

ASPECTS OF LAND AND THEIR DISTRIBUTION IN MARIOVO AND RAJEČKA VALLEY IN REPUBLIC OF MACEDONIA

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Abstract: The space Mariovo and Raečka valley in terms of pedological structure has a lot of interesting and heterogeneous composition. Major role in making various types of soil are: climate, mineral - geological, biological and anthropogenic factors on the territory Mariovo and Rajecká ravines encountered several forms of land, occupying the largest area: tea forest land, Ranker, Deluvial (colluvial soil), Aluvial, Litosole (rock gardens), Regosole (Sirozemi on loose substrates), Varovnička - dolomite soils, rendzina, phenolic and forest land Rigolovane zemjiššta (Rigonole). As a result of field research and developed a thematic map of the spatial distribution of forms in the grounds, and Mariovo Raečka valley.

Key words: grounds, forms, grounds, structures, cartographic aspects, a thematic map.

Introduction

For a long time Kavadarci Municipality, Prilep and novices as well as higher educational institutions are taking a variety of scientific projects, to assist in the revitalization and Mariovo Raečku Kotlina over the allocation of various state subsidies for farming, grain farming, industrial culture, fruit, viticulture, sheep, cattle, production of milk, meat and so on.

The investigated region has geographical coordinates: 41° 28' 40" 58' 50 and 55 north latitude, and 21° 33' 21" 58' 58 and 30 EGL. The area belongs to Mario's three municipalities Kavadarci, Prilep and novices covers an area of 828 km². The maximum length of SJ Mariovo region is 39.5 km and the maximum width of 35 km, the average altitude is 1090m. The highest point on the mountain you find Niđe, Kajmakčalan peak (2521m), and you find the lowest point in the river bed of Pološki west of the village (215m). In Mariovska Kotlina there are 28 villages, 4 in OP. Kavadarci, 14 in the OP. Prilep and 10 villages in the OP. Novices.

Rajecká valley has a geographical coordinates: 41° 17' 41" 26' 20 and 52 north latitude and 15 and 21° 40' 21" 49' 60 EGL. Rajecká valley you find in the NE part OP. Prilep with a total length of its borders on all four sides of 59-60km. Occupies a total area of 206.9 km², or 12.3% of the total area OP.Prilep or 1.2% of the Republic of Macedonia. In Rajecká Kotlina there are 10 villages. The total area of the study region and Mariovo Rajecká basins is 1090 km². To integrate this provided the necessary expertise and more detailed pedological investigation of soil and accurately determine the types of land and build a thematic map of the distribution of soil types.

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Materials and methods

Climate and weather data: air temperature, monthly secondary, relative humidity, winds: the direction, the frequency and types of winds, cloudiness, and the sum of their monthly rainfall averages in mm., Transformed rainfall sums (precipitation) for certain altitudes and Annual age were used from meteorological stations in Prilep and Bitola and Skopje SORS, Statistical Yearbooks from the years 1972-2001 and 2002-2011. To integrate obtain a better picture of the studied basins were used in field studies (Koteski, 2003). Also used as a basis for forest Stopanska (1998-2007 Vitolišku sum, Nide 1, 2001-2010, Kajmakčalan 2003), the literature for Trojačka depression (Mitrikeski, J., Petkovski, D. 1989), To integrate more accurately determine the composition and forms land used as scientific research, UKIM-Skopje-Skopje Agricultural Faculty, soil Science third edition (Filipovski, D.1984), Conference / natural and socio-economic characteristics and opportunities for the development of Mariovo.

Results and discussion

During more research yearly Mariovo and Raečka Kotlina Differences in soil types with basic features:

Brown forest grounds, you find relief in a mountainous area, where it occurs on the substrate Maticane silicate (gneiss, and micashist shale), and where there is a cool mountain climate and forest vegetation. It occurs in a wide altitude zone of 700-1500 m above sea level, in this area meet together and with Regosole Litosole. This land is of great importance for forestry of their happiness in the woods Vitoliška altitude of 900-1750 m. (SSE-Vitoliška forests, 1998-2007), the mountain Nide (SE-Nide, 2001-2010), and Rajecká valley at altitude of 700-1500m. From Brown forest ground there are several types of land under such as sour Brown forest land, land and light Brown land on limestone (limestone).

Sour Kafeavi Mariovo land exists in the altitude of 700-800-1400 m., Vitolišku in the forest, in NW. Nide 1, 2 and Nide Rajecká valley in the NW-Derventa Nikodin the altitude of 700-1500m.

Light Kafeavi you find land in the NE-2 and Nide Kajmakčalan the nv of 870-1100 m. SSE Labinica - Vitoliški atar to 1000 m above sea level, and Rajecká valley in NE-Tsarevich-Dren-Belovodica the altitude of 600-1300m. and Derventa Nikodin above the sea level at of 800-1200m.

Kafeavi land on limestone (limestone) is located in the southern part of St. Mary in the altitude of 600-1600m. in Nide SSE-2, and Kajmakčalan Labinica Kozjak the mountain.

