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AGRICULTURE & INNOVATION



# EIP-AGRI Focus Group **Sustainable High Nature Value (HNV) farming**

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# Empowering Farmers operating on High Nature Value Farmland: a solutions-orientated discussion paper

Irina Herzon, Áine Macken-Walsh, Katrin McCann and Jordi Pietx

*"People from the dominant culture often accuse those remaining in societies whose culture has been eroded or destroyed of lack of initiative and enterprise...The removal from the community of control over their own destiny leaves a depleted community without a belief in its own worth, its own capacity to change things" (Bryden, 1991:17).*

## 1. Context

This paper is part of a series developed in the EIP-AGRI Focus Group on High Nature Value (HNV) Farming. Following initial discussions of this Focus Group (Madrid, June 2014) this paper is a creative 'think piece' putting forward approaches for empowering farmers of HNV farming systems. Although it is informed by professional practice and the academic and policy literatures, it is not written as a state-of-the-art review or academic paper. The objective is to present practical and innovative ideas to enhance empowerment of farmers operating on HNV farmland, oriented to the umbrella theme of the EIP-AGRI Focus Group on HNV, which is to "make HNV farming more sustainable without losing the HNV characteristics" (Redman 2014).

## 2. Introduction: Empowerment: what is it and who is it for?

*"Empowerment is more than simply opening up access to decision-making, it must also include the process that leads people to perceive themselves as able to occupy that decision-making space" (Petterson & Solbakken, 1998)*

*HNV farming is "where culture complements nature" (Gavin Saunders, HNV farming advisor, UK)*

Empowerment of HNV farmers was identified by the Focus Group as a crucial strategy underpinning successful policy approaches to support HNV sustainability. The farmer is at the centre of HNV systems (see Figure 1, Redman 2014) and the theme of 'empowerment of HNV farmers', which is the focus of this paper, has the following sub-themes: *knowledge, identity, motivation, community, and governance* (Focus Group minutes, Madrid). It is important to note that we acknowledge that empowerment in the context of HNV farming is a generative multi-actor process that although centrally involves farmers, is tied to and dependent on a diversity of actors whom are supportive of and collaborate in HNV farming (e.g. advisors, local citizenship, extra-local volunteers, local councils, conservation & heritage groups, rural entrepreneurs).

**Empowerment** in the context of this mini-paper is defined as **the generating of popular ownership and leadership of effective strategies to achieve HNV sustainability**. Our focus is distinctively farmer-centred with emphasis on the creation of conditions where farmers, in collaboration with others, actively interpret but also create new 'knowledge cultures'<sup>1</sup> that are effective in enhancing HNV sustainability. Active knowledge interpretation and creation processes require the opening up of a deliberative process regarding sustainability to all stakeholders (i.e. policy-makers, ecologists, farmers); through a creative exposition (through novel animation or public art, for example) of different knowledge cultures; and facilitated exploitation of these knowledge cultures for HNV sustainability

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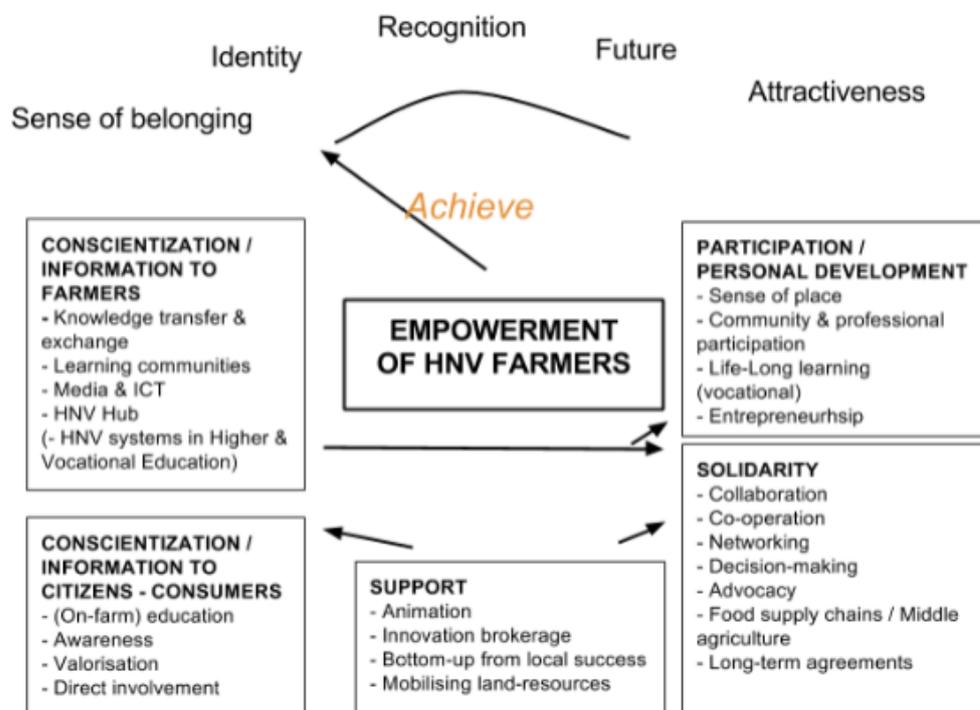
<sup>1</sup> Knowledge cultures are: 'Relational achievements, a result of cultural practices... Such knowing provides a situated, conversationally derived knowledge rooted in a relational, responsive understanding of reality (Tsouvalis et al. 2000: 912).

strategies. The process just described is consistent with the principles of action research as well as 'participatory', 'bottom up' development, which seek specifically to *empower* stakeholders to take ownership of and leadership in the design and implementation of initiatives. The motivation underpinning such approaches is not only to adhere to democratic principles of good governance but also, strategically, to arrive at innovative, effective solutions to 'hard to get at' problems. It is broadly acknowledged that a multi-actor participatory approach brings "an enhanced amount of information to be brought to bear on a problem, the building of commitment to problem definition and solutions, the fusion of planning and implementation, and the shortening of the time needed to bring forward policies, programmes, services and projects" (Bryson and Anderson, 2000, p. 143).

A participatory, localised approach to the development of HNV systems is directly comparable to the principles of partnership and subsidiarity underpinning, in theory at least, governance programmes such as the EU LEADER instrument (Osti, 2000). In this context, it is crucial to note that local participatory approaches to HNV system design are not necessarily relevant only to localities, but through inter-territorial and transnational measures can be multi-scalar in nature.

There are three central components to empowerment that are directly relevant to HNV system development: **participation** (meaningful engagement, ownership, leadership); **conscientization** (realisation of the critical issues relevant to the challenge being addressed, such as ecological degradation); and **solidarity** (acting in concert) (Petterson and Solbakken, 1998). In the figure below we relate these dimensions of empowerment to our practical suggestions to achieve empowerment. We also add **support** (advice and capacity building actions to strength farmer engagement), which is instrumental for participation, and we differentiate conscientization into two spheres: farmer and citizen (e.g. consumers, supporters, partners of farmers).

EMPOWERMENT CHART



### 3. New perspectives and best practices in empowering HNV farming

#### (i) Participation: meaningful engagement, personal development, generating motivation

*"All project actions are agreed with them – shepherds and breeders-, because we have to implement those they really need" (Gerardo Báguena, Bearded Vulture Foundation, Spain)*

The success of policy and other interventions to enhance HNV farming sustainability depends on how meaningfully the interventions are engaged with by farmers (de Snoo et al. 2012). In turn, the meaningful engagement of farmers depends on the extent to which the interventions are compatible with cultural, social and economic values and priorities of farmers. Creating conditions at the centre of intervention design and implementation where different values can be facilitated to interplay is a central challenge. A basic understanding of the dimensions of farmers' values is key. Approaching the design of HNV policy interventions from a simplistic perspective that farmers are profit-maximisers, for example, to the exclusion of social and cultural values is potentially counterproductive. HNV farming, a complex practice of natural resource management, is responsive not only to economic incentives and the rationale and knowledge espoused by policy interventions, but also to forms of social and cultural capital that are valued by farmers (Vanclay, 2004) <sup>2</sup>.

Policy incentives often seek to incentivise and persuade farmers away from what they are doing into new areas rather than tapping into what farmers value and developing from there<sup>3</sup>. Farmers' esteem and pride in their existing occupational activities and identities, and the value they place on social relationships and supports, are potentially powerful resources that are often not sufficiently leveraged by interventions. Using an existing practice that farmers actively use and esteem as a starting point for drawing engagement and participation, leading to processes of new interpretation and creation, is an effective strategy. The Burren's Winterage Festival (Ireland) is an excellent example of bringing to light and celebrating an habitual practice of the local farming community, a practice that is esteemed and valued by farmers. The celebration of Winterage draws the participation of farmers and the festival incorporates a range of further foci, representing intersections of 'knowledge cultures' (involving farmers from other regions, scientists, policy-makers), where farmers have opportunities to actively interpret and co-create new ideas.

Initiatives such as farmer discussion groups are valued by farmers, to a significant extent because of the opportunities for social support and peer-to-peer interaction that groups offer. Scattered farms and farmers, valuing the social relationships that are fostered through initiatives such as discussion groups, become mirrors of encouragement and ideas to others. Within this space, farmer can create innovative strategies that are useful and adoptable for them. Farmers can also come into contact with each others ideas through territorial and inter-territorial initiatives that are characterised less by the building of

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<sup>2</sup> The prevalent farming model across the EU25 is the family farm, which although prevalently defined in narrow economic terms such as its reliance on household labour, is more comprehensively understood in the sociological literature as relating to the way in which farm-level decision-making is influenced by cultural, social and economic factors *interdependently*. Interventions, therefore, that may incentivise farmers economically but compromise their social or cultural values, can have limited uptake and engagement, or may, indeed, antagonise farmers. Social capital (the value of social relationships) and cultural capital (esteem and prestige, associated with, *inter alia*, occupational identities; skills; knowledge; practices; and material possessions) are as highly valued by farmers as economic capital (material wealth) (see Vanclay, 2004).

