NATURAL CHARACTERISTICS OF THE GACKO AREA

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INTRODUCTION

The Republic of Srpska has around 0.85 ha of agricultural land per inhabitant, of which about 0.60 ha of cultivable (plow, garden, orchards, vineyards, meadows), or around 0.40 ha of fields and garden. Currently, only about 0.20 ha per inhabitant is cultivated. The above data shows that the level of use of natural resources is low, with the tendency of further reduction. In the world, an area of 0.10 ha of arable land per inhabitant is considered a lower limit. The annual land losses in the Republic of Srpska in the process of its destruction are over 1500 ha.

CHARACTERISTICS OF THE STUDIED AREA

The Gacko basin is located in the Gacko field in the southeastern part of the Republic of Srpska. It extends over an area of about 40 km2 at an altitude of about 940 m in a typical karst region. Gacko is located as a territorial unit of the Republic of Srpska located from 43°01' to 43°23' north latitude and from 18°20' to 18°42' east longitude. Altitude is the most elevated mountain part of Herzegovina, with an average altitude above 1000 m.

THE GEOLOGICAL CHARACTERISTICS

The Gacko field is characterized by significant stratigraphic diversity, but the leading place belongs to various sedimentary rocks. Sedimentary rocks belong predominantly to Mesozoic and Kenosoic complexes. Among the Mesozoic sediments are represented: triassic, jarassic and creda periods. It's mostly limestone, but rarely dolomiti.

THE MORPHOLOGICAL AND HYDROGRAPHIC CHARACTERISTICS

In the study area there is The Gacko field which represents a typical karst field, which is drained through the sink. The direction of delivery is northwest-southeast. The Gacko field consists of the Veliko Field, whose northwestern part is flat, and the south-eastern slopes are mundane, and the Malo Field.

THE CLIMATE CHARACTERISTICS

Based on the data from the weather station in the Gacko and the meteorological annual for the period from 1950 to 2015 year, are given the characteristics of the climate of the investigated area. The climate of the wider area of Gacka is continental-mountainous, which means long (half-November in mid-April) and cold winters (very rarely below -30^{0}C) and relatively short summers (June-August) with temperatures sometimes over 30^{0}C.

THE CHARACTERISTICS OF THE VEGETATION

Ground vegetation, which is present on mountain pastures and meadows, is a natural meadow vegetation dominated by the meadow community of stonecutters, *Brometo-Chrysopogonetum*, and the species *Festuca sp*., *Andropogon ischaenum*, *Scabiosa oshrdenca*, *Salvia officinalis*, *Stipa sp*., and other species.

THE SOIL CHARACTERISTICS

The external morphology of limestone-dolomite black soils

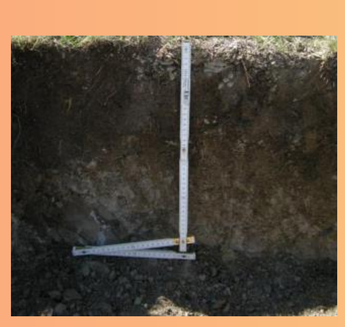
Location: Slivlja
Elevation: 1120 m
Relief: flat
Vegetation: Pasture
On the pedological map of BiH R 1: 50000 soil described as: Rendzinas on compact limestones, brown soil on limestones and cherts and delluvial soils of sinkholes cRZ +C, RžB+DV (40% + 40% + 20%)

The external morphology of limestone-dolomite black soils

Order: Automorphic
Class: humus-accumulative
Type: limestone-dolomite black soil (Calcomelanosol)
Subtype: Organomineral black soil
Variety: lytic
Profile: A-R
Form: With mollis horizon
Amo (0-20 cm) - mollis, accumulative-humus horizon of brown color (7.5YR 4/2) when dry and when wet dark brown (7.5 YR 3/2). Texture is silty loam, powdery structure, non-carbonate, strongly imbued with veins of grassy vegetation.

The external morphology of Rendzina

Location: Medanić
Altitude: 955 m
Relief: gently sloping
Vegetation: meadow
On the pedological map of BiH R 1:50000 soil described as: Rendzinas, brown very shallow and shallow soils on compact limestones and delluvial soil of sinkholes
C5RZ C51,2B+DV+(50%+30%+20%)



The internal morphology of Rendzina

Order: Automorphic soils
Class: humus-accumulative soil
Type: Rendzina
Subtype: On calcareous gravel
Variety: Carbonate
Profile: Amo-AmoC-C
Form: Deep
Amo (0-12 cm) mollis, accumulative-humus horizon of light gray color (10YR 6/2) when dry and when wet dark gray (10YR 5/2). Texture is silty clay loam, powdery structure, calcareous.
AmoC (12-25 cm), gray (10YR 5/1) when dry and when wet dark gray (10YR 4/1). Texture is silty clay loam, powdery structure, calcareous.
C (25-50 cm) of light gray color (10 YR 6/2) when dry and when wet dark gray (10YR 5/2). Texture is silty clay loam, prismatic structure.

External morphology of brown soil on limestone and dolomite

Location: Vrtine
Altitude: 960 m
Relief: Upland
Vegetation: meadow
On the pedological map of BiH R 1:50000 soil described as: Brown soils on limestone and dolomite rž,cB

The internal morphology of brown soil on limestone and dolomite

Order: Automorphic
Class: Cambic soils
Type: Brown soil on limestone and dolomite (Calcocambisol)
Subtype: Typical
Variety: Medium deep
Profile: Amo- Amo II- (B)
Form: loamy
AmoI (0-5 cm) - mollis, accumulative-humus horizon of light brown color (10 YR 5/4) when dry and when wet brown color (10 YR 4/4). Texture is loam, crumb structure, non-carbonate, imbued with veins of grassy vegetation.
AmoII (5-15 cm) - light brown (10 YR 5/4) when dry and when wet brown color (10 YR 4/4). Texture is loam, crumb structure, calcareous, imbued with veins of grassy vegetation.
(B) (15-42 cm) - light brown (10 YR 5/6) when dry and when wet dark brown color (10 YR 4/4). Texture is clay loam, large grained structure, calcareous.

CONCLUSION

The using soil in the Gacko has an emphasized extensive character, with expressed tendencies of insufficiently planned and irrational approach. Land losses are caused primarily by unplanned construction of residential, industrial and infrastructure facilities, irrational exploitation of mineral resources and excessive erosion caused by deforestation, and irregular handling on slopes. Gacko belongs to different geological and climatic regions, so in this area there is specific orography, geological background, hydrology Although under anthropogenic influence, geodiversity is still locally preserved, so it should be placed under an appropriate system of sustainable management (Tunguz, 2015).