

IDENTIFICATION OF ECONOMIC AND SOCIAL ENVIRONMENTAL PRIORITIES IN LAND USE IN THE MOUNTAIN AREA, IN LINE WITH SUSTAINABLE DEVELOPMENT

ANDREI LUCIAN VINTILĂ¹, MIOARA BOCĂNICI²

¹*University of Agricultural Sciences and Veterinary Medicine Bucharest*

²*Ministry of Agriculture and Rural Development, University of Agricultural Sciences and Veterinary Medicine Iasi*

Abstract: *This paper has its roots in what will be the principles of sustainable development as defined by specialized literature, extrapolated to the realities of the Romanian mountain area. Our country and consequently the mountain area, occupying a third of the national territory, characterized by constraints generated by natural factors, went through some transformations at environmental, economic and social levels. These changes were also generated by the financial instruments of the Common Agricultural Policy in the pre-accession period and also during the current period 2007 - 2013, when Romania became a member of the EU. We may be at a time of reflections, when we should see where we are going.*

Key words: *mountain area, farmlands, sustainable development*

INTRODUCTION

Delimitation of mountain areas is made on the basis of stipulations specified in Annex 4A of the RDP 2007-2013, which comprises the list of administrative units (ATU) included in the less favored areas (LFA) under Regulation (EC) no. 1698/2005 - Article 36 (a) (i) and (ii). Thus, ZMD – less favored mountain area (measure 211 RDP) includes:

- administrative units located at an average altitude higher or equal to 600 m, their limits being those of physical blocks (identified in the Integrated System of Administration and Control) that belong to these ATU;

- administrative units situated at an average altitude between 400-600 m and an average slope equal to or greater than 15%, the limits of which are those of physical blocks (identified in the Integrated System of Administration and Control) that belong to the UAT .According to this delimitation, the mountains of Romania includes 657 ATU (NUTS 5) representing 20% of the existing ATU in Romania and a total of 71 341 square km and 30% of the territory (238,391 square kilometers).

MATERIALS AND METHODS

The key of this article lies in performing the following analyzes:

- We propose to analyze, on one hand, which is the structure of lands in the mountain area, by their use;
- The methods and practices of effective use;

RESEARCH RESULTS

Table 1.

**The evolution of agricultural land use in the mountain area
in the period 2002-2010 –ha-**

Categories of land	2002	2003	2004	2005	2006	2007	2008	2009	2010
Agricultural area -ha-	2830741	2739215	2732373	2759443	2750519	2749398	2751226	2748270	2726429
% of area in mountain region	19.08	18.61	18.57	18.72	18.67	18.69	18.72	18.71	18.63
Arable area -ha-	564759	561.893	557.280	554.719	555.099	552.957	551.014	549.940	539.299
% of area in mountain region	6.01	5.97	5.91	5.89	5.88	5.87	5.85	5.84	5.73
Orchards and fruit-growing nursery -ha-	50597	47757	46711	46120	44861	44078	45212	45032	43519
% of area in mountain region	21.00	21.02	21.12	21.27	21.02	21.33	21.81	21.94	21.91
Vineyards and vine-growing nursery -ha-	6113	4592	4282	4360	4292	4089	3761	3662	3679
% of area in mountain region	2.35	1.99	1.92	1.95	1.92	1.86	1.75	1.70	1.72
Grasslands -ha-	1295195	1237040	1234562	1254145	1242413	1239199	1240811	1240252	1230235
% of area in mountain region	37.83	36.82	36.89	37.28	37.26	37.21	37.23	37.43	37.41
Hayfields -ha-	914077	887933	889538	900099	903854	909057	910428	909384	909697
% of area in mountain region	60.39	59.58	59.37	59.43	59.27	59.36	59.41	59.51	59.47

Source: data processed from NIS

Analyzing the data in Table 1, we find that the most important share in the structure of lands in the mountain area is held by natural hayfields 59.47%, followed by grasslands 37.41%. The arable lands have a modest share of only 5.73%. Developments between the two episodes of the GAR (General Agricultural Census) were insignificant. The very significant share of natural grasslands in mountain area recommends livestock breeding, particularly ruminants. According to preliminary results of the 2010 General Agricultural Census, the national number of cattle decreased by 30.9% compared to those recorded at the General Agricultural Census 2002 and the number of sheep and goats increased by 15.9% and 66.3% compared to those recorded at the General Agricultural Census 2002. Animal husbandry is, by its nature, multifunctional: it produces food and industrial recyclable raw materials, playing at the same time a role in the management of natural resources (water, soil, biodiversity, air), with a particularly important social role in rural the dynamics of rural areas. The livestock sector is the ideal integrator of raw materials obtained from the vegetal sector, resulting in growth and adding extra value. For the next period, Romania will have to promote a livestock breeding with a multifunctional role and influence on the countryside. To this end, it should be considered practicing animal husbandry, by keeping the traditions, maintaining the specificity of rural areas, keeping the activities of rural communities, keeping the population in rural areas, especially young people. Development of livestock breeding farms is a great means of transforming various vegetal resources and some by-products from the food industry that can not be used directly for human consumption into products with superior biological properties. In Romania, cattle breeding is a traditional activity of the population from rural areas and especially from the mountain areas and the number of cattle of 2.512 million at the end of

