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HIGH NATURE VALUE FARMLAND IN ROMANIA

ABSTRACT

The paper empirically examines the concept of High Nature Value (HNV) farmland and its introduction and application in Romania, where it officially appeared as such in the first National Rural Development Plan after EU accession. It analyzes the designated areas, as well as the changes and clarifications in defining the HNV areas; it also examines the financial support for it over the past ten years.

Key words: High Nature Value land, farming systems, less favoured areas, agri-environment schemes.

JEL Classification: Q15, Q24.

1. INTRODUCTION

The concept of High Nature Value (HNV) farming was developed in the early 1990s, when concerns about the conservation of biodiversity in Europe were raised as reaction to the high intensification of agriculture and its impact on environment. Many of Europe's most endangered habitat types and species were seen to better face the anthropic pressure by evolving in specific regions with low-intensity farming practices.

Therefore, the HNV farming has been defined as farming system combining low-input cropping with extensive livestock breeding in areas of landscapes and habitats of biodiversity importance: in short, where the century-old farming practices were not aggressive to the environment. On the other hand, the advance of intensive agriculture pushed the HNV farming to less productive areas and/or areas not suitable for mechanization. Thus, HNV farming was practically pushed to operate in the most marginal agricultural land, in less favoured areas, under difficult economic and social conditions, mostly in mountain areas, high hills, and/or marginal agricultural land.

Nevertheless, HNV farming is present in all European countries, in various types and at a various extent. It is based on semi-natural pastures, meadows, orchards and large hedges. It provides not only green infrastructure for biodiversity and wildlife, but also important services for society, such as wildfire prevention,

clean water, flood prevention, carbon storage, storage of genetic diversity, and last but not least, cultural values. They benefit wider society, beyond the communities that live in HNV areas.

HNV farming is essential if the EU is to meet its 2020 biodiversity targets.

2. MATERIAL AND METHODS

The present paper is based upon an extensive documentation on HNV concept and its application in the EU countries and in Romania. The specific EU and Romanian legislation was reviewed, as well as the relevant literature.

The Romanian National Rural Development Plans (NRDP) for the two programming periods (2007–2013 and 2014–2020) were the source for the analysis of the financial support for HNV farmland, completed with data from the statistical database of the National Institute of Statistics (Tempo on-line).

3. RESULTS AND DISCUSSIONS

3.1. DESIGNATED AREAS OF HNV FARMLAND IN ROMANIA

Romania has one of the richest resources of semi-natural pasturelands in Europe, pastures than can be classified as HNV pastures (semi-natural, generally associated with a high diversity of species and habitats). They show a very high botanical diversity, associated with unusual geomorphological characteristics and a range of rare plant species, supported by centuries of agricultural traditional systems as a part of what can be described as a sustainable land management system (Jones, 2007).

Romania holds a large variety of valuable habitats and many species of wild animals and plants. A great part of such biodiversity is associated with the sustainable use of agricultural and forest land. This extensive use includes large areas of valuable semi-natural grasslands found mostly in mountain and hill areas. The majority of these semi-natural grasslands are under an increasing pressure due to the abandonment or intensification of agricultural activities; therefore, it is a priority to use appropriate measures to provide the proper support necessary to maintain and improve their natural value by encouraging extensive agricultural practices**.**

Although the concept of High Natural Value (HNV) farm land is recently developed in Romania (introduced in official documents with the first post-accession NRDP – National Rural Development Plan 2007–2013), it is highly relevant and must be promoted since there are many traditional farming systems used by farmers and large areas of extensively managed agricultural land that support a diversity of wildlife species and habitats. Also, the support for high natural value farming and forestry has the potential to offer the basis for further sustainable

development of rural areas including the promotion of traditional food products and diversification through sustainable tourism.

In all Member States, identifying and estimating the extent of HNV farmland went into focus since 2008, driven by the monitoring requirements for Rural Development Programs. Different estimates resulted, depending on the data sets and criteria used, but most of them were based on land cover, farming characteristics and biodiversity. The data was used to target policy instruments (CAP funding and environmental instruments), to evaluate the impact of policies by monitoring the resulting changes and to provide evidence for future improved and more effective policies.