<sup>3</sup> Practitioners working to support and enhance HNV farming can, somewhat paradoxically, have little understanding of why HNV farmers continue to farm as they do and are often perplexed as to why HNV farmers do not engage in development pathways such as the 'commercialisation' of their farming styles/assets (though tourism, for example).

social relationships and more by the opportunity to share ideas and be inspired by the 'real life' or 'real farm' experiences of their peers. Exposure to the experiences and ideas of peers can be more credible to farmers than ideas presented by policy-makers or professionals. Examples of initiatives that use the 'real farm' experiences and ideas of farmers to successfully engage the participation other farmers can be found across Europe (e.g. Liivimaa Lihaveis, Estonia; Bosgård Farm, Finland, or; La Font & Garet, Catalonia, Spain). Also, national and inter-territorial competitions, such as "Best Meadow" (France) or "Best Baltic Farmer of the Year", clearly contribute to celebrating existing and building new forms of cultural and social capital around HNV management. Innovations that have successful uptake among farmers often have involved farmers at the design stage, enabling farmers to bring in or work out their own solutions, based on their own perceptions and needs. Methods based on 'emerging components of identity' and 'shared solutions for the future' add momentum to meaningful engagement and participation. The *Exploring Sense of Place – Creative Engagement kit* ([www.ketso.com](http://www.ketso.com)) is a participative process in this line. The rural conservation group GOB Menorca manages an agricultural stewardship program that was designed jointly by farmers on the island. Other cases adopted the approach (e.g., The Burren LIFE Programme, Ireland; Diverse Collaboration programme, Sweden; Valorising Abruzzo mountain project, Italy).

## (ii) Conscientization

*"Farmers are their own scientists, theorising, hypothesising, experimenting to determine what works";*  
(Vanclay, 2004)

*"We are proud that our villages are known thanks to the lagoons. We realise they are internationally renowned by the people who come." (José Ángel Ruiz, Mayor of Villafáfila, Spain)*

The term 'information' is deeply contested subject and relates to a variety of knowledge-types (codified; scientific; tacit; lay; folk). The term 'conscientization' refers to actors' realisation of the crucial factors that affect them, which can happen as a result of transformative life experiences or exposure to new forms of knowledge/information, for example. Applied to HNV farming, the term 'conscientization' may refer to a farmer who realises that an aspect of his/her practice is destroying his or her local habitat, or to policy-maker show realise that an intervention to improve HNV sustainability has had little success. The challenge for policy-makers and scientists is not simply to 'inform' or 'educate' actors out of a perceived unsustainable practice, or, worse still, to coerce or force actors. The effect would be disempowerment rather than empowerment. A participatory approach involves creating conditions where diverse stakeholders' knowledges come into conversation with each other so that they are understood, mediated and deliberated. Different knowledge types complement each other for the purposes of designing effective interventions and innovating.

In several cases (see Annex 3 of Focus Group Final Report), farmers came into contact with each other and with other types of knowledge through contact with diverse actors (e.g., The Burren LIFE Programme; Diverse Collaboration programme; The Pontbren Project, Wales). The knowledge sharing process can be recognised as conscientisation because it directly led to *new* as well as *changed* practices to enhance HNV sustainability, practices that were designed, owned, led by farmers in an empowered way.

Conscientisation in the context of HNV farming also inevitably involves other actors – policy makers, practitioners and responsible consumers – who have realisations as a result of, for example, new scientific knowledge that outdates existing scientific knowledge, or exposure to lay knowledge that provides a solution to an ecological problem. Citizen conscientization is a necessity for the survival of HNV systems that are often disadvantaged by factors such as a mainstream economic climate that

mitigates against HNV sustainability. Many HNV promotion projects include marketing and ICT outreach actions, and some portals on high nature value farmland exist (e.g. [www.high-nature-value-farming.eu](http://www.high-nature-value-farming.eu) and [www.sistemasdealtovalornatural.es](http://www.sistemasdealtovalornatural.es)). There are farmer networks that organise farm visits and activities linked to product selling, thus raising citizen conscientization<sup>4</sup>.

Professional learning could be another relevant dimension. Instead of purely passing technical knowledge and skills, it should also develop important life-learning skills for meaningful participation and collaboration, including those for dealing with different perspectives/knowledges or approaching complex situations "out there". Examples of such learning could be the first online course "International Introductory course to Land stewardship: from theory to practice" (LandLife, [www.landstewardship.eu](http://www.landstewardship.eu)), an on-campus course in the University of Helsinki on nature management, or study programme in agro-ecology in NMBU (Fransis et al., 2013).

### (iii) Solidarity: Collaboration, networking, co-operation

*"Mainly we have improved a lot in promoting our products. For example, if you cannot attend a fair GOB [a farming support civil society group] represents you at a joint stand, and then there's the social mass that move and impact they have on the society of Menorca. Thanks to the agreement with them we save many hours of work in promotion and marketing." (Antoni Moll, HNV farmer, Menorca, Spain)*

Solidarity refers to the way in which similar actors create ties between them in order to act in concert in achieving a particular objective. Solidarity depends on the quality of (i) participation/meaningful engagement and (ii) conscientization, discussed above because without the 'glue' of common goals and a shared vision, solidary or collective action can be problematic. Solidarity adds momentum and provides the crucial importance of social support to those who wish to achieve common goals. It has a protective function as compared to individuals acting alone who are vulnerable in furthering their visions and goals, particularly when those visions and goals relate are dependent on others. Solidarity is often required for social movements or evolving forms of knowledge to be sustainable and to evolve. Considering the inter-dependencies of habitats and the vast tracts of publically owned land, it is critical to sustainable HNV systems. It is important for participatory programmes to support solidarity not only by fostering (i) and (ii) above, but also through the provision of resources and logistical / administrative /communications assistance (iv).

Some innovation examples are successful in scaling up and gaining momentum in European regions and across the continent. Caring for the land (including HNV farmland) is a philosophy behind collaborative networks like the (agricultural) land stewardship networks in Spain (LIFE+ Project LandLife, [www.landstewardship.eu](http://www.landstewardship.eu)), or LandCare Associations in Germany, based on an interesting farmers-municipality-conservationists partnership model. Many smaller-scale collaborative projects provide valuable cases and modes of work (e.g., Diverse Collaboration programme; Valorising Abruzzo mountain project; Liivimaa Lihaveis cooperative; Natuurboerderij Het Bolhuis, Belgium; Parc Natural Regional du Vercors, France; Besaparski Hills, Bulgaria; Beef and Butterflies Project, UK). Advocacy and public outreach and involvement are key components of such networks. The European Network for

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<sup>4</sup> In community supported agriculture projects, farmers and consumers share the cash-flow balance over the farming season. Terre de Liens (France) and The Regionalwert (Germany) have step further involving citizens in social investments to run locally based sustainable farms under the civic agriculture and land access methodology. La Roche-qui-dit-oi (France) is promoting an innovative ICT-based fair-price direct-selling system managed jointly by farmers and consumers.

Rural Development (ENRD) and its subsidiary system of Local Action Groups (LAG) provide relevant examples as well, that might be applicable to the case of HNV systems.

#### (iv) Support (advice and capacity building actions to strength farmer engagement)

Many, if not most, initiatives need some temporal or permanent support by other relevant stakeholders: scientists, local & technical authorities, NGOs, etc. Such outside support is instrumental for participation, contributes to conscientization, and strengthens solidarity).

Some examples of socio-entrepreneurial innovations adaptable to HNV are *Höfgrunder* (Germany), an independent advisory service that enables small and medium sized farms to realize their potential as creators of innovative smallholder agriculture through promoting and supporting extra-family transfer of farms, engaging young agriculture entrepreneurs, established farmers and other stakeholders. In Spain, *Montes de Socios* supports forest landowners with old family joint ownership in joint management of their forestland, while involving the young professionals of the region in resource use and conservation of the forests; and *Red Calea* promotes a joint task of assisting and developing agro-ecology practices at a regional scale. Other examples that incorporate advisory and other forms of support to farmers are Fundatia ADEPT (Romania), TEHO project (Finland), Gajna (Croatia).

## 4. Conclusions

*"All cases presented arise from the initiative, sensitivity and motivation of the people involved in the management of land (and water) on which they develop their projects." (Jesús Pinilla, conservation manager, Spain, concluding notes to a case-study book on farmers caring for nature).*

Having reviewed the HNV case studies presented at the first meeting of the EIP\_FG on HNV Farming through the lens of the discussion of empowerment presented in this paper, we highlight the following key learning points:

#### **Participation** (encouraging meaningful engagement)

- Innovative ways of engaging the participation of farmers/landowners, by leveraging farmers' existing valued and esteemed forms of cultural, social and economic capital, is critical. This is distinct from coercing, incentivising or persuading farmers to stop something they are doing or to do something that they do not believe is credible or constructive.
- Sophisticated and creative ways of doing this (underpinned by social science) must be mainstreamed in the practice of professional animators/facilitators/mediators at the local and extra-local levels.

#### **Conscientization** (realisation of the critical issues relevant to the challenge being addressed)

- Conscientization among farmers is enhanced by, if not dependent on meaningful engagement / participation.
- Successful conscientization brings about new realisations, facilitated in a socially and cultural sensitive way. It is similar to but different in approach to 'education' or 'training'.
- 'Educational' / 'awareness' / 'capacity building' initiatives must be informed by basic social science to effectively facilitate and exploit the interchange of knowledge cultures (where farmers, scientists, practitioners, policy-makers converge)

- Building consumer awareness (citizen conscientization) of HNV sustainability and the importance of farms/farmers in realising HNV sustainability is critical, mainstreaming effective conscientisation strategies in the following key areas of activity:
  - Differentiated/premium foods and other products (including reed material, for example);
  - Tourism connected to the biological and cultural values of HNV systems;
  - On-farm events, such as demo-farms
  - The use of ICT

**Solidarity** (acting in concert for mutual support, reinforcement and further development)

- Solidarity within local farming communities is important, as is building broader forms of solidarity between farmers and partners such as citizens and professionals/agencies with a remit in HNV sustainability.

