions on are one hand is a testimony to the historical process, and on the other development options for present and future society. Sustainable forest management involves the management and use of forests and forest lands in a way and to such a degree, to preserve the biodiversity and productivity, renewal, vitality and potential of forests to be at a level that would meet the relevant environmental, economic and social needs of the present and future generations of both local and regional, or national level, and that is without compromise and damage other ecosystems.

References

1. Rajović,G.,(2013a). Economic-Geographical View of the Status and Perspectives of Agricultural North-Eastern Montenegro, Journal of Agriculture and Sustainability, Volume 2, Number 1, Iinfinity Press, Australia, pp. 22-42.

2. Statistical Office of Montenegro (2006), Census population 2003.year. Podgorica.

3. Kostrovicki,I.,(1969). "Typologia rolnictwa, Preglad Geograficzny", Volume XLI, Number 4, Warszawa, pp. 599-621.
4. Kostrovicki,I.,(1970). Some Methods of determining land use and agricultural orientations as used in the Polish land utilization and typological studies, Geographia Polonica, Book 18, Poland, pp.93.
5. Jaćimović,B.,(19076). Methodology agro-geographic study of typologies of agriculture, Proceedings of Institute of Geography Faculty of Science, Volume 23, Belgrade, pp. 94-99.
6. Tyszkiewicz,W.,(1978). "Przemiany struktury przestrzennej rolnictwa Polski 1950-1970, Prace Geograficzne", Volume 126, Ig and PZ PAN, Poland, pp. 15-54.
7. Todorović, M., (1985). Development of modern agricultural complex in Gornji Milanovac, Proceedings of the Geographic Institute "Jovan Cvijić ", Serbian Academy of Sciences and Arts, book 37, Belgrade, pp.41-78.
8. Statistical Office of Montenegro (2006), Census agriculture 2005.year. Podgorica.
9. Gulan, B. and Umićević,B.,(2005). Future land-resource, Agricultural Economics, Institute of Agricultural Economics, Number 4, Belgrade, pp. 421-428.
10. ***(2011).Natural conditions. Available from: http://btf.ac.me (16.01 2013).
11. Regional Business Centre Berane (2004), Profile municipality of Berane. Available from: **http://www.nasme.me** (15.01 2013).
12. Jaćimović, B., (1971). Socio-geographic transformation and land use in Ostružnica in Belgrade Posavina basin, Journal of Geography Institute, Number 17, Belgrade, pp.217-240.
13. Euđen, B. and Lukačev, Č.,(2011). Care pastures and meadows, Agro Press Association of Agricultural Journalists. Available from: http://www.agropres.org.rs (17.01 2013).
14. Ministry of Economy of the Government of Montenegro (2011), Resource Map. Available from: http://www.minekon.gov.me(18.01 2013).

15. (1993): The General Declaration and Resolutions, Second Ministerial Conference on the Protection of Forests in Europe, Helsinki.

16. Rajović,G.,(2013b). Economic- Geographical View of the Flora and Fauna: The Case Northeastern Montenegro, Journal of Sustainable Development Studies, Volume 2, Number 1, Iinfinity Press, Australia, pp.24-68.

17. Ö e s t e n, G. and R o e d e r, A., (2001). Management von Forstbetriben, Band 1, Grundlagen, Betribspolotik Verlag Dr Kassel, Remagen – Obervinter

18. Vujadinović, S.,(2008). The structure and land use directions municipalities Knić, Journal Serbian Geographical Society, Volume LXXXVIII, Number 2, Belgrade, pp.79-93.