The three categories of farming structures and farmland recognized as HNV by the Joint Research Centre (JRC) and the European Environment Agency (EEA) (EC, 2011; EC, 2014): type 1 (farmland with a high proportion of semi-natural vegetation), type 2 (farmland with a mosaic of low intensity agriculture and natural and structural elements, such as field margins, hedgerows, stone walls, patches of woodland or shrubs, small rivers etc.) and type 3 (farmland supporting rare species or a high proportion of European or world populations) have not been used as such in the Romanian NRDP 2007–2013 to distinguish the HNV farmland in Romania. Nevertheless, a report for DG Environment tried to make such an estimation (Table 1).

Table 1

Overview of the main HNV farming systems and types in Romania

Dominant farming system	**Farming system**	**Farming practices**	**HNV type**	**% of HNV farm-land***	**Land cover**	**Nature values**
Livestock	Mountain – extensive semi-natural grasslands	Sheep and cattle grazing/fodder. Stocking rates under 1 LU/ha, summer only. Hay mown after 1 July if under AE measures. FYM only, and limited under AE measures: no bag fertilizers.	1	40%	Extensive semi-natural pastures, with some hay meadows	Dominated by HD Annex 1 habitats 6210, 6230, 6240, 6410, and 6520. Numerous protected fauna: wolf, bear, lynx, raptors such as golden eagle and lesser-spotted eagle.
Livestock	Hilly area pastures, usually common grazing	Common grazing, sheep and cattle, some goats, some buffalo. Local transhumance of sheep. Stocking rates under 1–1.2 LU/ha, summer only	1	20%	Extensive semi-natural pastures and hay meadows with some shrubs, isolated trees, tree lines along streams, damper patches with reeds	Dominated by HD Annex 1 habitats 40A0, 6210, 6240, 62C0, 6430 and 6510. 6 HD Annex 2 flora species

Table 1 (continued)

Mixed	Hilly areas – hay meadows, arable and landscape features mixed at micro-farm level	Hay meadows mown after 1 July if under AE measures. FYM only, and limited under AE measures: no bag fertilizers. Small-scale arable cattle feed: for maize, beans, wheat.	2	20%	Pastures, hay meadows, arable and landscape features mixed at micro-farm level	Dominated by HD Annex 1 habitats 6210, 6410, 6420, 6430, 6510 and 6520. Lowland bears and wolves. 8 HD Annex 2 lepidoptera species. Over 17 WBD species including corncrake, lesser grey shrike, Eurasian eagle owl red-footed falcon, western marsh harrier, lesser spotted eagle.
Permanent	Traditional orchards with permanent grass understorey	Hay meadows mown after 1 July if under AE measures.	2	10%	Small-scale orchards with mown/grazed permanent grass understorey	Important for HD Annex 2 flora and lepidoptera species
Arable	Arable farms in southeast Romania with few natural features	Fertilizers used. Under AE measures winter cereal or rape crop is obligatory, and summer maize crop permitted. No spraying / grazing /cultivation /harvesting permitted 15 Oct–31 May.	3	10%	Large fields of maize /sunflower/wheat, declared for migratory birds	WBD Migratory birds such as red-breasted goose.

Notes: * Estimated % of total extent of HNV farmland
Source: Keenleyside et al., 2014, pp. 27.

Romania has one of the richest agricultural land resources that can be included in the HNV category: with an area of 5,22 million hectares (about 39% of the national UAA – Utilized Agricultural Area), is ranking 5th in EU-27.

The designation of the HNV areas was initially based (starting 2008) on grassland only (which, among the other farmland types, is the richest in terms of associated biodiversity), but was completed by other types of agricultural land in subsequent years (2012), such as extensive traditional orchards (currently used as permanent grassland, for mowing and/or grazing), together with the mosaic landscapes which include meadows, trees and shrubs and small-sized extensively cultivated agricultural plots, close to forests, where biodiversity and wildlife are present (Strategic Monitoring Report for NRDP 2007–2013, version October 2014). The designation was based on one of the definitions provided by the EEA through a study (Andersen et al., 2004). Basically, the designation falls under the following definition of HNV farmland: "agricultural land which has a high share of

semi-natural vegetation (particularly semi-natural grassland, generally associated with the presence of a high biodiversity)". Data provided by the "Corine Land Cover 2000", FAO-LCCS (Land Cover Classification System), as well as other European and national studies have been used for obtaining an initial mapping of HNV areas at ATU (Administrative Territorial Units) level (NUTS 5). The threshold used for HNV areas delimitation was 50% and above concentration of semi-natural grasslands, followed by a process of homogenization in order to obtain continuous compact areas.