2009 placed Romania on the 10th place among EU countries, while in 2008, with a number of more than 2.6 million cattle, Romania was ranked 11th at Community level. There is also potential for the development of productions that will cover the domestic demand and by exports will bring a significant contribution to the incomes of producers. The number of animals for natural grasslands in the mountain area, used in compliance with environmental measures, provides a maximum load of 0.7 to 1 LU / ha. In the mountain area, the farmers access **Measure 211 - Support for mountain areas and Measure 214 - Agri-environment payments**, regarding the sustainable use of agricultural lands, the farmers especially applying for the following packages of **Measure 214 - Agri-environment payments**:

Package 1: High Nature Value (HNV) Grasslands Is aimed at High Nature Value grasslands as well as **areas covered with traditional orchards, extensively used as grasslands, by mowing and / or grazing (since 2012)**. The delimitation is made at the level of administrative territorial units (ATU). In order to get the payments for package 1, the farmers that use pastures (grasslands and hayfields) shall meet the following requirements: - the use of chemical fertilizers is prohibited - the traditional use of manure is allowed to a maximum equivalent to 30 kg. N S.A. / Ha - the use of pesticides is prohibited, - mowing can begin only after July 1st, - the mowed vegetal mass has to be picked up from the lands no later than two weeks after the mowing, - grazing is carried out within one LU per hectare - the flooded grasslands will not be grazed until two weeks from the time the waters retreated, - plowing and rolling of grasslands under commitment is prohibited, - surface seeding or overseeding will not be carried out. Seeding with species from local flora is only allowed in cases where certain portions of grasslands are degraded or accidentally damaged.

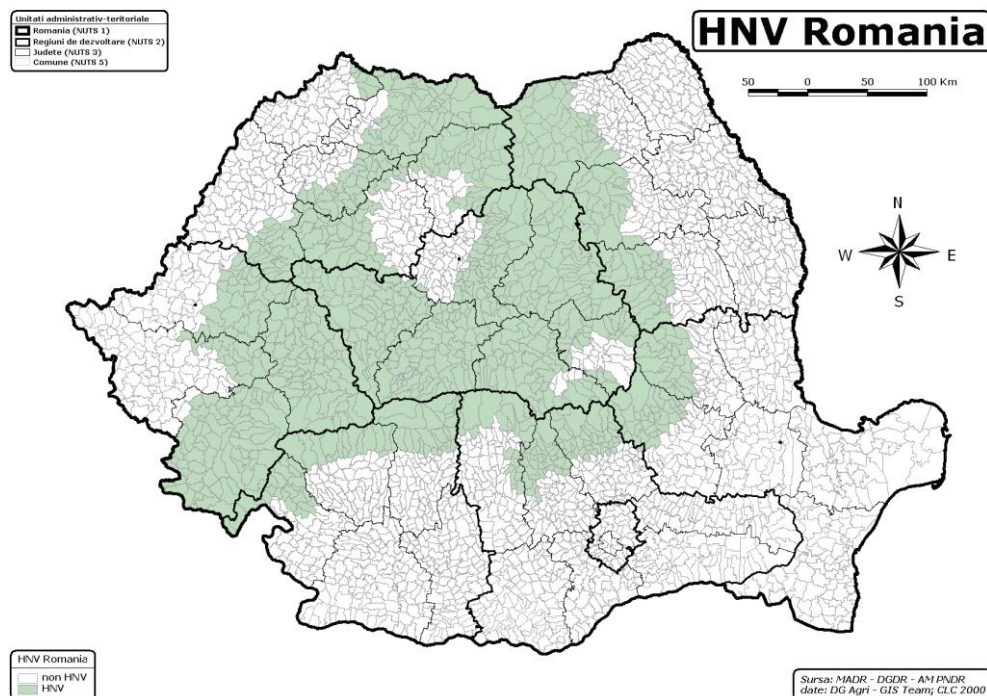


Fig. 1. The areas with High Nature Value Meadows

Package 2, Traditional agricultural practices, is applicable in the same administrative territorial units as package 1.

This package can only be applied additional to the first package, the specific requirements being identical. In addition, mechanized works are not permitted on grassland areas and the areas covered by traditional orchards under commitment extensively used as grasslands, by mowing and / or grazing, except those operated by animal power. On the grassland areas, any method of maintenance through use (mowing / grazing / mixed) can be applied.

Figure 1 shows that these grasslands are concentrated in mountain areas.

Table 2.