Ranker are on a larger area and belong to the group of humus siliceous soil. This type is mostly found in hilly and mountainous areas which are of limestone, such as mountain Selecka Dren and the altitude of 1000-1400m. Characteristic is that this type of land are very rich in humus and are developed grass vegetation.

Talus Soils are most numerous in the peripheral parts of the Mariovo Rajecká and touch the valley at the mountains and valleys. They originated from the erosion processes that are set up with effect heavy waters, which enter the valley brought a deposition of eroded material. Texture of this soil is different sand of the clayey soils,

this type of land can be raised: cereal, industrial culture and pruning (Mitrikeski, J., Petkovski, D., 1989).

Alluvial soils are much prevalent the river such as the Black River and its tributaries in Mariovo and small rivers in Rajecká valley. This land is constantly renewed with sediment, are rich with humus and biogenic elements. This land is layered and has a different color depending on thickness. In terms of their high fertility, suitable for training field cultures.

Litosolo (rock gardens), this type of land we meet him under a different name for example: syrozem, Skeletal undeveloped land, primitive land and other names. This is undeveloped land with an initial humus accumulative horizon. Land is the only place set up, mostly with the physical decay and erosion of fine particles you find in this land west of Rajecká Kotlina s.Toplica, NW of s.Nikodin r.mesta id. Most often occurs in complexes with other types of land: Kafeavi forest land, Varovnička-dolomite soils and the like. This land covers steeply bow where erosion is more intense. This type of soil you find in the woods Vitoliska, and Niđe Kajmakčalan (SSE-Kajmakčalan, 2003), altitude of 300-1740m. This soil type occurs under poorly developed vegetation (mosses, lichens, and shrubs). Neither they are suitable for the crops and the best fit for the woods.

Regosoli (Sirozemi on loose substrates) defines as undeveloped or underdeveloped land formed on loose substrates (except for the recent contemporary,, alluvial and eolian sediment), this type of land is particularly Rajecká Kotlina s.Smolani of JI, the JI s. Nikodin and the sG S and M Radobil. The dominant factor in the genesis regosole the man with the destruction of the natural rastitelnost in the lower portion for receiving the arable land. Regosole in Rajecká Kotlina most occur in the corrugated-hilly terrain, especially in those places where erosion is more pronounced. You find the above the sea level of 300-800m., it is the Soils that are protected from erosion, their fertilization with organic and mineral fertilizers, irrigation and expanding fields.

Varovnička-dolomite black soil that is humus-accumulative soil layer with a developer or moličan limited horizon that lies directly on pure limestone and dolomite. This land (Mitrikeski, J., Petkovski, D., 1989), we find in Rajecká valley at night on the surface Kozjak, Leska and Gaber. Of field are of special interest, most of this land is under the high mountain vegetation. U Rajecká Kotlina this land shall be established in mountainous terrain at the highest altitude of 800m., in terms of mountain karst topography. Production capacity of this soil is low, they are shallow, and in the summer bridge permeable culture suffer for water. Care should be taken that food stuffs guilty to erosion and unsuitable for grazing over the summer.

This rendzina soil (Mitrikeski, J., Petkovski, D., 1989), we see it, and under other names (para-rendzina, humus-calcareous soil, etc.). Some scientists Rendzinas treated together with Varovnička-dolomite soils as a form of land . Rendzina developed land with humus accumulative horizon, this type of soil you find in localities close to Sladun s.Trojaci, S of Poljane west of s.Carevič, NW of s G. Radobil between length and dry river Raec, Z and I of s. Nikodin, I s.Toplica of the Rajecká valley. Rendzina are above the sea level at of 300-700 m. This land is one of the more productive land in Rajecká Basin, it is a good loose soil with watery, airy and warm capacity. This land, if not use it