As a result, the total number of ATU-s under HNV grassland designation was 1038. The area of eligible grassland was about 2.4 million hectares (NRDP 2007–2013, version September 2015). The minimum area condition for eligibility was: the farm should have at least 1 ha, and the size of plots minimum 0.3 ha. This threshold excludes a large number of small-sized farms. In fact, the small size (3.6 ha average/holding) and a very large number of holdings (3.63 million, which represents about 34% of the total 11 million agricultural holdings in the EU-28), are two of the main characteristics of the Romanian agriculture.

Out of total 10.5 million km^2 grasslands in the world, 715,000 km^2 are located in Europe and 17,486 km^2 in Romania (7.32% of the national territory). Out of those, 2,000 km^2 were included in the national system of protected areas (11.43%). The arid, semi-arid and dry-subhumid areas, defined according to the UNCCD (United Nations Convention to Combat Desertification) represent about 30% of the national territory. More than 74% of the grassland is located in hill and mountain areas, out of which 4% in alpine and subalpine areas. The remaining 26% are in lowland areas, predominantly in the steppe zone.

According to the latest Agricultural Statistical Survey (2013), due to their small size, about 449 thousand holdings owning grassland were excluded from any type of CAP support (Table 2), irrespectively if they were located in eligible ATUs for HNV areas.

Table 2

Agricultural holdings non-eligible for CAP support due to small size

Item	**Number**	**%**	**UAA (hectares)**	**%**
Agricultural holdings – total	3,629,656	100.0	13,055,849.8	100.0
Agricultural holdings with UAA<1 ha	1,943,382	53.5	658,527.6	5.0
Item	**Number**	**%**	**UAA (hectares) – pastures and meadows**	**%**
Agricultural holdings owning pastures and meadows	1,349,087	37.1	4,398,346.4	33.6
Agricultural holdings with UAA<1 ha owning pastures and meadows	448,738	12.3	137,064.53	1.0

Source: calculations using data from Agricultural Statistical Survey (2013).

For the programming period 2014–2020, new criteria have been established (proposed by the European Forum for Nature Conservation and Pastoralism) for

the new designation of HNV areas, which can be included in the following three categories:

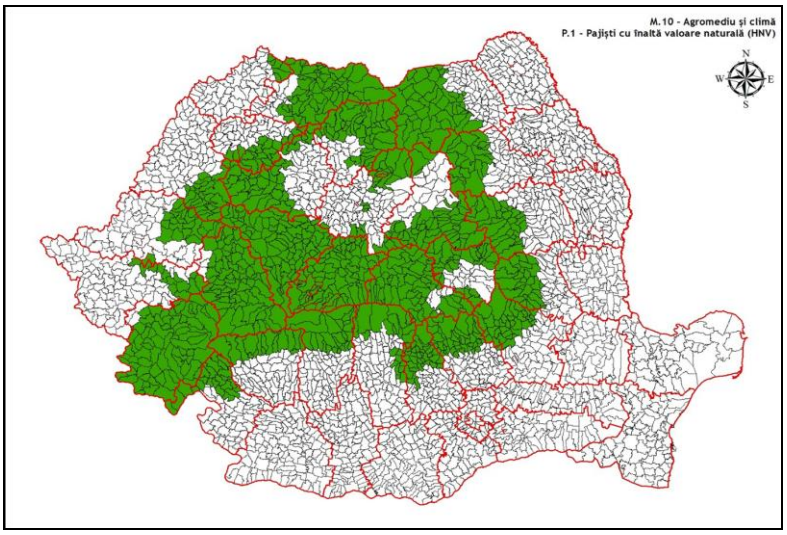
– Natural and semi-natural grasslands, mainly those in the mountain and hilly areas;

– Extensive traditional orchards, where the understorey of the old hayfields is conserved almost completely, making them one of the most valuable and best conserved traditional habitats in the Carpathian area, adjacent areas and Transylvania. Moreover, these traditional orchards conserve local varieties of trees in most cases, representing an original ancient genetic pool;

– Permanent grassland used extensively, generally associated with a vast flower and fauna biodiversity.

In the new designation of the NRDP 2014–2020, the eligible areas of the previous programming period remained the same, except for the ATUs that are partially or totally overlapping with the most important Natura 2000 sites representative for the bird species targeted by Package 3 of the measure M10 (agri-environment and climate).

Consequently, the new number of ATUs under HNV grassland designation is currently 958, and the resulting area of farmland used as permanent grassland defined as HNV areas is currently about 2 million hectares, according to LPIS 2013 (Land Parcel Identification System) (Fig. 1).



