

STUDIES ON THE EVALUATION OF THE POTENTIAL AREAS URLATI TO SUPPORT SUSTAINABLE FARMING

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Abstract

Natural potential of an area determine its readiness to develop in sustainable conditions, is the basis of economic processes in rural areas. The study shows favorable conditions for agriculture are necessary to determine the extent to which each factor limiting agricultural productivity and natural supports.

Key words: *Climat conditions, environmental factors, hydrographic basin, primary natural potentil, sustainable exploitation*

INTRODUCTION

Socio-economic development of an area depends on the natural resources it provides for use in accordance with requirements imposed by the development, evidenced by general policies, local and regional area.

Natural potential of a territory defined by the set of resources that makes up the environment can be analyzed after the magnitude and specificity of each constituent part.

Primary natural potential consists of the basic factors that determine the formation and evolution of the environment and natural potential secondary potential derived from primary natural environment consists of exploitable resources natural. (Mărăcineanu Fl. et al., 2006).

MATERIAL AND METHOD

Evaluation of natural potential of the study area reveals the natural opportunities to support sustainable development.

The basic element which generates complex environmental factors is the location of the area is located in the southeast of the county Prahova, in 45° north latitude and 26° east longitude, in the contact zone of the Romanian Plain (subunit of hilly plain Mizil-Stalpu) and Carpathian hills.

The study area is bordered to the north by the commune in the south Iordăcheanu Albesti Paleologu and Tomsani villages in the east of the village Ceptura and villages in the West Valley and Plopu Calugareasca.

The access to the area is National Road 1B Ploiesti - Buzau, in Albesti Paleologu at a distance of 4 km on County Road 102 W and rail access is from Cricov station, located at a distance of 6 km.

Of the total surface area of 4367 ha, 1372 ha are occupied by urban and rural property is 2995 hectares. Large share of unincorporated be explained by the existence of large areas outside influence that farming is well defined.

Also, hilly terrain determines the existence of extensive areas between the 16 localities of the study area.

Study of the natural elements covers the main elements on which environmental quality to support farming land climate, soils, geotehnica. Datele are processed by modern methods to obtain correct conclusions that underlie the development of proposals for programs substantiation the activities sustainable agricole.

RESULTS AND DISCUSSION

Morphology. From geological point of view, the area is located in the contact zone of the

Romanian Plain and Carpathian hills (Figure 1).

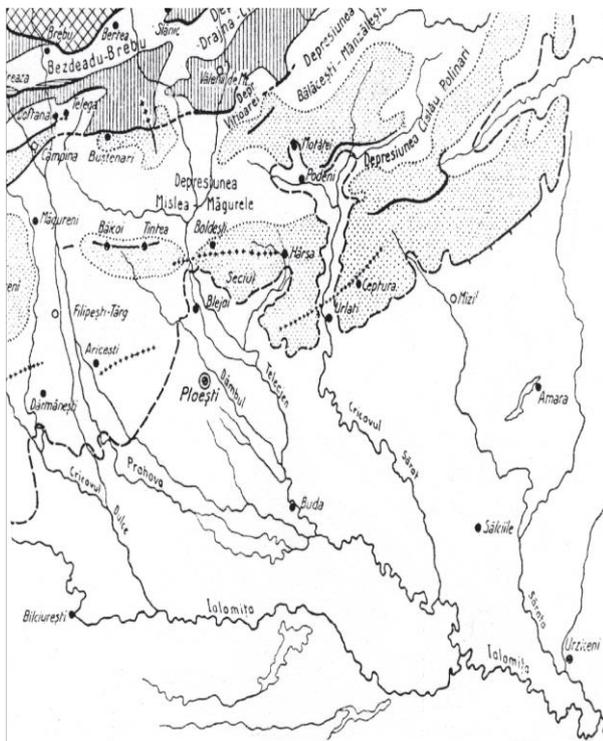


Figure 1. Morphological and tectonic in the area of study

The terrace area, which rises to 6 to 12 m above the river level Cricovul Sarat and inclined to evil from north east to south - west, the land is characterized by stability and relief without bumps.

Meadow area on the left side of Sarat Cricovul river is flooded and partly marshy and hilly area, known as the Uralti Hills, is characterized by a height of 400 meters, with a pronounced fragmentation with deep narrow valleys.

Moreover, the area is part of the famous wine-growing region Dealu Mare and sits on the famous Wine Route.

Forests occupy an area of 173 ha, with also the special function of protection, degree and are not populated by important fauna.

Climate. Climate study area falls within the determined characteristics Prahova Romania's geographical position in Europe and the distribution of relief in steps whose rate decreases from north (top Ornu) south, in the plain, over 2400 m .

Added to this is the fragmentation of the landscape by the three main valleys (Prahova,

Doftana, Teleajen) that are color true directing air currents (Vișinescu Brânzea L., 2011).

Characterization of synthetic climate plains of economic importance for the agricultural activity in field crops can be done by calculating indices proposed by ICPA - Bucharest stock index (I_b) hydroclimatic index (I_h) and aridity index (I_a). (Vișinescu Brânzea L., 2009).

The values of these indices, calculated based on data provided by weather station Ploiesti are:

- The index to the balance:
 $I_b = P - ETP = 633 - 693 = -60$
- The index hydroclimatic:
 $I_h = P / ETP * 10 = 633 / 693 * 100 = 91\%$
- The index of aridity :
 $I_a = P / T + 10 = 633 / 10.6 + 10 = 30.7$

The interpretation of the values obtained shows that they correspond subexcedentare area, the poor class supplying land with water from precipitation.