**Support** (support through professionals and other resources)

- Incorporating HNV expertise (most crucially, innovative animation) in local administration;
- Support of local NGOs
- Strategic involvement of researchers/external experts with specific know-how (sources of funding, administrative issues, ecological/agronomic solutions)
- Public support, similar to support provided by agri-environmental /organic subsidies and through national/private advisory systems
- Funding from outside mainstream CAP sources

We identify several potential practical operational groups and other project formats to test solutions and opportunities relevant to the categories highlighted above:

1. We envision that (rural) 'HNV Hubs' based on ICT (for example, Farm-Oriented Open Data; [www.foodie-project.eu](http://www.foodie-project.eu)) should be at the core of knowledge sharing, recognising the challenge of encouraging widespread and habitual use of ICT by HNV farmers. See also the interactive 'share experiences' map of LandLife.
2. The creation of nationally relevant guidebooks with examples of activities (events/courses/use of ICT etc.) that worked well and tips how to organize these.
3. Research on how educational systems prepare HNV stakeholders for action and cooperation within projects and programmes.
4. Assessing overall sustainability of projects and partnerships is underdeveloped; what are the meaningful indicators, and the most effective monitoring and self-evaluation modes and tools?
5. Understanding the efficiency of various modes of ICT use for strengthening i) – iv) as above.
6. Evaluating the extent to which cases are being used as demonstrations and their potential for multiplication nationally and cross-nationally
7. Evaluating the benefits of raising the international profile of cases and networking them, and identifying effective methodologies for doing so (e.g. regional/pan-European certification of "semi-natural grassland meat" or cross-linkages through web and social networks).
8. Development of regional farmer and land-manager competitions that encourage, reward and valorise professionalism in environmental and natural performance.

We have reviewed the theoretical underpinnings and practical examples of empowering farmers as well as the other partners crucial for the sustainability of HNV farming systems. Relating to the key question of how to make HNV farming more sustainable without losing the HNV characteristics, we find that empowerment within HNV systems should encompass participation, conscientization (working within the farmer community as well reaching consumers and society at large) and solidarity. Existing

initiatives that have effectively responded to the challenge of sustaining HNV systems should be systematically reviewed, catalogued and made available for multiplication. It seems that there remains only limited empirical evidence of the extent, approaches and outcomes of initiatives and social innovations that have effectively progressed HNV sustainability and on the supporting conditions crucial for successful implementation.

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# Research needs for HNV systems to improve their profitability

**Norbert Röder**

## 1. Introduction

Farmers today live in a world of continuously changing conditions and these changes may have a marked impact on the viability of a farming system if they alter its competitiveness. HNV farmers are no exception to this rule.

Within the last decades farming technology has rapidly evolved, allowing (e.g. in areas where these systems are applicable) farmers to increase labour efficiency manifold. Progress in animal and plant breeding has led to higher yields per animal or ha, but also required higher inputs. Changing terms of trade between energy prices and the prices for agricultural commodities has also shifted the competitiveness between low and high input systems or between the production of food and feed on the one side and fibre on the other.

Research is one strategy to improve the competitiveness of farming systems. Research has an added value for the systems if one first looks systematically at the strength and weaknesses of the investigated system and investigates the risks and opportunities the business environment offers. In a second step one has to identify the issues where “new” (including reinvention or adaption) solutions can make a difference.

This paper is based on a simple hypothesis – namely that the farmer or the farming household is the focal point of managing any HNV farming system. Only if the farmer is willing to do something in a way that is compatible with the environmental assets at stake will HNV farming systems have a future. An important motivation for working in HNV systems is that the farmer can derive some benefits (profit). These benefits can be material (e.g. making a living on HNV, provision of food) or immaterial (e.g. reputation, preservation of family heritage) in nature or a combination of both.

Increasing the profitability means achieving a better relation between the applied inputs and the outputs of the systems. In HNV systems, like in most other economic activities, there are three principal options for achieving this:

- 1) reducing the inputs per unit of output;
- 2) increasing the physical output, and;
- 3) increasing the returns per unit of physical output. This frequently requires the creation and access to new markets.

A pivotal aspect of HNV systems is that these systems produce jointly two different kinds of goods, which are completely different in nature. On the one hand is the classical agricultural commodity (feed, food and fibre) which is a market good. With respect to these classical goods the farms are essentially price-takers as the single farm has no influence on the achievable market price. On the other hand is the importance that the areas managed in HNV systems have for biodiversity and landscape’s amenity. Biodiversity and landscape’s amenity can be conceived as a public or club good implying that pure market based solution will frequently lead to a sub-optimal supply of the requested good. In order to achieve an optimal provision of non-market goods institutions, e.g. public bodies or trusts, frequently have to aggregate and mediate the individual demand. In certain cases it is possible that the consumers

amalgamate the goods intangible features with its physical properties. This allows for positive price discrimination. In essence that is what branding is all about.

However, the relation between the commodity and non-commodity output is not always positive. Consequently, only in specific cases a change in the economic performance (i.e. with respect to for the production of the commodity output) will lead to an improvement of the system’s profitability from the societal perspective (see Fig. 1). Especially solutions in which the improvement of the ecological performance comes out the expense of a declining economic performance (or vice versa) need a careful evaluation.

**Figure 1:** Assessment of the changes in the overall profitability of HNV systems based on changes in their ecologic or economic performance (worse: red; constant: yellow; better: green; ambivalent: purple)

		Ecological performance		
		Worse	Constant	Better
Economic performance	Worse			
	Constant			
	Better			

The provisions of biodiversity or landscape amenity are societal goals. Therefore, one can use generally accepted scientific methods to measure the ecologic performance or profitability of the system. However, with respect to the economic performance of the system the story becomes more complicated. The essential criterion is the economic performance in the eyes of the farmer and the evaluation of the performance depends on his individual goals. In particular, with respect to HNV systems anecdotal evidence and case studies suggest that non-monetary criteria or added-values for non-farming activities (e.g. agri-tourism) are important.

Research in the context of this paper includes not only basic and applied research but also market research, information management and technology development.

## 2. Problems of HNV systems

The existing evidence suggests that HNV systems can face problems on two different levels, the level of the single farm and the one of the rural community. The latter is particularly relevant where HNV farming is typical for an entire region and very other alternatives to agriculture exist. For many traditional HNV system aspects of the labour management are also of crucial importance. In comparison to agricultural production systems focusing on high outputs of classical agricultural commodities HNV systems have frequently a higher labour demand per unit of output, the physical labour conditions are harder (e.g. working outdoor at adverse conditions) and generally less favourable (e.g. extreme labour peaks, no vacancies, ...) and it is often hard to arrange the labour demands of the agricultural and off-agricultural activity.

A second problem is often closely related to the first. Compared to their competitors on the market for bulk products the production in HNV farming systems is often characterized by high fixed and or variable costs per unit of production. Reasons for the high share of fixed costs are frequently the need for expensive special machinery due to demanding technology or lack of competition between manufacturers and a farm size preventing to fully exploit the machinery. The high variable costs are often linked to unfavourable natural conditions or the high labour demand.

With respect to the marketing of their products HNV systems are not in the best position despite that the fact that these products are associated with specific tangible and intangible characteristics which would allow a positive discrimination on the market. First, HNV systems are often located in remote areas with a difficult access to markets with a high purchasing power. Second, HNV farms frequently produce only small output quantities making the marketing logistic more demanding. If the supply is in addition irregular the product becomes unattractive for conventional distribution channels. Third, products of HNV systems, even if the sensory quality of the product is undisputed, frequently do not match the codified food standards. Consequently, the product can only be sold at low prices in conventional distribution channels.

Unfortunately the existence of HNV systems can be at stake despite an adequate performance at the individual farm level. This can be the case if demographic change causes problems for the rural communities. The retreat of public infrastructure is retreating or the disappearance of off-agricultural employment opportunities can greatly reduce the attractiveness of working in HNV farming systems.

With respect to the second axis (the ecological performance) there exist options to improve the system's profitability. Up to now research primarily focussed on the ecologic improvement of agricultural systems of low or medium biodiversity value. However, little research has been undertaken whether the **ecological** output of given HNV systems can be improved and at which costs. An implicit assumption in many projects is that HNV systems are managed at or near the ecological optimum. Increasing the biodiversity output of HNV systems can also be valid option to increase the economic performance in the view of the farmer manager, if one is successful in creating a pseudo market for biodiversity. Related to this issue how (pseudo) markets for HNV systems can be organized in an efficient way. This requires a careful examination for the different systems and environmental goods at stake how to optimize the interplay of pure market based solutions (added product value or by products (agro-tourism), non-governmental biodiversity brokers and public payments (result vs. action based contracts as well as individual and group contracts).

### 3. Research needs

The research needs with respect to HNV farming systems can be divided into three groups:

- 1) Understanding HNV farming;
- 2) Understanding the role of innovation within HNV systems, and;
- 3) Developing better solutions for HNV.

These issues are addressed one-by-one in the following sections. Without knowing how HNV systems work in their technological but also in their economic and social dimension and how developed innovations can be disseminated to the farmers it is unlikely that a research program focussing on technological innovation will really meet the needs of the concerned agents.

#### 3.1 Understanding HNV farming

Understanding HNV refers to all three dimensions of the system its ecologic as well as economic performance as well as its social acceptance. Regarding these three dimensions the best knowledge is available with respect to ecologic performance of the system. Here a lot of anecdotal and scientific evidence is available linking specific forms of farm management with the ecological output. However, in particular with respect to the management of low input systems it is hard split causality from correlation based on the existing literature. The main reasons for this problem are that frequently the

set-up of the research activities between different studies is barely comparable or the analysed time span is too short. The more practical the management recommendations should be the greater is generally the uncertainty. Factors that might influence the ecological performance are e.g. livestock breed, stocking density, grazing period, harvesting technology, grazing system, crop species, input of agro-chemicals, fencing system, application of manure, plot size, disturbance of plant cover. In particular answers are needed to delimit the room for manoeuvre one has to adapt the systems with respect to a) economies of scale, and b) technology (machinery, buildings, internal organization, cross-enterprise).

In contrast to ecological aspects of HNV systems the economic and social aspects of the systems are virtually a *terra incognita*. Nearly with respect to all aspects only anecdotal evidence or evidence from case studies exists and a sound statistical base is lacking. This concerns aspects as the motivation, needs, and problems of the farmers or the economic model the HNV systems is integrated in (e.g. commercial full time farming, semi-subsistence, agro-tourism, part-time, leisure). Even hard monetary data to evaluate the performance of the HNV systems or the farming households' standard of living with respect to reference group is missing. Existing data as FADN is frequently inappropriate as smaller farms (with respect to standard economic output) are in all member states heavily underrepresented in the sample. Unfortunately many farms operating in HNV systems belong to this group. In addition even the existing information on the economic implications of different management options is often widely dispersed and not easily accessible. But also information on the factors determining the acceptance of innovation by farmers and the rural community is widely missing.