Source: NRDP 2014–2020, Version October 2016, pp.393.

Figure 1. Map of HNV included under Measure M10 – Agri-environment and climate

Large areas of Romania are characterized by natural limitations of agricultural productions. These areas are related especially to the Carpathian Mountains and Danube Delta, but also to other areas with soil and climate specificities. These Less

Favoured Areas for agricultural production are generally associated with a high biodiversity level.

Romania holds large areas that can be considered less favoured (according to (EC) Regulation no.1257/1999), due to unfavourable natural conditions that considerably limit the use of agricultural land and thus leading to lower yields.

Among those, especially the Carpathian Mountains are worth mentioning, where high values of altitude and slope are met, as well as the Danube Delta – due to the fact that this area presents an accumulation of climate and soils restrictive factors that limit the agricultural activity, and other areas – more compact in South–East Romania and more scattered in Moldavia Plateau, Oltenia (both lowland and hilly areas), Transylvania Plateau – were natural specific conditions lead to lower natural yields. Therefore, a large area of the Carpathian Mountains, due to altitude and slope conditions, encounter obstacles in farming, obstacles having as a consequence the shortening of the vegetation period and additional costs caused by the sloppy terrain.

The Less Favoured Areas take about 42% of the national territory. They have been separated into three different groups according to specific climate and soil conditions (Table 3):

1. *LFA in mountain area* (it takes almost 30% of the national territory);

2. *other (or significant) LFAs*, which are partially or totally overlapping with the Danube Delta Biosphere Reserve, due to the very low soil quality, unfavourable climate, relief and soil moisture conditions in this area. This area is also characterized by a low population density and a high level of population dependence on agricultural activities;

3. *LFA – specific*, which have a more scattered coverage because of the diversity of the natural conditions that affect agricultural productivity and impose in some smaller areas agricultural restrictions, only in South-East Romania more compact areas being found.

Table 3

Less-favoured area in Romania (identified in the programming period 2007–2013)

Indicator	**Total LFA**	**of which:**		
		LFA – mountain area	**LFA – significant**	**LFA – specific**
LFA area (1,000 ha)	10,075	7,134	590	2,351
UAA in LFA area (1,000 ha)	4,800	2,802	195	1,803
Share of UAA from LFA against UAA from Romania	34.48%	20.14%	1.40%	12.94%
Share of total area from LFA against total area of Romania	42.26%	29.93%	2.47%	9.86%

Source: calculations based on data from NRDP 2007–2013

In the second programming period (2014–2020), there has been a refinement in the identification methodology for LFAs. They were renamed ANC – Areas under Natural Constraints, and revised data and location were applied (Table 4).

Table 4

Areas under Natural Constraints (ANC) in Romania (identified in the programming period 2014–2020)

Item	Number of ATUs	Utilized agricultural area (ha)	Utilized agricultural area (%)
Total Romania	3,181	13,535,298	100.0
Total ANC	1,451	6,775,394	50.06
ANC (mountain area)	658	2,089,399	15.44
ANC (significant)	769	4,505,042	33.28
ANC (specific)	24	180,953	1.34

Source: calculations based on data from NRDP 2014–2020

A large part of the important protected areas in Romania (of national, community and international interest) are covered by the HNV areas: 43.28% of SPA (Special Protection Areas) and 55.76% of SCI (Sites of Community Importance). Although the support for HNV is directed to the conservation of plant species associated to permanent grasslands, it is also contributing indirectly to the protection of other wildlife or important habitats. Estimations are indicating that the eligible area for HNV farmland and Package 2 (traditional agricultural practices) cover 51.37% of the Natura 2000 sites in Romania (NRDP 2014–2020, version October 2016).

3.2. FINANCIAL SUPPORT FOR HNV FARMLAND IN ROMANIA

There are several categories (and sources) of measures supporting HNV farmland:

1. Agri-environment climate schemes – compensatory payments for actions implemented under the EU CAP, funded from the NRDPs; their objectives are to encourage farmers (farmland users) to voluntarily adopt agricultural practices able to preserve the environmental value of the rural areas, to maintain farmland specific habitats for priority wild species, to use natural resources in a durable way and to preserve the natural landscapes (Table 5);

2. National grants, subsidies and investments through NRDP (other than those from point 1), contributing to the improvement of the economic efficiency of the farm or to the development of local communities;

3. Legal protection through the EU Habitats and Birds Directive (92/43/EEC and 2009/147/EC) – areas included in Natura 2000 network, and designated as SCI (Site of Community Importance), SAC (Special Areas of Conservation) or SPA (Special Protection Area);

4. Legal protection through national law for protection of nature reserves;

5. Funding through projects under the Program for environment and climate policies (LIFE – of the European Environmental Agency) (these projects need co-financing from other sources, such as EARDF, ERDF or private).