The use of other categories of lands

Categories of lands	Total area -ha-	Area in mountain region -ha-	% in mountain region
Area occupied with constructions –ha-	728256	106126	14.57
Area with degraded and non-productive lands –ha-	495331	167158	33.75
Area with agricultural lands –ha-	9203551	4406377	47.88
Area with waters and puddles –ha-	833625	63662	7.64

Source: data processed from NIS

The data in Table 2 show that in the mountain areas, in addition to other types of land, 47.88% is represented by agricultural lands. Usually, these non-agricultural lands are found under forestry rules.

The area covered by forests and other forest lands, nationally, at the end of 2010, was of **6,757,573 ha**.

The area covered by forests and other forest lands, in 2010 in the mountain area, was of **4,003,417 ha**.

Table 3.

Forestry fund

Area Romania ha	Area Mountain region ha	%	Area covered by forests and other lands with forest vegetation Romania –ha-	Area covered by forests and other lands with forest vegetation Mountain region –ha-	%
23,839,100	7,132,806	29.92	6,757,573	4,003,417	59.24

Source: data processed from INS 2010

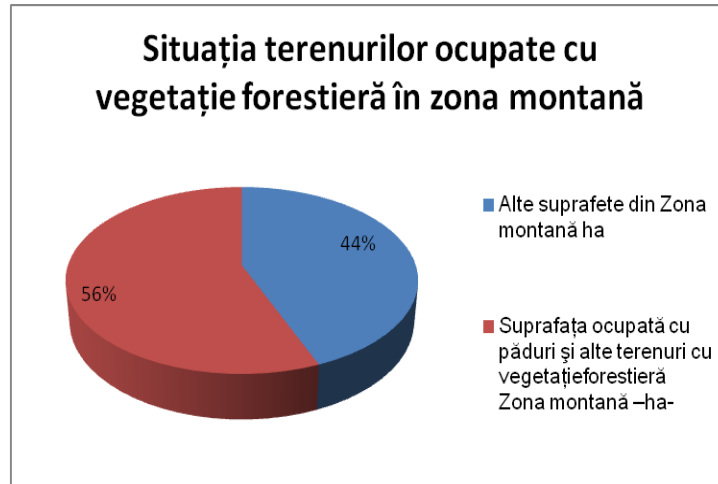


Fig. 2. The situation of lands covered with forest vegetation in mountain area

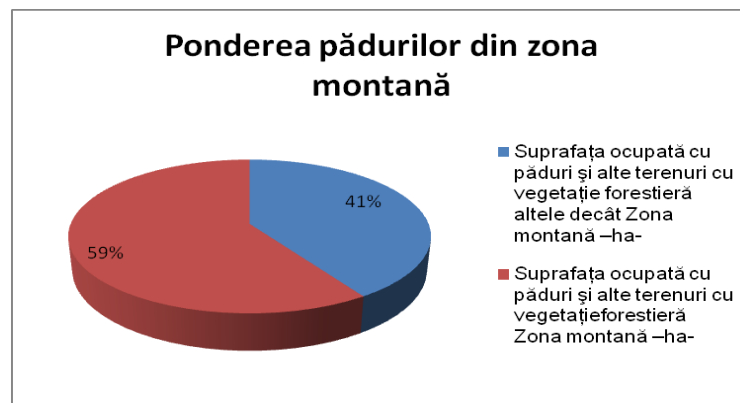


Fig.3. The share of forest in mountain area

Analyzing the data in Table 3 and Figures 2 and 3, we see that we have the following situation: in the mountain area there are 59.24% of the forests in Romania, given that 56% of the mountain area is covered by forests. Eurostat data indicates that in 2011, in terms of forest area, Romania, with 26.7% of the country' area, ranked 12th in Europe and 8th in the European Union, meaning a forest area of 0.29 ha per inhabitant.

According to studies made by ICAS, the optimal percentage of growth of Romanian forest area would amount to about 32% of the total national area.

CONCLUSIONS

In the mountain area, in the context of sustainable development, we will have to capitalize mainly on the cheap resource represented by the natural grasslands, in order to have ruminant animals breeding and to get products with high biological value, certified as local brands;

- The Good Agricultural and Environmental Conditions (GAEC) will continue to be implemented in the mountains and the financial allocations in the next programming period will have to foresee this;

- Romanian forests have to be expanded, by replanting the areas that have been exploited and by growing forest areas and protection areas on unproductive lands.

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REFERENCES

1. *** Data regarding General Agricultural Census, 2012, NIS Bucharest;
2. *** Social-economical analysis in the perspective of rural development 2014 - 2020, MARD-MA NRDP, Bucharest;
3. *** Social-economical analysis of the mountain area in the perspective of rural development 2014 - 2020, MARD-MA NRDP, Bucharest;
4. *** Guidelines for the farmers that request support for the measures regarding sustainable use of lands in 2013, APIA, Version 4.1