### 3.2 Understanding the role of innovation within HNV systems

From a today's perspective, the farming practices a hundred years ago did not differ so much between the areas now characterized by an intensive production of bulk commodities and the ones where HNV farming is prevalent. Obviously, agricultural innovations were implemented at different speed in the respective areas. This difference can have various reasons as e.g. uneven distribution of information or capital, innovation inappropriate for the natural conditions and social context. Looking at past innovation processes in HNV areas but also agriculture in general can help to assess the chances of an innovation to become established. Ideally one would get a ranked list of factors for the innovation and the context it should be implemented in. Relevant factors could be:

- 1) level of training (existing knowledge) when the innovation was initially promoted;
- 2) stability of the technology at the beginning;
- 3) lacking financial resources;
- 4) low-risk technology (limited input, limited change in established practices);
- 5) inappropriate legal framework;
- 6) meeting social conventions;
- 7) difference in profits, and;
- 8) Frequency of early adopters.

An essential aspect with respect to innovation is the process of spreading information within the farming community. An on-going challenge for agricultural extension services is especially the involvement of small and part time farms. These two groups of farms are an important group of HNV farms.

### 3.3 Developing better solutions for HNV

This section presents some practical recommendations for specific research needs.

#### **Automation in mown grassland**

Landscapes characterized by a fine grained mosaic of grasslands cut at different dates are frequently characterized by a high biodiversity. Formerly, this mosaic was the result of the low mowing speed and harvesting capacity. With the mechanization of agriculture the machinery got increasingly bigger and the mowing speed and harvesting capacity increased primarily with the intention to reduce the labour demand. This led to landscapes where i) elements preventing the machinery from running at full throttle are removed; ii) all the grassland is mown in very few days, and; iii) all the grassland is managed in a very homogenous way to reduce management costs. These landscapes have lost much of their biodiversity compared to the initial situation. In landscapes where the natural conditions limited this development (e.g. due to steep slopes) the relative profitability of grassland is declining as the technological potential available in other areas cannot be exploited.

Fully automated mowers and processors would provide an alternative to reduce labour costs without the need for an increasingly bigger mechanization and its drawbacks for biodiversity. If automation results in smaller and lighter machinery the working on sensible soils (e.g. wet grasslands) could be facilitated. Automation or semi-automation (incl. remote control) could improve the labour conditions when working on demanding terrain (steep slopes). Currently the main focus of the industrial research on automation is in arable farming due to the larger potential market size.

#### **Animal surveillance for grazing animals**

Animal surveillance is one key factor determining the labour demand in many grazing systems. Remote sensing systems could help to reduce the time demand for on-site controls as they could automatically transmit information on the veterinary status or the location of the animals.

#### **Management of Grassland / pastoral weeds**

For grassland systems at the extensive edge strategies are needed to efficiently control unwanted species as e.g. *Nardus stricta*, *Deschampsia cespitosa*, or *Juncus spp.* The challenge is to manage these species without losing the biodiversity in the grasslands. In various regions many different options were tested in the past. However, most of the results are documented in papers that deal with one or two species in a given ecosystem only and are available in the particular national language or English at best. This means that a comprehensive overview (set of management guidelines) is lacking which is easily understandable to farmers and people engaged in the management of areas of high nature value across Europe. These set of guidelines should describe a) the "unwanted" species; b) the share that can be tolerated from an agronomic point of view given differentiated production objectives; c) the management options to control the species; d) the cost of the action, and; e) the implications on the associated biodiversity. The description for the points c) to e) must eventually be differentiated according to the environmental conditions of the system at stake. Such an overview or guideline will only reach a wide audience of practitioners if it is available in the national languages. A web-based information hub might be useful approach to address the issue.

#### **Better statistical data on the characteristics of HNV farming**

At first sight the ecological advantages of HNV farming and HNV farmland seem to be clear. However, little operational knowledge is existing on e.g. the difference in species numbers, soil compression, soil erosion and water uptake volume between HNV and Non-HNV farms. Only within coordinated research framework the required hard data can be gathered within a reasonable amount of time. This hard data

is a prerequisite to legitimate and steer public funding and to increase the possibilities for any marketing activities.

Despite the fact that data on the ecological characteristics of HNV systems is not plentiful, the situation is luxurious compared to the limited availability of relevant social economic data for farms and related communities. However, this socio-economic information is required to delimit the type and amount of the needed support. Farms involved in the management HNV-farmland are frequently involved in many economic activities and farming is not considered necessarily only as means for generating income. Therefore, the farming household is frequently the relevant decision unit and non-monetary issues and personal preferences might play a more important role compared to fully marketed, integrated, full-time operated farms. Unfortunately, barely any reliable information on the characteristics of farm households exists since 1) this information is generally not available (e.g. tax and social security data), or; 2) the sample size for population of interest is insufficient (e.g. socio economic panel (SOEP), FADN) to draw any statistical inference. To identify the best options to support HNV farming systems a multi-stage research agenda must be addressed, involving:

- 1) In a set of case studies the most pressing issues challenging the viability of HNV farming systems in the eyes of the engaged actors in the respective regions must be identified;
- 2) In a meta-analysis it should be investigated whether a) certain typical patterns are apparent across the study areas and b) the prevalence of certain "challenges" can be linked to existing statistical information on farm, farm household or regional level, and;
- 3) The results should be validated in out-of-sample case studies.

Based on this research either a tested set of proxies can be established to monitor and evaluate the economic situation and development of HNV-systems or a sparse set of additional indicators will be proposed, if no reasonable link to already collected data can be established.

### **Classification systems a) for HNV farmers and b) for HNV communities**

The development of a classification (or certification) system for a) HNV farmers and b) HNV communities is a pivotal aspect that serve multiple purposes. First, it is an initial step to allow the remuneration of the biodiversity benefits on the market. Based on such a system a label "HNV community" or "HNV-farmer" can be developed. Such a label is crucial for the successful marketing of HNV areas (tourism) and HNV products on the national and European scale. Furthermore, it generates a framework for the creation of national and cross national networks. Such a classification scheme can only be successful on the cross-national level if the applied criteria are comparable across Europe.

Second, public payments for HNV farms can be designed to reflect the absolute score or its relative change over time.

Third, based on such a classification scheme learning tools for the involved farmers and communities to improve their system can be developed e.g. with a point score system. In Switzerland IP Suisse has implemented an interesting point score system for the improvement of the nature value of farms.

On the one hand, such a label must be easily applicable for the farmer and partly built on self-guidance and self-evaluation in order to minimize the administrative costs. On the other hand it will be only trusted by the consumers if the additional benefits can be easily communicated to him and or controlled by independent authorities.

A pivotal aspect of such a classification scheme is the designated receiver. Based on the receiver's preferences different aspects of the system must be stressed. If the label aims at the consumer, it has to be investigated whether there is a potential market for such label and which criteria are important for him (e.g. biodiversity, traditional management methods, animal welfare). This means one has to evaluate whether for a sufficiently large group of consumers in Europe, in a state or a region the respective preferences are homogeneous enough and the willingness to pay is high enough to discriminate a market segment. Furthermore, it is less than self-evident that the preferences of within different regions can be summarized within a joint European envelope label (cf. EU organic label).

### **Development of low input arable systems**

In the recent years in agricultural research most activities were conducted in the direction of high input and high output-systems and with high cost machines and as little labour as possible. Especially in arable farming the production is extremely focused on this kind of systems. In contrast in HNV farms there is a need for modern low input systems. Therefore research in respect of resistant breeds of different crops and crop systems is necessary. There are several aspects of research for these low input arable systems – suitability and improvement of breeds, adaption and improvement of innovative machines, food processing and marketing, creation of specialities and market values.

Also, beside the production aspect itself, low-input-arable systems have not been in the focus of HNV farmland tourism. That are mostly grassland landscapes which are highlighted and where different possibilities of tourism and direct marketing have been developed. But also low input arable landscapes may offer touristic opportunities which can be exploited.

### **Improvement of mobile processing units**

One characteristic of HNV farming is that often only small amounts of a certain product are produced. Only the processed food (e.g. cheese instead of milk) can be sold at a premium market value and make HNV farming profitable. However, the machinery and technology as well as some hygienic standards require a technology which does not amortize itself at the single farm level. One solution is the stronger cooperation of local farmers. A second is the mobile provision of the required service by specialised enterprises e.g. mobile processing units e.g. for cheese, meat, juice- and jam-production or just for cleaning and packing seeds.

The development of more standardized platforms for mobile processing units would reduce their costs and allow to create additional income in many European HNV regions.

### **HNV training and education units**

There is big gap between the daily practice and life of HNV farming and sophisticated approaches appreciating the values of HNV farming. It is difficult to build the bridges and there is hardly any approach of how to improve the skills and education of HNV farmers, especially with respect of a modern and innovative HNV farming. There is research and experience need of how to skill HNV farmers adequately. One idea could be to investigate the needs for and contents of mobile HNV training and education units visiting the farmers and farming communities and enabling a mutual exchange between the farmers.

There are many questions how these units can be organised and built and how certain trainings especially with respect of HNV food production and marketing can be developed and organised. However, especially increasing the participation of particular part-time and small scale farmers (both groups are important of HNV farming systems) in the offers of agricultural extension services is a long existing and only partly solved challenge in many countries.

# Increasing farm household income

**Xavier Poux**

## Background comments

It is frequently assumed that HNV systems are not viable because of their low physical productivity and that they cannot, in principle, increase their income due to their nature. However, it should be noted that in the past, before industrialization of European agriculture took place at a large scale after WWII, there has been a huge development of, and changes, whereby agriculture has kept its HNV characteristics to a large extent. Even the today's large crop farms of Bassin Parisien used to be mixed farms, keeping some parts of semi-natural vegetation in the landscape.

What has changed is the fact that HNV systems today mainly remain in low productivity and marginal areas, with poorer soil conditions.

However, there is room for increasing farm income in existing HNV systems without losing their characteristics, which is its low input use. The issue is: how to increase the income without increasing the use of input and keeping a large share of land under semi-natural vegetation and mixed/mosaic landscape patterns?