Table 5

Overview of the financial support for environment and climate related measures under Axis II in the 2007–2013 programming period

Axis / measure	Financial allocations (public expenditure) (EUR million)	Payments made (by 31.12.2015) EUR million	Number of supported agricultural holdings	Total supported area (ha)
Total NRDP (Axis I–IV)	8,772.4	7,801.5	–	–
Axis II	3,163.2	3,038.6	–	–
– M 211 – Support for less favoured areas from mountain areas	769.6	771.2	360,993	2,112,396
– M 212 – Support for less favoured areas, other than mountain areas	435.6	431.4	151,524	2,057,535
– M 214 – Agri-environment payments	1,428.4	1,377.9	321,544	2,281,383
– M 215 – Animal welfare	526.4	457.5	898	–
– M 221 – First afforestation of agricultural lands	3.2	0.5	18	345

Source: 2015 Annual Progress Report for NRDP 2007–2013.

The agri-environment climate funding schemes. A predecessor of the support for HNV farmland (although at the time of its implementation it was not known as such) may be considered the pre-accession SAPARD Program (2000–2006), which was the first to introduce European financial support in Romania for "biodiversity conservation through traditional agricultural practices" (sub-measure included in the Measure 3.3 "Agricultural production methods aiming at protecting the environment and maintaining the rural landscape". Although only one project was finalized (spending only 10.3% of the total allocation of 1.8 million euro), other 47 farmers who initially applied for funding chose to switch to the equivalent support measure (214 – Agri-environmental payments) from the NRDP after 2008 (Final Report on the implementation of the SAPARD Program in Romania). It showed the very low acknowledgement of agri-environmental problems by the Romanian farmers

Since its EU accession in 2007, Romania has benefitted from substantial support for rural development in the frame of the Common Agricultural Policy, aiming at increasing competitiveness in the agri-food and forestry sectors, at decreasing the rural population's dependence on agriculture through the diversification of economic activities, as well as at an overall improvement of the rural space and environment.

In the programming period 2007–2013, under Axis II, the implemented CAP environment and climate related measures have been the following:

a) measure 211 – support for mountain areas;

b) measure 212 – support for less-favoured areas (other than mountain areas);

c) measure 214 – agri-environment payments, with the following packages:

- package 1: extensive management of HNV grasslands;
- package 2: maintaining traditional agricultural practices on HNV grasslands (option that could be coupled with package 1);

- package 3: maintaining grasslands important for birds (282 ATUs, about 0.26 million eligible hectares);
- package 4: cultivating green crops on arable land (package available throughout the country, not in HNV areas only);
- package 5: organic agriculture;
- package 6: maintaining grasslands important for butterflies;
- package 7: arable lands important for Branta ruficollis.

These measures had two main objectives: to compensate the farmers for losses due to location in less-favoured areas, and to compensate the increased expenditures due to the use of environmental friendly extensive agricultural practices, in order to maintain the high environmental value of the land.

At the same time, one can also notice a positive combined effect: about 40% of the IBA (Important Birds Areas) in Romania are covered by HNV grasslands. Although packages 1 and 2 (targeting HNV) focus on the conservation of plant species associated with semi-natural grasslands, they indirectly contribute to the protection of the bird habitats in those areas.

The less-favoured areas hold an important share of the Romanian territory (more than 40%), and they overlap with large HNV farmland (48.71% of the eligible ATU) or with important areas for biodiversity (priority animal or plant species and important habitats for them – 18.64% of the eligible ATU).

The support measures under Axis II (except for Measure 215 – animal welfare) contributed directly to the main NRDP environmental targets: maintaining biodiversity, soil quality and water quality, avoiding land isolation and abandonment, erosion and desertification prevention.

Table 5 shows the financial allocations and the payments made for the above-mentioned support measures in the NRDP 2007–2013. The agri-environmental payments took the largest part (45%) of the total support under Axis II, and the sub-measures concerning HNV farmland (package 1 and 2) were applied on 87.4% of the total supported area under Measure 214 – agri-environment payments.

