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Management of high ecological value grasslands : a way of agriculture diversification in Walloon Region

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Introduction

In recent years European Union environmental policy has worked towards preserving the habitats of endangered species. In this context, farmers are playing a growing role in the management of open spaces, whether their own land or within nature reserves. However, they have to adapt to the specific features of such environments by altering their practices, learning new skills and, when the grazing land is very poor or rough, by breeding hardier breeds suited to the terrain, such as Roux ardennais (local race) or Mergelland sheep, Highland or Galloway cattle and Fjord ponies.

This study aims to assess the profitability and the suitability of this activity but also the working time input required.

Methodology

An inventory was made of farmers managing 15 ha or more of areas of biological interest for whom these areas make up at least 30% of the utilised agricultural area (UAA). To supplement the inventory, farmers with a UAA of 15 ha or more and more than 75% areas of ecological interest were also included. The project focuses on farmers who mainly use grazing as a natural environment management tool.

The farms are studied according to tree approaches, one social and the other economic. The first approach concentrates on the working time and the involvement of the farmers at local level (direct sales, investment in local associations, etc.). Interviews were conducted to characterise the farms and establish the farmers' motives for diversifying in this way, and also the possible curbs on development. At economic level, the income generated by this activity was analysed. This was done by subtracting the costs of management (feed, care, machinery, etc.) from the revenue received (subsidies, increase in value of animals, etc.). The global farm sustainability approach was studied by an adapted version of "IDEA" system [VILAIN, 2008]. This last part takes into account the three dimensions of farming activity sustainability in order to define targets and evolution plan specifics to each system.

Results and discussion

In total, fewer than 30 farmers met the selection criteria. Of these, 16 agreed to take part in the project. One-third of the latter only manage natural environments. The others have livestock farming as their main activity (dairy and beef cattle or sheep). These farmers have an average UAA of 80 ha. Most of them hold organic certification. This is no doubt due to the fact that

the requirements of managing this land are at least equal to the organic specifications, and to the possibility of obtaining financial support for organic farming as well as aid granted in the context of agri-environmental measures.

These farmers have been split into three groups depending of management's type : Continuous grazing, Rotational grazing and Wandering grazing. Continuous grazing is characterised by the big plots where the animals stay there all year (or only during a given period of the year) with a low instantaneous load. Rotational grazing concerns the farmers who have a number of parcels greater than in the previous group. These are relatively distant from each other. In this type of grazing system, animals shift to a new parcel at least once the grazing season. The instantaneous load is relatively low. The wandering grazing is characterised by farmers who must frequently move animals from one small parcel into an other. The parcels are usually enclosed by mobile fences. The instantaneous load is important.

Hardy breeds are recommended for maintaining such environments. On average, a farmer uses two animal species to manage parcels of high biological value. It was noted that 60% of farmers use cattle (principally Highland) and 55% use sheep (mainly the Roux ardennais). Some farmers use horses (28%) or goats (22%), but these are generally used along with another species.

These "managers" are principally motivated by their passion for nature and for conservation. However, the specific nature of these environments creates various difficulties, such as the accessibility of the parcels of land, maintaining fencing and moving herds. This activity takes 24 hours' work per week on average (figure 1). The time varies considerably according to the method of management (fixed or mobile fencing, big parcels or alternate grazing of small parcels, mowing some parcels, etc.) and according to the farmer's investment in the activity. In terms of social involvement, 60% of farmers belong to at least one association and 80% pool their equipment and help one another when necessary. As a general rule the farmers are very satisfied with their quality of life and would not change it.

		Continuous grazing	Rotational grazing	Wandering grazing	Total sample
Characteristics	Number of cases	3	10	3	16
	Grazed area (ha)	143	437	309	889
	Number of LU	46	229	134	409
	Mean grazed area (ha)	**48**	**40**	**103**	**52**
	Mean number of LU	**15,3**	**20,8**	**44,7**	**24,1**
	LU per hectare	0,3	0,5	0,4	0,5
Total per farm (h/year)	**WORKING TIME**	**732**	**984**	**2573**	**1247**
	Standard deviation	*275*	*485*	*389*	*790*
	Coefficient of variation	*38%*	*49%*	*15%*	*64%*
Total per hectare (€/ha/year)	**REVENUES** (mainly subsidies: +/- 80%)	**821**	**673**	**871**	**627**
	Standard deviation	*525*	*337*	*10*	*402*
	Coefficient of variation	*64%*	*50%*	*10%*	*64%*
	EXPENSES	**189**	**222**	**624**	**269**
	Standard deviation	118	123	51	181
	Coefficient of variation	*63%*	*55%*	*8%*	*67%*
	GROSS MARGIN	**25**	**70**	**-41**	**46**
	Standard deviation	*32*	*63*	*38*	*67*
	Coefficient of variation	*131%*	*90%*	*/*	*143%*
	FAMILY'S INCOME	**632**	**438**	**247**	**452**
	Standard deviation	*426*	*282*	*93*	*301*
	Coefficient of variation	*67%*	*64%*	*38%*	*67%*