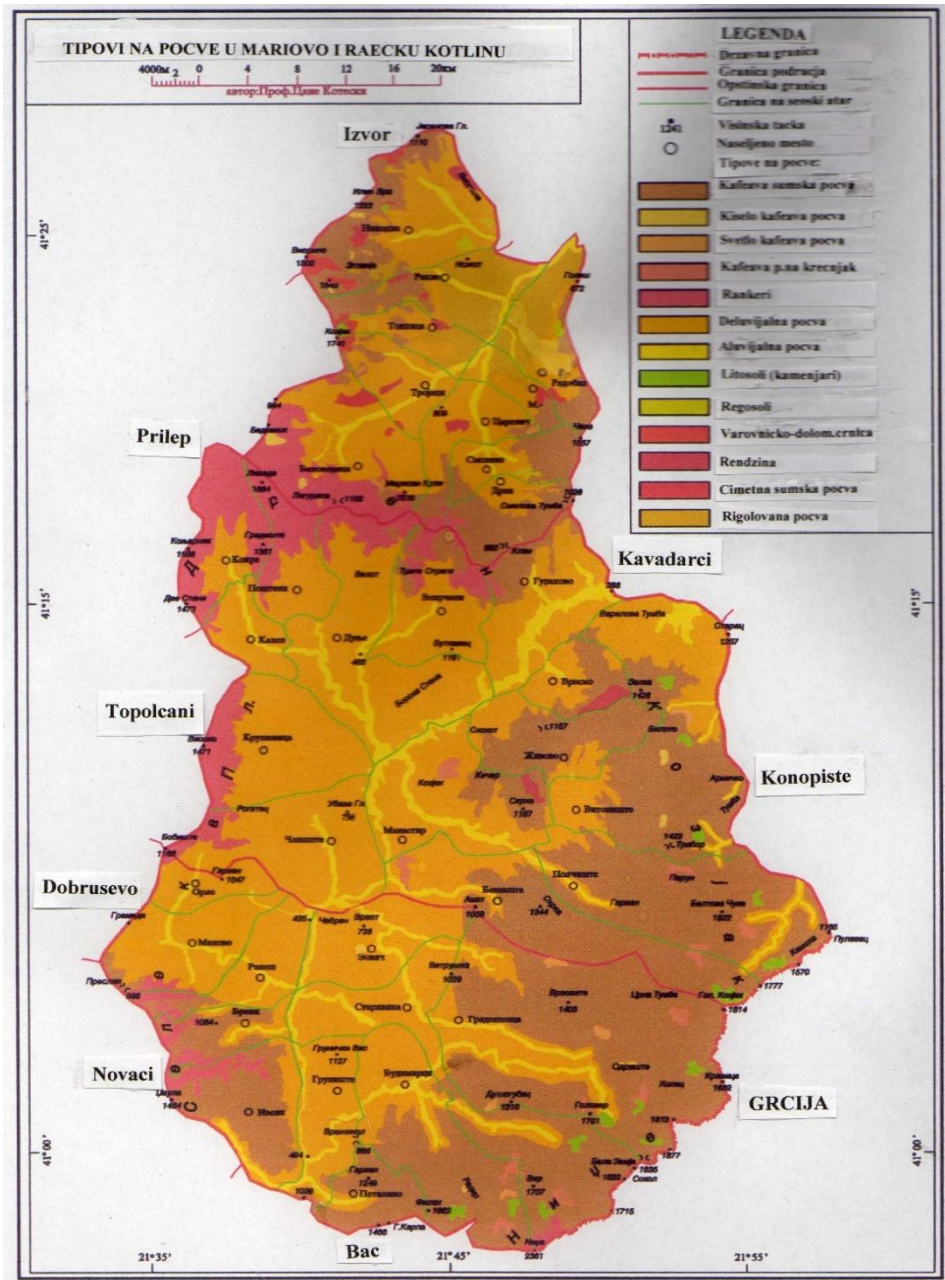
for farming it is diluted below the oak vegetation and ground floor with a lot of grass vegetation.

Phenolic forest land are formed in regions with strong influence of climate on mediterranean of 800m. This type of soil you find in the village Rajecká Kotlina: s. Belovodica north, G and M Radobil, Raklem, Nikodin id r.najviše occurs in complexes with rendzina and regosole at flattened relief forms are covered with a phenolic forest land, and the steeply parts of reliefs belonging to the rendzina and regosole. In s. Raklem is committed to regolovanje cimetnito forest land and built on it are vineyards. For the development of this ratarsta and vegetable land in Rajecká Kotlina are of great importance, many are widespread and have relatively high fertility, quality.

Rigolovano land (Rigonole) this type of soil as a result of anthropogenic activities. The man with the trenching was done by a mixture of two or more horizons and layers and created anthropogenic horizon. Trenching in Rajecká valley has been done to raise the grape intensive crops. This land was obtained from trenching cement and rendzina forest soil. When trenching reddish anthropogenic horizon has hue, and trenching on the rendzina this horizon has a lighter color, because it contains more humus and carbonates. This land is characterized by the large amount of slopes. It is necessary to fertilize land with organic and mineral fertilizers as well as taking measures for the improvement of soil structure.

Cartographic aspects

For researched Marioska and Rajecká Kotlina are made thematic maps for spatial distribution various types of soil and surface. For making thematic maps we used the best method cartograms, which shows the different types of land for rural districts. As the primary tool are used the colors, and as auxiliary funds are: area, perimeter, alphanumerical and geometric signs, with the view that it is a small territorial units (Atari-(areas)), using this method to get a realistic representation of dispersal various forms of land by the district, shall mean the quantitative characteristics appear in every single area. If this method of cartography will be used for the bigger municipality, then the intensity of the municipality will not be adequately represented.



Map 1. The spatial representation of different forms of land in the valley Rajecká Mariovo and the Republic of Macedonia.

Conclusion

We can safely conclude that the Mariovo and Rajecká Kotlina There are the following types of land: Brown forest land with the types, Brown sour, light and Brown land on limestone, ranker, talus, alluvial soil, litosolo (rock gardens), regosoli (sirozemi on loose substrates), Varovnička-dolomite soils, rendzina, phenolic rigolovano forest land and land (rigosole).

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