The conditions for payment eligibility were: signing an engagement for 5 years to apply the agri-environmental practices, to comply with the GEAC (Good Agricultural and Environmental Conditions) requirements and with the management plans of the Natura 2000 protected areas of community interest. For the agri-environmental payments targeting HNV grassland (package 1 and 2), the specific management conditions were: no chemical fertilizers, no pesticides, use of manure < 30 kg N/ha, grassland should be mown at least once each year (after July 1), pastures should be grazed at < 1 LU/ha, and ploughing, rolling or reseeding are forbidden.

In the 2014–2020 programming period, the management conditions targeting HNV grasslands were completed: the allowed use of manure increased to 40 kg N/ha, the mowing is allowed earlier (after June 15) in ATUs located below 600 m altitude, the farmers must keep records of the agricultural activities correlated with

the implementation of the agri-environmental conditions. An important new requirement is that farmers should prove that they have knowledge about the proper implementation of the agri-environmental conditions, or that they will get the knowledge by training (granted through Measure 01 – Actions for knowledge transfer and information actions) or by using advisory or consultancy services (granted through Measure 02 – Consulting services).

Table 6

Overview of the financial support for environment and climate related measures in the 2007–2013 programming period (amounts paid in 2014–2016)

Measure / package	Targeted area (ha)	Financial allocations (public expenditure) for 2014–2020 (EUR)	Total disbursements (EUR) (2015–2016)
M10 – Agri-environment and climate payments	**1,381,100**	**1,070,744,654**	**18,973,644**
P1 – HNV grassland			10,170,038
P2 – Traditional agricultural practices on HNV grassland (only coupled with P1)			1,497,768
P3 – Grassland of importance for birds			2,132,940
P4 – Green crops			2,803,939
P5 – Adaptation to the effects of the climate changes			0
P6 – Grassland of importance for butterflies			207,667
P7 – Arable land of importance for feeding area for Branta ruficollis			2,161,292
P8 – Animal husbandry of local breeds in danger of abandonment			0
M11 – Support for organic agriculture	**225,950**	**236,416,168**	**5,833,316**
M13 – Areas with natural constraints	**4,700,000**	**1,354,892,645**	**219,106,176**
P1 – Areas with natural constraints in the mountain area			90,703,417
P2 – Areas with significant natural contraints			123,012,915
P3 – Areas with specific natural constraints			5,389,844

Source: NRDP 2014–2020, version October 2016, pp.665; PIAA – Statistical indicators for NRDP payments in 2015–2016, pp. 20

The support granted in both programming periods through the above-mentioned measures is a compensatory payment for income losses and supplementary costs incurred by the beneficiaries. The compensatory payment is disbursed annually, as fixed amount per hectare. The support for this measure is granted upon voluntary engagements for a period of 5 years.

National grants, subsidies and investments through NRDP (other than agri-environment and climate measures)

The inventory of such measures (rather different between the two programming periods), which benefit the farmers receiving HNV farmland support are listed in table 7.

Table 7

Inventory of HNVF support measures (other than agri-environment and climate measures)

Programming period 2007–2013	Programming period 2014–2020
Measure 111 – Vocational training and information actions	Measure 1 – Knowledge transfer and information actions
Measure 112 – Setting up of young farmers	Measure 2 – Consultancy (advisory) services
Measure 121 – Modernisation of agricultural holdings	Sub-measure 6.2 – Support for setting up non-agricultural activities in rural areas
Measure 123 – Adding value to agricultural and forestry products	Sub-measure 7.6 – Investments associated with the protection of cultural patrimony
Measure 125 – Infrastructure related to the development and adaptation of agriculture and forestry	Sub-measure 8.1 – Afforestation and creation of woodland areas
Measure 141 – Semi-subsistence farming	Sub-measure 9.1 – Setting up producer groups
Measure 142 – Producer groups	Measure 13 – Support for areas facing natural constraints
Measure 143 – Providing farm advisory and extension services (farmers applying for M 214 are targeted)	Measure 15 – Forest-environmental and climate services and forest conservation
Measure 311 – Diversification into non-agricultural activities	
Measure 312 – Support for business creation and development	
Measure 313 – Encouragement of tourism activities	
Measure 322 – Village renewal and development	

Source: author's selection from NRDP 2007–2013 and 2014–2020

Legal protection through the EU Habitats and Birds Directive (areas included in Natura 2000 network), through national law for the protection of nature reserves and funding through projects under the Program for the environment and climate policies (LIFE Program)

Romania is one of the most important countries in the EU in terms of biodiversity. It is here that the largest number of EU bio-geographic regions (five out of all nine) can be found, namely: continental (53% of the country's area), alpine (23%), steppic (17%), panonic (6%) and pontic (1%).