The assumption of the paper is that the income should be increased: more cash is the goal aimed at (and not: how to continue living with out of the market?).

There is no magic bullet — every path bears a risk of losing this HNV characteristic.

## Considering the household

First framing issue: the income should be considered at the household level, not the farm level. The sustainability issue takes place at this level.

However, the farm component of the income should not be too marginal; however the risk is simply to drop any farming activity. The socio-economic context plays a major role; job opportunity outside farming should be considered; it is clear that when there is a high call with well paid jobs outside agriculture, HNV farming will be difficult to hold. Reversely, the economic crisis shall play the other way (e.g. in Greece, where small farming with limited capital is re-invested).

The issue is not only the income, but the perspective of transmitting a farm with capital. One farmer with no successor might increase his income by de-capitalizing (i.e. selling animals); but it will be temporary and with no long term perspective.

## Farm diversification

This is the first, most obvious path. It consists in adding a non-agricultural activity at the household level. Tourism is probably the most common. It is a way to value the beautiful landscapes and high quality food produced by HNV systems, when the considered areas are reachable and on touristic paths.

This strategy can indeed boost the household income, while it requires some investments at the farm level (rooms, bathroom, etc.) and at the community level (roads, activities...).

The risk is that when specializing, farming loses any economic meaning. It is better to use time and money for tourism. This option may create social inequity when some best placed farmers (capital, foreign language ability, good relationship) will specialize in tourism while the others will continue managing the landscape without any return.

The challenge is to build a rural tourism based on a collective project.

Note that household can be maintained by non agricultural incomes (typically when the wife works in another sector). But this is unlikely to happen at large scale in remote and marginal areas forming the core of HNV geography.

### **Increasing the selling price**

HNV products generally have a good intrinsic quality, due to their natural processing. This quality is valued on the market, assuming that some fundamental hygiene requirements are met. Hygiene will be the first step to address.

Increasing the selling price is a promising strategy, all the more that there is a demand for natural products. But it is not a one size fits all strategy. It mainly concerns processed products ready to be used by the end consumer (cheese, yogurts, ready to use meat, packed fruits...). Commodities are not easily integrated in such a strategy. Meat in particular is not easily eligible to high selling price, although it is a major production for a wide range of HNV systems (extensive sheep/goat systems not directed towards milk production).

Increasing selling price can be met by:

- a) direct selling in the farm or by the farmer himself (local markets). But it requires an access to market: farms should be close to cities, with some road infrastructures and/or in touristic places.
- b) indirect selling, when the sector is organized. This is the case for AOP cheeses for example. This strategy requires a lot of energy in order to strictly qualify the product and differentiate on a competitive market where so-called "natural" products are promoted.

The risks linked to this strategy are numerous when considering the HNV challenge. Success in increased selling prices will tend to lead to specialisation and intensification, as it took place in some French cheese AOP. With increased means from the selling return, farmers will tend to maximise the output as long as there is no real feedback on the potential loss of HNV characteristic; the image of the sold product will last long, even if the semi-natural vegetation is lost.

Beaufort cheese (FR) is a real success story with regards to this challenge, as the specifications on the product are such that they technically prevent from intensification and, on the contrary, value the use of semi-natural pastures.

### **Improving the physical productivity of the farm**

The above strategies are only applicable in some areas with specific socio-economic conditions. They are not easy to implement in marginal areas and/or in the meat sector, forming the bulk of HNV farming systems. Thus technical strategies to improve physical productivity can be envisaged, under the condition that the keep the low-input characteristic.

## Better access to semi-natural land: quantity and quality

A common challenge for HNV farmers is simply to have enough land to implement an extensive management of the farm, with increased number of animals (without intensification per livestock unit: semi-natural characteristics must be maintained).

Access to commons or to private land left for hardly no fee ("free land") will be a challenge addressed on a legal point of view. Note that CAP eligibility rules on pastures and rangeland, excluding non herbaceous resource, may create difficulties for farmers to use those lands.

Qualitative issues should be considered as well: not only the amount of land counts, but also its "equipment": roads/access, fencing, water access, housing for shepherds, spatial coherence (non scattered parcels)...

This pastoral land access path probably forms one of the main one to address at EU level.

## Efficient use of semi-natural resources

Semi-natural landscapes offer a wide range of fodder resources. Using them requires some skill which can be lost in simplified livestock systems (fenced animals and brought foodstuff, preventing animals from using the whole set of resources). Interesting researches on pastoral behaviour of animals (Michel Meuret, French INRA) have shown that animals could be "educated" in a way to diversify the available resources: grass/bush/trees and energy/tannin. This education increases the overall uptake of food, and thus the animal productivity. It also improves the health of the animal and decreases the veterinarian costs.

This approach requires more work force and knowledge on how to manage the flock at landscape level.

## Limited intensification - better use of fertility transfers

Except for some meat systems, HNV farming solely stands on 100% extensive farmed land. There frequently is a more productive part allowing some fodder resources. This resource, under the form of hay/silage, is used in order to go through the bad season (cold winter or dry summer, depending on the conditions). The economic viability on HNV systems frequently depends on the possibility to have a sufficient amount of such "intensifiable" land.

Improving the productivity on these land might be a way to increase the number of animals and then the area of semi-natural vegetation used during the bad season.

The challenge is to keep a balance between intensified and extensively used land. The risk is obviously to shift towards intensified land, causing abandonment of less productive semi-natural vegetation.

The intensification may also concern crops system, keeping in mind the need of sustainable fertility cycles. Wise use of manure - based on an improved fertility transfer from the livestock system to the crop system - and/or use of legumes in the rotation are sustainable paths.

## **Conclusion: no magic bullet**

This paper identifies the different possible paths for improving household income at different levels. It assumes that there are indeed some solutions and that HNV economy should not be considered in a fixist approach. From this perspective, findings from recent agrarian history allows a better understanding of the processes to implement.

However, it should be kept in mind that HNV areas frequently are remote and/or of low productivity. Thus, the range of possibilities is limited. Better access to market cannot be decreed when consumers are far away and when in-place companies will defend their share.

In addition, there is the tricky issue that improved income might give means to alter the HNV characteristics, by intensification and/or land abandonment (no longer need of those difficult semi-natural vegetation land).

This leads to the conclusion that policy actions — and payments — are paramount in two ways:

- in order to compensate what cannot be reached through market or technical improvements;
- in order to attach environmental conditions and care to agricultural development.

## Selling HNV products

**Mariya Peneva and Antonella Trisorio**

### Summarising problems / solutions

HNV farming is mainly based on traditional and low intensity techniques and methods. HNV farms are mainly of a small scale, often found in marginal and less productive areas and are scattered on the rural territory.

These characteristics influence the quality and quantity of products and can limit the economic sustainability of HNV farms by constraining the production and marketing options. Usually they lead to:

- low level of output/yields;
- low level of standardisation of production;
- limited production options;
- low access to market;
- low access to information and technology.

HNV farming delivers many public goods and services, mainly of environmental (i.e. biodiversity, resilient and cultural landscapes, carbon storage, etc) and social (cultural and technical heritage, rural vitality, etc) nature. The latter can be viewed as strength points for the creation of new market opportunities.

Moreover, some limits may be overcome by new forms of farm organisation and of co-operation among farmers.

### Developing new perspectives

The new perspectives can be developed following different pathways depending on specific local HNV farming situation and needs, taken as given the necessity to address economic sustainability and remove possible constraints. One of these refers to the selling of products. Possible new perspectives can be:

- Technological;
- Territorial;
- Institutional, or;
- Organisational (internally and/or externally the farms).

### Co-operation

Co-operation among farmers and local communities and use of endogenous human and natural resources can facilitate the development of new perspectives for economic sustainability / "selling products".

Moreover, co-operation with local Authorities; establishment of farmers' associations and networks may facilitate adoption and dissemination of innovation.

Possible effects can be: reduction of production costs (i.e. sharing machinery, processing structures, etc.) and transaction costs (participation in fair, festivals; concentration and joint organisation of inputs purchase and product sales); increase of power market; exchange of information and creation of new knowledge.

## Business choices

- Diversification among and between products.
- On-farm processing
- Incorporation of traditional knowledge in production technologies;
- Use of local breeds and varieties
- Diversification of farm activity and deliverance of rural services: e.g. accommodation, farmhouse restaurants, educational activities, cultural exchange, pet therapy; natural therapy; social care, sport activities).

## Marketing strategy

- Search for new markets and type of consumers for HNV products and services. The niche and traditional products are increasingly requested by the market.
- Search for new market channel (i.e. local, specialised retailers; schools; catering sector, fairs)
- Shortening of supply chain (i.e short-supply chain; direct selling; mobile selling points during tourist season; on line selling; purchase groups; etc.)
- Branding of territorial/ecological identity;
- Geographical indications and traditional specialities
- New forms of packaging
- The use of ICT could help in the finding new markets, sell products and increase farm visibility.
- Use of new ways/channels of communication.

## Technology

Technologies suited to HNV farmland/farms conditions removing obstacle to farming, processing and increasing product quality, can widen the selling HNV product possibilities.

Access to ICT in HNV farmland (marginal areas) and a widespread use of ICT would favour the shortening of market distance and the HNV product selling.

## Collecting relevant examples of good practice

See Abruzzo case study in Annex 3 of the main report

- Diversification of products - types of cheese, meat (lamb salami and sausages) - meeting niche consumers.
- "Adopt a sheep" project
- Ad hoc realisation (technological innovation) of a mobile milking parlour to allow milking on mountain during spring and summer time.

## Identifying needs from practice and proposing directions for further research

- Collecting and disseminating good practices and solutions addressing technological, organisational, marketing constraints to HNV product selling.

- How to develop networks including HNV farmers favouring dissemination of information, knowledge, achievements and technologies.
- Possible diversification of products.

### **Ways to disseminate experience and practical knowledge**

- Establishment of informal or formal networks
- Establishment of farmers' associations with common needs and aims.
- Videos, social media etc.
- Establishment of specific awards

# Innovative HNV farming machinery – one key element for the future of HNV farming

**Rainer Oppermann**

## 1. Background

HNV farming is often practiced by small farmers in remote areas and under difficult site conditions. These farmers often use old machines and old technology which leads to two main disadvantages:

- ➔ The old machines and technology often work inefficiently and cost a lot of time in repairing the machines or in coping somehow with the disadvantages. Also sometimes the quality of work is bad e.g. using old harvesting machines.
- ➔ Another major point is that the HNV farmers are often seen as backward and poor who can't buy modern technology; thus they don't have a good image in the rural society and also often the self-perception of the farmers is bad.

