

Conservation of natural resources based on exploitation of local/traditional products, and those important for nature conservation

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Abstract This paper presents the concept of high natural value farming areas also the concept of traditional product and describes the characteristics of local products. High natural value farming areas have great social value, economic and cultural farming systems brought by maintaining the agriculture systems with a high natural value and local products recognition for their high quality. There are described the characteristics of HNV farming in Sibiu. It is also presented the sheep breeding in Sibiu county and the traditional products officially registered. In 2011 in our county were 459,6 thousand heads of sheep, which placed Sibiu county on the second place in our country. The paper present the classification of breeding households ordered by effectiveness. We have made a market study regarding the producers which are official registered with sheep traditional products. The specific advantages of a local product are also presented, according with their natural value.

Key words

forest, biodiversity indicator, value, product

Sibiu Country is covered by plateaus and hills (50%), lowlands (20%), and mountains (30%) with altitudes going up to 2535 m. The mountain area is entirely designated as LFA (less favourite area). [6, 11]

Sibiu County (Sibiu in short) is partly covered by forests and most of its landscapes consist of open, semi-natural habitats (predominantly grassland). Additionally, the area supports a remarkable species

richness including many endemic species and medicinal plants.

There are 5 SPA sites and 9 SCI sites under the Natura 2000 designation process. The good conservation status of most of the sites is ensured by the continuation of traditional farming which can also be seen from the map of Natura 2000 sites and HNV farmlands in Romania. [17]

Table 1

SPA and SCI sites in Sibiu County SPA sites in Sibiu	
SPA - Site Name	SCI - Site Name
1 Avrig - Scorei - Fagaras	1 Frumoasa
2 Frumoasa	2 Insulele stepice de lânga Slimnic
3 Piemontul Fagaras	3 Mlaca Tatarilor
4 Podisul Hârtibaciului	4 Movilele de la Pauca
	5 Sighisoara - Târnavă Mare
	5 Muntii Fagaras
	6 Oltul Mijlociu - Cîbin – Hârtibaciu
	7 Padurea de stejar pufos de la Petis
	8 Padurile de Stejar Pufos de pe Târnavă Mare
	9 Sighisoara - Târnavă Mare

Material and Method

This paper is based on a bibliographic study on the concept of high nature value farming areas. Data were also collected from the Sibiu County Agriculture Department and the Agricultural Chamber Sibiu.

Results and Discussions

High nature value (HNV) farming, came to attention during the nineties when the positive role of agriculture towards biodiversity was debated both in theory and in practice. Then the concept of HNV farming evolved in the framework of both the

integration of environmental concerns into the Common Agricultural Policy, and the adoption of the European model of multifunctional agriculture.

The concept of "high natural value" (VNR), appeared in 1993, identifies causal relationship between certain types of farming and "natural values". [1]

High Nature Value farmland areas are recognized for the diversity of the countryside and of a rich biodiversity the conservation through multifunctional farming systems which take account of animal welfare natural cycles of crops and the farmer's approach, away from intensive practices.

Typically, farming systems with VNR are systems low intensity low input often showing great structural diversity. In addition, using semi vegetation by animals often in combination with other seminatural elements is a key feature of these systems.

These systems, together with their associated elements are beneficial for biodiversity and support the presence of the species and habitats whose conservation is of European interest and / or national and / or regional level. [15, 16, 18]

Recently, the concept of "high natural value" was applied in forestry. Based on a combination of structural features of composition _ function all the seminatural and the majority of natural forests _ can support high levels of biodiversity if they have a solid regime of ecological (past and present), and can therefore be considered VNR forests. According to the high nature value (HNV) farmland report published by the European Environmental Agency and Joint Research Center in 2008, HNV farmland in Romania amounted to 4.86 million ha, representing a share of 33.7 per cent of HNV farmland in farmed area. [12]

The HNV forest are "High Nature Value forests are all natural forests and those semi-natural forests in Europe where the management (historical or present) supports a high diversity of native species and habitats, and/or those forests which support the presence of species of European, and/or national, and/or regional conservation concern." [13, 14]

The main land use in Sibiu County is agriculture, representing 56% of total county surface, followed by forests (35%). However, arable land represents only 38% of total agricultural land, while meadows and pastures cover approximately 60% of agriculture land or 34% of the total county territory.

Characteristics of HNV farming in Sibiu [11]

- Small-scale: most households have only 2-4 cows, some have less than 10 sheep, and 2-10 hectares of hay meadow
- Semi-subsistent: majority of the produce is consumed within the households
- 'Part-time': one or both parents in households have employment. The grandparents may do the majority of the work. Three or four generations may live in one household.

- Highly efficient: high input of labour and low or zero input of inorganic fertilizers and energy (wood used for fuel). Majority of winter fodder (hay, beet, turnips) produced by the households.

- Products: predominantly dairy – cheese and milk. Calves are slaughtered for home consumption. Lamb eaten at Easter and "pastrami" in autumn. Wool is still valued in the villages and used to make clothing and rugs.

- Pendulation: annual forage deficit necessitates movement of livestock to pastures in summer months where shepherds herd livestock communally and produce different type of cheese in sheepfolds.