A large proportion of the population of farmland bird breeds in Eastern Europe, and many species of European concern can still be found in abundant numbers in Romania (97% of the *Lanius minor*, 50% of the *Falco vespertinus*, and 27% of the *Crex crex* European population). Although these populations appear to have remained stable in the last 25–30 years, there is a risk that new trends in agricultural intensification and land abandonment will have a negative impact upon them.

Romania has quite a high share of sufficiency of sites designated under the EU Habitats directive (93%), slightly over the EU-28 average (92%). In 2014, in Romania there were 383 SCI (Sites of Community Importance) (occupying 4.1

million ha, that is about 17% of the national territory) and 148 special avifauna protection areas (3.7 million ha, about 16%) (Table 8).

Romania assumed the responsibility to promote a proper management through appropriate measures (included in NRDP) to target the protection of farmland bird species protected at European level. However, the implementation of the measures available under Regulation (EC) no. 1698/2005 could not be done in the 2007–2013 programming period, since the Natura 2000 network was not fully functional yet and the necessary management plans for these areas were not completed. This process is rather slow, since by mid-2014, there were only 10 approved management programs for the 383 SCI areas and 148 SPA areas (NRDP 2014–2020, version October 2016).

In order to ensure special "in situ" protection and conservation measures for the assets of the natural patrimony, apart from the management system established by the designation of the Natura 2000 sites, Romania has a functional system of protected natural areas, covering a significant area of the national territory (Table 8).

Table 8

Protected areas in Romania

Categories of protected areas	2000		2007		2014		
	No.	Area (ha)	No.	Area (ha)	No.	Area (ha)	Share (%)*
Scientific reserves	53	101,287	79	100,574	45	24,654	0.10
Natural monuments	231	2,177	190	18,220	206	15,413	0.06
Natural reserves	543	128,611	671	136,537	671	324,182	1.36
National parks	12	333,206	13	315,857	13	316,872	1.33
Natural parks	4	218,969	14	737,428	15	772,810	3.24
Biosphere reserves	3	679,000	3	664,446	3	664,446	2.79
Humid areas of international importance	–	–	5	616,571	19	1,089,448	4.57
Avifauna special protection areas (SPA)	–	–	108	2,992,798	148	3,698,732	15.52
Sites of Community Interest (SCI)	–	–	273	3,284,092	383	4,147,368	17.40

Note: * Share in the national territory
Source: Romanian Statistical Yearbooks

LIFE is the EU's financial instrument (implemented by DG Environment) supporting environmental, nature conservation and climate actions projects throughout the EU.

The implementation in Romania of projects under the LIFE Program started in 1999, and 68 projects have been financed ever since (38 projects before accession and 38 after Romania's accession to the EU). Many of them were about preparation for designation of Romanian Natura 2000 sites, habitats conservation and management, integrated management plans for specific areas (wetlands, priority forests, subalpine and alpine habitats, etc.), or for specific regions (ex. STIPA Project: Tarnava Mare SCI: Saving Transilvania's Important Pastoral Ecosystem, 2009), ecological restoration, creation of functional ecological networks etc.

The LIFE Program has as a main objective "to contribute to the shift towards a resource-efficient, low-carbon and climate-resilient economy, to the protection and improvement of the quality of the environment and to halting and reversing biodiversity loss, including the support of the Natura 2000 network and tackling the degradation of ecosystems" (EC, 2014b). The indicative national allocation for 2014–2017 for projects other than integrated projects under the sub-program environment for Romania is 4.29% of the dedicated EU-28 budget.

3.3 THREATS TO HNV FARMLAND

Although Romania has important pasture land areas under traditional extensive agricultural practices, the inherent economic development, favoured by the EU accession, is putting pressure for intensification in agriculture in order to reduce the efficiency gap between Romania and the other Member States. Several categories of major threats to HNV farmland have been identified in Romania's Fifth National Report to the Convention on Biological Diversity National Strategy: intensification of agriculture and land conversion; abandonment of agricultural activities on land affected by restrictive environmental conditions (mainly in high altitude areas); infrastructure development; extension and development of human settlements; over-exploitation of natural resources; inappropriate exploitation of non-renewable resources; invasive species; climate changes; pollution.