The disadvantages can be overcome by working on the technological side trying to develop a perspective of modernity and efficiency in respect of HNV-farming.

## 2. Developing new perspectives

A new perspective can be the introduction of new small scale partly innovative machines which are not too expensive and not too complicated but which are introduced under a label of nature sensitivity, modernity, innovativeness and efficiency. However, this task can only be solved commonly that means that there must be done publicity work, investigations on the positive effects and a whole network of activities.

If it will be possible to enable HNV farmers to buy appropriate new technology and to put them in the light of modern farmers the image in the public and also the self-perception will rise. This step should of course go hand in hand with other activities in HNV farming, e.g. improved quality production, improved marketing, tourism activities and educational training.

The perspective of introduction of innovative HNV farming machinery itself consists of several steps:

- Collecting examples and addresses of producers of innovative, small and suitable machinery (and other technology);
- Checking the regional needs for this technology and the possibilities to do PR-work with regional exhibitions /trade shows;
- Developing a concept of PR-work, underlining aspects of ecological sensitivity, modernity, innovativeness, efficiency and suitability for HNV-farming;
- Checking possibilities for support for the introduction of this machinery (e.g. partly sponsored by producers, e.g. collective use of machinery);
- Creating a network of different regional activities in this respect in several European countries with cross-working to other HNV farming activities.

Thus the farmers will not only be able to work better with these machines, but they will also gain a certain proudness to be modern and hopefully be able to combine a new consciousness with other activities in HNV farming.

### 3. Collecting relevant examples of good practice

Some examples shall be given here without having done deep research and without having analysed in detail the suitability and efficiency of the examples:

#### A. Hay production:

In current agriculture the fodder production (mostly silage, but also hay) is increased with more, much heavier and much more expensive machines. They cause damage to animals and perform enormous pressures on the soil. This reduces the nature value substantially. For example, there are many investigations on the damage of rotation mowers on the fauna. These negative effects occur increasingly also in areas where high nature value grassland is still in place.

Beside the fact that "traditional" HNV farmers often can't afford big so called "modern" machines these are often not suitable for managing HNV grassland because they lead to a deterioration of the ecological quality. One solution is to promote (and further develop) efficient, small and nature sensitive mowing and harvesting machines. Some examples are given with pictures:



An innovative cutter bar mower with a working width of 6 m (Brielmaier). This machine is very effective and nature sensitive and therefore very suitable for HNV grasslands.

Photo (with permission):  
[www.brielmaier.com](http://www.brielmaier.com)



Another technology for mowing and harvesting grass in difficult terrains are this kind of machines which are adapted especially to mountainous regions. They can be used as small tractors as well. This photo is from South Tirol, Italy.

Photo: Rainer Oppermann



While mowing grass can be managed relatively easily the production of hay bales normally requires powerful machines. But on the market there also exist small machines which may be in many cases more adequate both for difficult HNV terrain and for small farms.

Photo (with permission):  
[www.caebinternational.it](http://www.caebinternational.it)

## B. Cereal production

Small technology is not only required for the management of grassland but also for HNV arable land on which can be produced regional specialities for a special market. Also here, there already exist examples for modern small technology which can be more appropriate to HNV farmers than big and expensive machines.

## C. Further examples

Beside machines for the management of grassland and arable land also innovative technology is required for the processing of food. For example, small scale farms often can't build a small cheese production due to several obstacles and even collective solutions within one village may be difficult to organise. One solution is the introduction of small mobile cheese factories which travel between farms, such as the example in the biosphere region Rhön of Germany. See the photos below and [http://biosphaerenreservat-rhoen.de/\\_pdf-upl/Kaesebroschuere-1.pdf](http://biosphaerenreservat-rhoen.de/_pdf-upl/Kaesebroschuere-1.pdf)



Photos (with permission): Arnulf Müller

#### 4. Identifying needs from practice and proposing directions for further research

There are quite different HNV farmland types and regions in Europe, e.g. grassland regions both in mountainous and in lowland regions, small scaled mixed farming regions, areas with and without tourism and / or direct marketing opportunities etc.

It's necessary to identify the needs from practice in different regions and to develop ideas for setting up regional exhibitions / trade shows for nature sensitive (small scale) agricultural machines and technology (in contrast to the big international exhibitions which are mainly focused on big and expensive machinery).

Directions for further research are for example:

- What are the needs for small agricultural machinery and technology in different regions?
- What kind of small agricultural machinery and technology already exists?
- How can agricultural machinery and technology be judged as nature sensitive? – Development of indicators and evaluation of machines in respect of nature sensitivity in order to be able to present them as innovative (e.g. cutter bare mowers cause factor 3 less dead and injured animals during mowing than rotation mowers; light machines cause less soil pressure than heavy machines; etc.)
- How can the development of further technology for the management of HNV farmland and HNV farming be encouraged?
- How can the one key factor "innovative technology" be linked to the other key factors "Training and education", "marketing of HNV products" and to "financial and political issues"?
- What are the possibilities to set up a special "innovative technology" program which can support development and wide implementation?
- How can be built a network on innovative technology and its implementation?

In the course of further discussions, the research needs can be completed and grouped in order to come to operative units.

#### 5. Proposing priorities for innovative actions

Proposals for innovative actions are the following, in order of priorities and /or of a timescale:

- (1) Organisation of a first exchange on innovative nature sensitive (small) agricultural machinery: inviting researchers, machine producers and farmers of HNV farmland / of HNV farming regions in several European countries and/or on European level and building of a network with this focus;
- (2) Analysis of innovative nature sensitive (small) agricultural machinery with different criteria and reporting of this approaches in different magazines in order to promote further research and to gather further data in respect of nature sensitivity. In addition, and linked to this analysis, a concept for organising several exhibitions / trade shows shall be developed;
- (3) Organisation of exhibitions / trade shows on innovative nature sensitive (small) agricultural machinery in different regions in Europe;

(4) Development of:

- a support program for pilot projects with innovative nature sensitive agricultural machinery;
- a research program for the further development;
- combined pilot projects linking different key factors with each other (see above) etc.

(5) Extending the approach regarding the successful components: brochures, leaflets, support programs, exhibitions and shows, competitions and championships, all kinds of PR-work etc. Further financial and political support may be checked for suitability.

## 6. Suggesting potential practical operational groups or other project formats to test solutions and opportunities

Potential practical operational groups could be:

- A. A group dealing with the organisation of a first exchange on innovative nature sensitive (small) agricultural machinery and building of a network with this focus; this group could mainly focus on technical and nature sensitivity aspects;
- B. A second group could focus on the concrete needs in different regions and how to promote key technologies: financial support, education, training, cooperation in respect of marketing activities etc. – checking on the one hand the possibilities of products and of the market and on the other hand checking the technical, financial and organisational aspects;
- C. A third group could focus on the organisation of exhibitions / trade shows and PR work related to the issue of innovative nature sensitive (small) agricultural machinery in different countries.

These three operational groups should work hand in hand.

## 7. Ways to disseminate experience and practical knowledge

There are different ways to disseminate experience and practical knowledge on this issue; most important in this respect are

- farmer to farmer transfer of knowledge – that means that there is a need to build a network of farmers and demonstration projects;
- organisation of exhibitions / trade shows especially for this issue: this kind of agricultural exhibitions always attracts people and especially the farming community and if there are innovative elements these exhibitions can really lead to public attention; in addition it would be helpful to have demonstration farms nearby for the follow up of these exhibitions;
- education and training units should be offered to enable farmers to become familiar with these new approaches (this could be mobile units or also different demonstration farms where experience and practical knowledge will be presented).

Also important are: leaflets and brochures; newspaper-, radio- and TV-reports; scientific reports; and any political support for this kind of approach. The whole range of different media should be used to disseminate experience and practical knowledge.

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# Payment rewards for ecosystem services

**Patrick McGurn, Clunie Keenleyside and Pedro d'Orey Manoe**

## Summarising problems/solution

One of the key “enabling conditions” identified by the Focus Group as necessary for promoting / supporting / facilitating more sustainable HNV farming was a system of payment rewards for ecosystem services – namely a way of paying farmers for the provision of the ecosystem services that an HNV agriculture gives to society, but which are not taken into account by the market (price) for agricultural commodities.

This is a challenging concept from the outset. It is widely acknowledged that the monetary value / cost of providing ecosystem services is difficult to determine, whilst the relationship between the intensity of agricultural management and provision of ecosystem services is also difficult to quantify (although there is quite a lot of scientific evidence of these relationships).

The traditional definition of agriculture has been the science or practice of farming, including cultivation of the soil for the growing of crops and the rearing of animals to provide food, wool, and other products. The movement to a more intensive agriculture system has highlighted the importance of certain types of agricultural systems in providing other types of “services” not directly related to agricultural production.

These services have been classed as “ecosystem services” and provide a multitude of other benefits for society (in addition to food, fibre etc.) that are essential to human wellbeing (Power 2010). They are often split into two: firstly, the services provided to agricultural production, including pollination, biological pest control, maintenance of soil structure and fertility, nutrient cycling and hydrological services, and; secondly a variety of other ecosystem services which are a benefit to the wider community, such as regulation of soil and water quality, carbon sequestration, fire prevention, support for biodiversity and much of the rich social fabric and character of Europe’s landscape. Many of which are associated with certain low intensity sustainable systems of agricultural production which have been adapted to local conditions over a long period of time.

Different approaches have been taken in classifying ecosystems which benefit the wider community (Daily *et al.*, 1997; de Groot *et al.*, 2002, MA 2005). The Millennium Ecosystem Assessment (MEA), identified four classes of ecosystem services (MA, 2005):

1. Supporting services are those that are necessary for the production of all other ecosystem services, such as primary production, production of oxygen, and soil formation;
2. Provisioning services are the products people obtain from ecosystems, such as food, water, genetic resources, and fuel;
3. Regulating services are the benefits people obtain from the regulation of ecosystem processes, such as climate regulation, water purification, and erosion control;
4. Cultural services are the nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences.