Figure 1 : Characteristics according to the type of management

At economic level, this activity is entirely dependent on subsidies, in other words agri-environmental measures, subsidies for organic farming, single payment entitlement or subsidies for depressed areas. These may make up more than 80% of the income from this activity (Figure 1). The remaining 20% breaks down between increasing the herd and selling animals. Using hardy breeds has the attendant problem of finding outlets for the carcases, which do not meet conventional marketing criteria. Farmers therefore have to look for other sources of enhanced value (organic sector, direct sales, selling to breeders, etc.), but such initiatives are still limited in scope. This dependence on subsidies makes it very difficult to develop long-term visions for these farms.

As regards the costs of diversification, using hardy breeds is advantageous as they need less in the way of specific expenses (feed, veterinary treatments, etc.) than conventional breeds. Moreover, the start-up investment for this diversification is relatively low compared with more "traditional" farming. As these animals can remain outdoors all year round, some farmers can in fact avoid the expenses of buildings. Only sheep farmers have a sheep-fold. Furthermore, the equipment required is generally no more than an all-terrain vehicle, a tractor, a livestock vehicle and, possibly, forage harvesting equipment. Both the expenses and the revenue associated with managing natural environments are low. The average income (figure 1) from this activity is therefore relatively low (424 €/ha). On the other hand, in relation to working hours, these farmers have a perceptibly better average hourly wage (18 €/h).

The durability is different according to the farms (figure 1). The farm 2 is less sustainable than farm 1. For example, the farm 2 has a lack of animal diversity, less ecological regulation zones (hedges, pond,…) and the farmer has a lower social involvement.

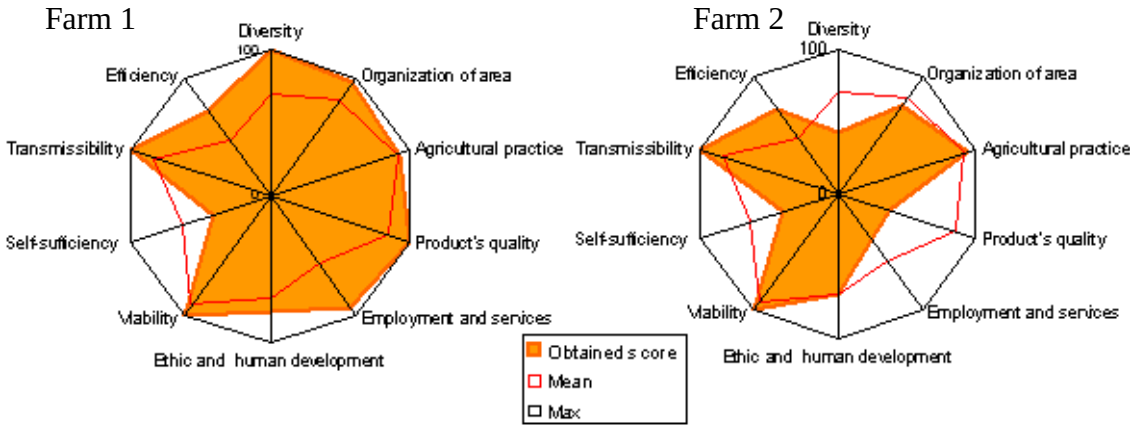

Figure 2 : Farm sustainability evaluation (IDEA method)

Conclusions

This study has showed that natural habitat management was mainly a sustainable activity from an agro-ecological point of view. It's less true on an economical point of view due to the strong dependency of this activity to subventions. In addition, management of natural environments does not provide sufficient income to have a farmer's main activity. However, as the hourly wage is relatively high for an agricultural activity, it may be a good diversification option.

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VILAIN, L. *et al.*, 2008. La méthode IDEA : Indicateurs de durabilité des exploitations agricoles, guide d'utilisation. Educagri éditions ,troisième édition actualisée, Dijon, p. 179