Among these threats, the most severe (in the context of the NRDP objectives) seems to be the possible conversion of HNV farmland or grassland of importance for birds and butterflies into arable land or intensively used grassland, through: increase of mechanical equipment use; increase of chemical fertilizers and plant protection products (pesticides) use; drainage of wet grasslands; river regularization; afforestation of low-productivity grassland or steppe habitats (often considered as "degraded land"); destruction of shrubland in order to expand pastures or for tourism development.

Case studies revealed that low productivity on HNV farmland is linked to the general extensive farming practices; consequently, HNV farm incomes are generally lower than on other farms. Moreover, CAP support is generally much lower than on other farms. In Romania, which has large areas under HVN farming, some HNV land of critical importance for biodiversity was partially or completely excluded from CAP support from Pillar 1 in 2007–2013 for reasons such as: the exclusion of pastures with more than 50 trees per hectare; the previous GAEC (2007–2013) standard for minimum land management and avoidance of unwanted vegetation excluded pastures with naturally occurring shrubs, rocks, etc.; HNV landscape features not recorded as such in IACS (therefore non-eligible for support); common grazing land not recorded as such in LPIS; the minimum holding and parcel size (1 ha, and 0.3 ha respectively) excludes smaller HNV farms.

Since knowledge of the exact rules and requirements is rather poor among farmers, there is also the danger that widespread measures have a homogenizing

effect on the natural heterogeneity of the farmland, for example due to excessive clearance of shrubs, because farmers are afraid of possible sanctions imposed after monitoring or synchronization of mowing dates (Nikolov et al., 2011; Cizek et al., 2011; Dahlström et al. 2013; Sutcliffe et al., 2015).

Small-scale farmers have to face significant administrative and commercial barriers to market for HNV products. Hygiene and safety standards that production units need to meet are often set too high for micro-scale producers and they also have low capacity to find and access markets and to present their products attractively to consumers. Producing, branding and labelling high-quality local products, and organization of farmer's markets in order to enable direct sales to local hotels and restaurants may be essential for the economic survival of small-scale producers in marginal areas.

The support for agri-environment and climate, out of which the support targeted directly to HNV represents the largest part (more than half), aims at encouraging the farmers to adopt, voluntarily, agricultural practices able to ensure the maintenance of the rural areas environmental value, of habitats specific to farmland of importance for priority wild species, of sustainable use of natural resources and of traditional landscapes. This support will contribute to the achievement of the 2020 European Strategy for sustainable development and of the Seventh Environment Action Program.

4. CONCLUSIONS

While the concept of HNV farming was developed in the early 1990s, as reaction to the high intensification of agriculture and its impact on environment, concerning mostly the conservation of biodiversity in Europe, in Romania it was officially introduced as late as in the first NRDP (2007–2013).

With an area of 5.22 million hectares, representing about 39% of the national UAA, Romania has one of the richest resources of agricultural land that can be included in the HNV category, ranking 5th in the EU-27.

As a result of the refinement in the identification methodology for LFAs in the second programming period (2014–2020), the current situation shows that a large part of the protected areas of national, community and international interest in Romania are covered by HNV areas (43% of Special Protection Areas and 56% of Sites of Community Importance.

Out of total 3.63 million holdings, about 12% of the holdings owning grassland (meeting the conditions for HNV) are non-eligible for CAP support due to their very small size (below the 1 ha threshold).

HNV areas benefit from various funding sources: agri-environmental climate schemes, national grants, subsidies and investments (funded through NRDP), legal protection through the EU Habitats and Birds Directive (areas included in Natura 2000 Network), through national law for the protection of nature reserves and

funding through projects under the Program for the Environment and Climate Policies (LIFE Program). The objectives of the financial support are: to maintain farmland specific habitats for priority wild species; to use natural resources in a sustainable way and to preserve the natural landscapes; to compensate the farmers for the increased expenditures due to the use of environmental friendly extensive agricultural practices, in order to maintain the high environmental value of the land, thus contributing to the improvement of the economic efficiency of farms or to the development of local communities.

Despite the financial support, there are some important threats to the HNV farmland. Since the HNV farmland is linked to the general extensive farming practices, the most severe threat is the temptation to convert the HNV farmland or grassland of importance for birds and butterflies into arable land or intensively used grassland, the destruction of shrubland in order to expand pastures or for tourism development.

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