The integration of environmental objectives and measures into the CAP has been a long and incremental process. Yet creating a framework for rewarding the provision of ecosystems services has been problematic. The introduction of the High Nature Value (HNV) concept was the first step in describing

the farming systems in Europe of greatest biodiversity value and therefore identifying the areas where provision of a wide range of ecosystem services were higher (or where disservices, including loss of wildlife habitat, nutrient runoff, sedimentation of waterways, greenhouse gas emissions, and pesticide usage were lower). However a recent IEEP report indicates that economic pressures have caused and continue to threaten the abandonment or intensification of large areas of HNV farmland, with irreversible loss of the associated habitats and species of European importance for biodiversity (Keenleyside *et al.* 2014). Therefore the present market and policy support does not appear to be able to maintain existing high levels of biodiversity and provision of ecosystem services from HNV farmland, in competition with more intensive agricultural systems, alternative uses of the land or other sources of employment in rural areas.

Farmers need to increase output and productivity to survive financially. This presently means intensification and less biodiversity<sup>5</sup>. And so if we want HNV farms to continue to provide a range of ecosystem services, there needs to be an alternative market that pays farmers for these services.

### Developing new perspectives

Valuing ecosystem services is difficult due to the complete absence of markets and therefore the marginal social costs and benefits of ecosystem service provision will usually not be equated in the absence of government intervention (Aisbett and Kragt, 2010).

Examples of additional higher payments made for agricultural produce which reflect the additional ecosystem services an agricultural system supports are difficult to find. The Organic Sector could be quoted as an example as the produce command higher prices but this is to reflect the higher cost of production and there are no specific ecosystem services incorporated into the overall price. The European Protected Geographical Indication (PGI) status where products are linked to a geographical area (or where at least one production step has taken place in that particular area) could in some cases reflect a higher market price, but again it is not a premium for the provision of other ecosystem services. Other initiatives include Traditional Specialities Guaranteed (TSG), labelled items, for their traditional composition and techniques of production, PDO (Protected Designation of Origin) to find products produced, processed and prepared in a given geographical area, using specific traditional techniques. The market for PGI, PDO, and TSG products in Europe is worth more than €14 billion.

The second approach for paying for ecosystem services is through public support under the CAP (or associated state aids). Under the CAP direct payments for farmers the Cross Compliance and Greening requirements arguably limit potential losses of some ecosystem services (e.g. through regulations preventing soil erosion or water pollution) but these payments are not designed to reward the active maintenance of HNV grasslands, or able to reflect the full costs of doing so in competitive markets for livestock products. Therefore CAP support for ecosystem services is directed through agri-environment schemes supported under Pillar 2. This is reflected in that one of the three objectives in the European Union's Rural Development Policy post-2013 is the sustainable management of natural resources and climate action. The achievement of this objective is to be pursued through six European Union priorities, including "restoring, preserving and enhancing ecosystems dependent on agriculture", focusing on biodiversity (including Natura 2000 and High Nature Value farming) and the state of European landscapes. Therefore, from a European Union perspective support for ecosystems services **is** catered for within the existing framework of measures and funding for Member States' Rural Development Programmes, but the past practice of Member States has been to base agri-environment schemes on

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<sup>5</sup> It was noted that this may not always be the case. For example, in the case study collected by the Focus Group from the Portuguese extensive dry areas some increase in production (to certain levels) was possible without losing biodiversity

defined management requirements, not on the concept of rewarding the services delivered by a given system or action (see below).

Although the 2014-2020 Rural Development Regulation does not provide a measure explicitly for rewarding provision of ecosystem services, guidance issued by the European Commission<sup>6</sup> makes it clear that Article 28 agri-environment-climate measures **can be used to pay farmers for defined biodiversity or ecosystem results**, instead of paying them for pre-defined management actions as has been the case in most agri-environment programmes until now.

More results-based agri-environment payment schemes now need to be developed and implemented by national and regional authorities in the Member States. In the specific context of HNV farming, schemes should include those that: a) if appropriate, compensate the opportunity costs of *not* changing an HNV system that is already delivering a high level of biodiversity / ecosystem services, and; b) permit HNV farmers to apply their skills and knowledge to adjust specific management practices on their farms to deliver the desired biodiversity results / ecosystem services.

Calculations for these results-based agri-environment payments will still be based on additional costs and income foregone of making the typical changes to the farming system needed to deliver the results (including where appropriate the opportunity costs of *not* changing an HNV system that is already delivering a high level of biodiversity and ecosystem services). The big difference is that the results will be checked, but there will be no check required on management actions to achieve those results that were the basis of the payment calculation. This has the potential advantage for Member States and the Commission that for results-based agri-environment schemes it will be easier to check that farmers have complied, if the results can be clearly defined

However, at the Member State level the current situation is often different with many Member States opting for easily administered shallow agri-environment schemes with only a small element of the programme and budget for HNV systems, and only a few of these are designed to reward results.

See Keenleyside *et al.* (2014) for further examples and comments.

The ideal agri-environment scheme should be targeted at providing specific ecosystem services or defined biodiversity results, and output driven so the farmer offering the highest quantity and quality of ecosystem services receives the highest support, this then creates a market for the ecosystem service product to which farmers will react to.

However most current agri-environment schemes have no such mechanism, paying for the presence of a type of land cover (e.g. species rich grasslands) and then giving a list of management “do and don’ts” which may not provide the result intended (one size does not fit all circumstances), and that the farmer has no opportunity to exercise management skills and judgement to adjust management to provide the desired result?

Evaluations of the effectiveness and efficiency of agri-environmental programmes to-date has shown that they could be much improved through better design and a refocusing on results-orientated remuneration as opposed to measure-orientated programmes (Matzdorf *et al.*, 2008).

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<sup>6</sup> See the DG AGRI Working Document (May 2014) entitled *Technical Elements of the Agri-Environment-Climate measure in the Programming Period 2014-2020*

## Collecting relevant examples of good practice

### 1. Premiums for Products

See the following examples of marketed products:

- Liivimaa Lihaveis is a non-profit organisation (NPO) established by Estonian owners of Angus and Hereford beef cattle. There are currently 11 NPO members with 2 500 cattle grazing 10 000 ha of semi-natural grasslands. Liivimaa Lihaveis has developed its own brand and approved quality scheme (Livonian Beef) to promote and market high quality beef from semi-natural (HNV) grasslands with a specific focus upon the export market.

See HNV Case Study 4 in the Focus Group Final Report – also: [www.liivimaalihaveis.ee/en](http://www.liivimaalihaveis.ee/en)

- Successful local labelling schemes supporting Natura 2000 farmland management – see Box 5.3 on p.78 of *Farming for Natura 2000* (EC, 2014) at:

<http://ec.europa.eu/environment/nature/natura2000/management/docs/FARMING%20FOR%20NATURA%202000-final%20guidance.pdf>

- Welsh Salt Marsh lamb – lambs grazed on the salt marshes of Wales are claimed to produce a quality meat with a unique flavour, colour and texture created by the multitude of wild grasses and herbs that are only found growing on estuary salt marshes (e.g. grasses like puccinellia, and herbs like sea lavender and marsh samphire).

See: <http://www.thoroughlywildmeat.co.uk/Pages/SpringLamb.aspx>  
<http://www.gowersaltmarshlamb.co.uk/>

### 2. Targeted Agri-environment schemes or equivalents

The Burren Farming for Conservation Programme (BFCP) is an example within Ireland of a successful outcome-based programme funded under Article 68.1 (a) (i) of Council Regulation (EC) 73/2009 which makes provision for the use of unused Single Payment Programme funds for specific types of farming which are important for the protection or enhancement of the environment. BFCP objectives include the sustainable agricultural management of High Nature Value farmland across the Burren and maintaining or enhancing the conservation status of Annex I habitats. While participants are provided with advice on how to maximise the environmental benefit from their land (via a site visit, development of farm plans and provision of best practice guidance), farmers are expected to use their own initiative to deliver the optimal outcome of species-rich grasslands. The programme is predicated on awarding higher payments to farmers who produce better quality species rich dry grassland ([www.burrenlife.com](http://www.burrenlife.com)).

The Burren Farming for Conservation Project is expanded in the 2014-2020 Rural Development Programme for Ireland – see:

<http://www.agriculture.gov.ie/ruralenvironment/ruraldevelopmentprogrammerdp2014-2020/>

For further examples of results-based schemes see the DG Environment webpages and blog on 'Results-based agri-environment schemes – payments for biodiversity achievements in agriculture':

[http://ec.europa.eu/environment/nature/rbaps/index\\_en.htm](http://ec.europa.eu/environment/nature/rbaps/index_en.htm)

Resources available to download from the Commission's website include:

- A practical [Guidance Handbook](#) providing step-by-step guidance on the decision-making process and practicalities of setting up and running an effective results-based scheme, accompanied by two supplements focusing on the types of result indicators currently used in Europe and examples of field guides for farmers. The Guidance Handbook can also be downloaded in an e-reader compatible format;
- A [Summary of the Guidance Handbook](#), available in all 24 EU languages;
- A fully searchable, [web-based inventory](#) of results-based agri-environment schemes in operation across EU and EFTA countries, and;
- [Videos from the field](#) looking at issues such as: effective scheme design; achieving biodiversity outcomes; and involving farmers. There are also country specific videos on the different approaches to results-based schemes in Germany, France, Ireland, Sweden and the Netherlands.

These materials are accompanied by a [study report](#) which reviews the advantages and challenges of adopting results-based approaches for the protection and enhancement of biodiversity within the farmed countryside.

### Directions for further research

- How to reward and measure the eco-environmental service given to society by agriculture, mainly by market rewards.
- Defining which data we should collect and how to measure/evaluate it
- Defining the base payment that should be calculated according to the evolution of data defined for different HNV systems.
- Investigating the barriers to provision of and uptake of results-based agri-environment schemes using CAP funds
- Pilot projects implementing results-based schemes in different parts of the EU

### Priorities for innovative actions

Improved marketing of HNV goods to reflect the ecosystem services supplied. How this could be done, links with PGI, PDO, and TSG products or a separate HNV label (EU set aside €37 million to help promote the quality markers across 13 countries).

We should have an easy way to measure the environmental/ecological result of agriculture activity with a scale that takes in account the efficiency of that activity based on same data. This data can vary within different HNV systems.