This means that efficient farming with sustainable requires planning works for both bridging water through irrigation and for removal of excess water by drainage. The need for accommodation is based mixed irrigation - drainage. Characterization general climate of the territory addressed in this study, which includes both hilly and plain shown in Table 1.

Soils. The diversity of topography, lithology and climate and vegetation causes a wide variety of soils, from podzolic and brown podzolic soils, brown soils of the mountain, brown-podzolic, brown acid and pseudorendzine Carpathian area plus cambic chernozem, chernozem argiloaluvionale, reddish-brown podzolic and chernozem leachates in the plains and alluvial soils, chernozems groundwater lăcoviști and humid river valleys (Semcu A., 2004).

Depending on the fertility and the category of their use of the land, soils of Prahova county is within dominant in classes II and III of the arable land, in classes IV and V to pastures and meadows, in the classes III, IV-a, II, to the wine-growing plantations and classes III and IV to orchards (Table 2).

Table 1. Characteristics climatic

| The indicator | Hill | Area of flat land |
|---|------|-------------------|
| Global solar radiation (Kcal/rnvan) | 120 | 125 |
| The brilliance of the sun (hours/year) | 2000 | 2150 |
| Annual average temperature (De) | 9,0 | 10,0 |
| Average temperature in january (De) | 1,9 | -2,0 |
| Average temperature of the month of July (De) | 19,6 | 22 |
| Average annual precipitation (mm) | 700 | 600 |
| Nebulosity (days/year) | 150 | 100 |
| Days of snow / year | 25 | 15 |
| The thickness of the layer of snow (cm) | 35 | 15 |
| An annual average of the wind speed (m/sec) | 4,7 | 2,3 |

Table 2. Weight classes in the quality of soils within categories of use

| Item No. | Category of use | Quality Class, % (fertility) | | | | |
|----------|----------------------|------------------------------|------|------|------|------|
| | | I | II | III | IV | V |
| 1 | Arable land | 7,3 | 36,7 | 37,3 | 17,7 | 1,0 |
| 2 | Pastures and meadows | - | 2,4 | 21,2 | 39,6 | 36,8 |
| 3 | Vines | 2,4 | 24,9 | 43,3 | 27,5 | 1,9 |
| 4 | Orchards | 0,2 | 9,4 | 37,3 | 49,8 | 3,3 |

Hydrography and hydrogeology. Main hydrogeological units are distinguished by expansion and acviferitatea parties and after collector type (intergranular cracks or karst). Prahova County is included in most of the Dacic Basin occupying southern and south-eastern Romania having acvilude party constitution, acvitarde and Miocene aquifers - Holocene average at depths between 300 and 5000 rn. Geological formations belong to the Romanian Plain aquifer lower Pleistocene (Candesti layers, layers of fraternal)

Pleistocene (pebbles Colentina Mostiștea sands, gravels of terrace) and Holocene (gravels and sands of alluvial plains). Permeable nature of these formations favors storage of large amounts of groundwater.

The supply aquifers deep in the layers of Candesti is Subcarpathians edge where groundwater is found at depths of 50-200 m due to inside plain gravel slope leading to groundwater drainage areas.

When these deposits are saturated or springs occur or high groundwater aquifers are formed. In the study area (Figure 2), superficial deposits consist of Holocene alluvial (1), sandy-clayey deposits, colluvial and proluvial deluvio the glacis associated with terrace deposits (7), alluvial deposits - delluvial the tertiary molasse predominantly conglomerates, sandstones and sands (12) and piedmont deposits with thin blanket of loess material (8).

In areas meet little deposits formed by the decomposition of limestone and calcareous conglomerates.

These deposits are located adjacent tracts with river-lacustrine quaternary deposits covered with thick blanket of loess (5) and even sand wind (3).

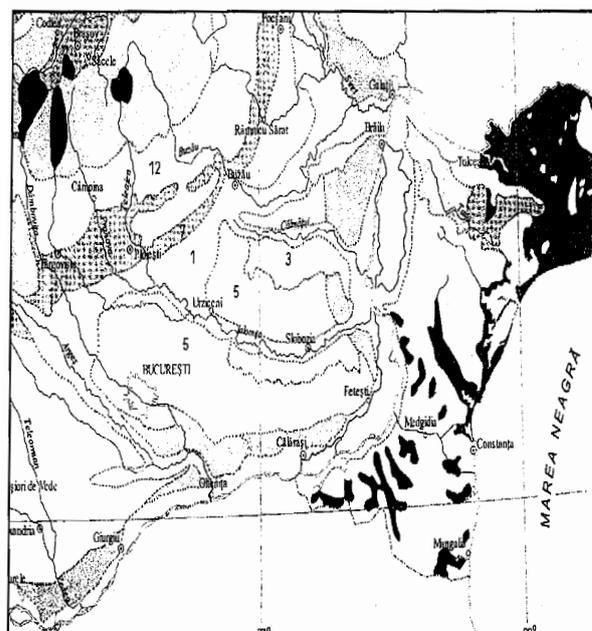


Figure 2. Superficial deposits characteristic of south-eastern Romania

CONCLUSIONS

To enhance the resources capable of producing diversification and restructuring the economy by promoting differentiated policy, taking into account the natural potential offer:

- Development and implement a program to ensure sustainable exploitation of agricultural area by rehabilitating and full potential irrigable land and drainage;
- Development program for the implementation of good agricultural holdings with potential correlation with real resources;
- Rehabilitation and extension of the erosion horticulture and viticulture development;
- Inclusion in the category of LFA areas affected by industrial restructuring.
- Rehabilitation of inter-role communications infrastructure;

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