Local products are an important principle of local economic development. An attempt to define qualifies them as food, goods and services produced and consumed at local level. Food and agricultural practices through the land, pasture, fields and orchards are household, but also how animals are raised and cared for, played a key role both in creating and maintaining local culture, landscape, and especially to human health and children. Thus, obtaining and marketing of local foods is a catalyst for maintaining and developing community and at the same time, a source of sustainable benefits for local economies. [2]

An important local product for nature conservation is that product that helps at: [6, 17]

- the countryside biodiversity (species and associations of plants and animals dependent on that environment);
 - conservation of habitats and rural landscapes and natural resources protection (by using environmentally friendly practices);
 - local economy development, supporting semisubsistence farmers by maintaining agricultural activities in the system of farm/household;
 - preserve and perpetuate patrimony and cultural traditions in these rural areas.
- Specific advantages of a local product can be summarized as:
- supports the local economy: by local products revenue return to farmers and thus help support the future of its business and maintain strong type system;
 - preserve and maintain the cultural heritage of rural areas and helps preserve the cultural identity of rural areas through the perpetuation of local custom and traditions: local holidays and festivals in which to promote the ports, customs and their products, but farming practice, a traditional craft handed down from generation to generation;
 - helps to maintain rural landscapes, the conservation of biodiversity (plant and animal species), habitats and natural resources through reduced human intervention;
 - helps to maintain traditional agricultural practices: extensive agriculture, the main mode of land use;
 - use of organic fertilizers (manure) as required lawns fertilization (manure use is permitted by the equivalent of more than 30 kg. N as/ha);

- low density of animals, respecting the natural capacity of production of pasture (grazing is carried out within 1 LU per hectare);
- reduced human intervention;
- existence of low mechanization (hand mower).

The sheep breeding in Sibiu county

The evolution of existing sheep demonstrate that this species has a increased interest in recent years, current livestock hovering above those in 1989. [5].

Table 2

Evolution of sheep effectives exploited in Sibiu area

effectives	Year						
	1989	1994	1995	1996	1997	1998	2011
thousand heads	456,9	409,5	399,6	398,9	373,4	387,8	459,6

Source: Stanciu Mirela, 1999, p. 16 și date furnizate de Camera Agricolă a Județului Sibiu, 2012.

The data in Table 2 show that 89.5% (1551) have actual holdings falling between 50 and 500 heads, having a total workforce of 295,724 operating heads (64%), their average accounting for 190 heads/ farm, which lies below the county (265 heads/ holding upwards of sheep).

The explanation is that there are 181 farms in the county that have effective more than 500 heads. In the county there is a farm that grows over 4000 heads of sheep, in Poiana Sibiu.

Table 3

The classification of breeding households ordered by effectives

Effectives number of sheep heads	Number of breeding households	% of total breeders from County	Effectives owned, heads	% of total effectives from County	Average from household
50-100	457	26.39	32493	7.07	71
101-200	497	28.70	73334	15.96	147
201-300	285	16.45	69795	15.19	244
301-400	197	11.37	68663	14.94	349
401-500	115	6.64	51439	11.19	447
501-600	54	3.12	29719	6.47	550
601-700	38	2.19	25260	5.50	664
70-800	21	1.21	16437	3.58	783
801-900	21	1.21	18598	4.05	886
901-1000	14	0.81	14195	3.09	914
1001-1500	19	1.10	29684	6.46	1562
1501-2000	10	0.58	18411	4.01	1841
>2000	4	0.23	11548	2.51	2887
TOTAL COUNTY	1732	100	459576	100	265

Source: data taken from the Agricultural Chamber of Sibiu County, 2012.

Regarding the localities where large herds of sheep are bred in Table 3 shows that the county there are 58 localities with more than 2,000 effective head, the largest flocks being exploited localities Jina, Rasinari, Poiana Sibiului and Tilișca, all recognized for their pastoral economy.

The main product of sheep based pastoralism is cheese, which is made at the mountain camps during the summer months. Some of the cheese produced is allocated to the owners of the sheep and the shepherds

keep the rest as a form of payment. Both parties keep what they need for their own consumption and then sell the excess to other villagers or at the local markets though some animal owners do sell their cheese at city markets. This type of sheep production is, therefore, largely semi-subsistent.

The production of wool is no longer economically viable due to the emergence of foreign imports.

The production of meat is secondary to the production of cheese; however there are some sheep raisers who raise the animals strictly for this purpose. The main domestic market for meat is at Easter and otherwise it is exported mainly to Israel, Turkey, Greece and other European Countries. [4]

In the register of traditional producers in Sibiu are 191 registered products, of which traditional sheep meat registered 21 people, and the producers who value the products of milk obtained in sheep, 21 people. [3]

Conclusions

Agricultural systems described are important because they promote the caring for natural resources. At the same time, they raise the awareness of the crucial role the farmer plays in keeping the natural and cultural heritage preservation through the traditional way in which they work the land and continue to preparing in his household / farm high quality products by perpetuating natural traditions and customs. This lifestyle results in rural landscapes _ natural resource protection.

Pastors of Sibiu complain they can not comply millenary tradition because they don't have where to go with the sheep transhumance risking to remain only a matter of ballad. Even small farmers can not see a business of sheep farming.

Some of them, even of those who raised sheep from father to son, are trying to sell the herds.

Wool, which was a major product obtained from sheep, for several years has no market, which requires farmers to orientate to another product as required by European or even global market. Generally sheep are raised for milk, meat and less wool. [7, 8, 9, 10]

When exploited for meat animals are raised on pasture, traditional technologies, and value when grazing finishes in September.

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