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# Creating a more favourable regulatory framework

**Guy Beaufoy, Clunie Keenleyside and Norbert Röder**

## Summarising problems and solutions

Farming in the EU operates within a wide-ranging regulatory framework, dominated by the CAP but also including food hygiene and environmental regulations. This framework can have a direct influence on an individual farm's economic sustainability, scope for innovation and HNV characteristics, both positive and negative. The policy instruments within the framework include regulations, payments to farmers and funding to support and incentivise a wide range of rural development measures. Member States and regions (in federal states) are obliged to implement some payments, others are entirely optional, and for the obligatory elements Member States have considerable freedom in setting the detailed eligibility and implementation rules.

At farm level the combined effect of the different elements of the regulatory framework is an important driver of decisions about the farm business. For some types of farm the way in which the framework is implemented provides considerable economic support (income support, investment aid), while some other types of farm have access to much less support. Similarly, the regulatory framework can facilitate innovation in some cases, or hinder innovation (create regulatory barriers) in some others.

The regulatory framework includes:

- CAP income support (BPS, SAPS) optional additional payments for ANC and Young Farmers, special option for small farms
- CAP cross-compliance, greening and protection of permanent pasture, minimum activity and maintenance rules
- Eligibility rules for CAP support (including landscape elements, trees and non-herbaceous pastures)
- CAP 2nd pillar measures
- Livestock regulations (animal identification, animal welfare and veterinary rules, use of certified males for breeding, etc.)
- Plant protection regulations (domestic seeds, use of traditional "pesticides")
- Food hygiene regulations for processing (especially milk/cheese, meat)
- Natura 2000 and national/regional nature conservation regulations
- Water Framework Directive
- Environmental Impact Assessment Directive
- Other environmental regulations (e.g. land-use planning in national and regional legislation)
- Annex I of the Treaty on the Functioning of the European Union

The following table identifies particular regulatory issues faced by HNV farming systems.

Regulatory framework	Problems affecting HNV farming	Potential solutions
CAP income support and other forms of aid	Relatively low levels of income support from CAP under the "historic" approach in many EU-15 Member States, a situation that some MS plan to maintain as far as possible post-2014	With the new CAP, many HNV farming systems in many Member States will benefit from some redistribution of CAP support in favour of land with lower-yielding production systems. In the longer term it seems likely that this shift will take place in all Member States
Determination of the eligible area (LPIS)	<p>The current LPIS assumes that the share and location of ineligible features and landscape elements is relatively fixed and constant over time. The system requires the "exact" georeferenced delimitation of the "normal" eligible area, the landscape elements and the non-eligible areas within one LPIS-Parcel. Based on the area of the normal eligible area and the landscape elements the decoupled premium is granted.</p> <p>However, in HNV systems the size and distribution of the elements is dynamic over the time (even within one year). This means the areas of all the above mentioned elements must be updated. If the stated area and the area at control do not match, penalties might be claimed.</p> <p>Also the new pro-rata system does not change the principal problem as near the prescribed class limits an exact measurement must be conducted in order to avoid law suits with farmers.</p>	<p>Change the system from a parcel referenced system to net balance on the farm level, where the change in the different features must be within certain prescribed limits. An implementation could look like : if a farm has 15% non-permanent ineligible features (i.e. bare soils, larger woods) the farm would still receive the same amounts of payments if the area of non-permanent ineligible features stays within a range of 10% to 20% (under the assumption that the total farmland remains constant).</p> <p>For a farm with 30% non-permanent ineligible features the respective boundaries could be 25% to 35%.</p> <p>(Such an approach would allow sampling based on remote sensing data; instead of exact measuring).</p>
Eligibility of HNV land and farmers for Pillar 1 CAP support, including minimum activity rules	In decoupled systems the problem arises how to determine a "just" level of support as the service provided is not necessarily linked to the farmland area and HNV farms frequently operate in the transition zone between open agricultural land and forest. How can authorities determine that an area is sufficiently used? If minimum activity is clearly defined, e.g, in terms of livestock density, grazing days, mowing regimes, then why is it necessary to have rules about land cover (trees, bushes, landscape features)?	Member States identify all their HNV farmland and farmers (environmental and agricultural authorities working together) , then choose to use options for non-herbaceous pastures, landscape features, permanent grassland definitions

<b>Regulatory framework</b>	<b>Problems affecting HNV farming</b>	<b>Potential solutions</b>
CAP cross-compliance, greening	Some rules put greater demands on HNV farms compared with intensive agriculture. These rules are not suited to systems rich in landscape elements where the single element is dynamic.	Use options for landscape features and trees (i.e. don't define GAEC and activity rules and greening to favour intensive farms).  Define landscape elements not static but dynamic (the total share (area) of trees / hedges must be maintained) but not the single element.
CAP 2nd pillar payments	In some regions the use of Pillar 2 measures such as agri-environment to support HNV farming systems is extremely limited. In addition, eligibility criteria may exclude HNV farmers and the nature of granted project frequently are not consistent with HNV farms.	Make the implementation of support measures for HNV farming in proportion to the scale of needs on the ground in each region.
CAP 2nd pillar afforestation measures	In some countries, afforestation offers an option for quitting land management while continuing to receive Pillar 1 payments, and Member States do not choose to use other forest support (investment aid and forest conservation payments) to support existing HNV silvo-pastoral and silvo-arable systems.	Exclude HNV farmland from subsidised afforestation. Ensure that subsidies for afforestation are not oucompeting support for HNV farming on a given area of land.
Livestock regulations	SMRs are especially demanding for livestock in HNV systems involving extensive grazing, common land and seasonal movements while completely unfitting the flock management. The system of selected males is hampering rustic breeds in future and is costly.	Provide coupled support payments specifically for extensive grazing systems.
Plant regulation	Contradict the use of traditional plants.	
Food hygiene regulations	Although EU rules are now flexible, interpretation by national authorities is often very restrictive in the case of traditional and small-scale systems.	Possible derogation from standard EU regulation and/or applying specific flexible procedures for traditional and small-scale systems.
Natura 2000	Many sites still do not have management plans and farmers are not informed of objectives or restrictions. Sometimes restrictions on farm buildings are too strict even if these do not affect the habitats and species of the site.	Member States to prepare Natura 2000 management plans or similar, then they can use Natura 2000 compensation payments

Regulatory framework	Problems affecting HNV farming	Potential solutions
		<p>Natura 2000 report case studies offers innovative ideas  <a href="http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm">http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm</a></p> <p>Guidance  <a href="http://ec.europa.eu/environment/nature/natura2000/management/docs/FARMIN G%20FOR%20NATURA%202000-final%20guidance.pdf">http://ec.europa.eu/environment/nature/natura2000/management/docs/FARMIN G%20FOR%20NATURA%202000-final%20guidance.pdf</a></p> <p>Annexes  <a href="http://ec.europa.eu/environment/nature/natura2000/management/docs/FARMIN G%20FOR%20NATURA%202000-ANNEXES%20A-D-final.pdf">http://ec.europa.eu/environment/nature/natura2000/management/docs/FARMIN G%20FOR%20NATURA%202000-ANNEXES%20A-D-final.pdf</a></p> <p>Case studies annex (featuring the Grand Hamster!)  <a href="http://ec.europa.eu/environment/nature/natura2000/management/docs/Farming%20for%20Natura%202000-Annex%20E-Case%20studies.pdf">http://ec.europa.eu/environment/nature/natura2000/management/docs/Farming%20for%20Natura%202000-Annex%20E-Case%20studies.pdf</a></p>
Environmental Impact Assessment Directive	In many Member States the implementation of EIA requirements for semi-natural farmland is rather weak	Robust implementation of EIA Directive. Incentive payments for continuing low-intensity farming on semi-natural land would help prevent intensification, as well as abandonment.
Annex I	For certain typical products cultivated in the open landscape and harvested in multi-annual intervals the Annex 1 status is ambiguous, making public support for these systems problematic (e.g. reed, cattail)	Clarify the interpretation of Annex I

The problems for HNV farming systems can be summarised as a combination of:

- rules and interpretation of rules that lead to insufficient support or excluding HNV farms from support;
- rules and interpretation of rules that raise barriers against economic sustainability and innovation.

The administrative level at which problems are created can be EU, national, regional or all three. Some examples of problematic situations that occur include the following:

- EU rules that create problems for HNV farming and allow little flexibility for Member States.
- EU rules that create potential problems for HNV farming but also allow flexibility, but Member States or regions do not take advantage of flexibility. For example, hygiene rules applied to small cheese dairies.
- EU rules that allow options that are useful for HNV farming, but using these options is made very complicated and creates more risks for Member State authorities. For example, the new definition of permanent pastures that includes the option for wood pastures to be eligible, but Member States must define them according to locally established practices whereas other farmland has no such requirements.
- EU measures that include options for supporting HNV farming viability and innovation but that are not implemented by Member States or regions, or are implemented in a limited and/or ineffective way. This is mainly a Pillar 2 issue.

These different situations could be investigated through a process of “HNV auditing” of the regulatory framework at each administrative level. In other words auditing all the regulations at each level to assess whether they are “HNV friendly”.

## Relevant examples of good and bad practice

### Food processing hygiene rules

The EU hygiene rules are quite flexible but national interpretation may limit on-farm traditional cheese making methods (i.e. the use of raw milk) and techniques (i.e. the use of wooden tubs), also affecting cheese basic qualities, taste and structure. In Abruzzo region (Italy) a co-operative of farmers lodged a protest against the rules (supported by regulation experts), proved that their milk was of “good quality” (supported by scientific research) and obtained an EU certificate for the farms of the co-operative stating that they comply with sanitary rules according to EU requirements. Similar derogations (cheese making with raw milk) applied also to Parmigiano Reggiano cheese.

Moreover the prohibition of building milking parlour established by the hygiene of milking parlour rules were overcome through the realisation (supported by scientific research) of a mobile milking parlour specifically designed because it was not available on the market, being technology design more suited for big farms. This solution allowed milking in spring and summer for those sheep farmers who herd sheep in the mountains for a substantial part of the year.

### Agri-environment

Marche Region offers an interesting and innovative example of collective agreements (territorial agri-environment agreement -TAEA) aimed at improving the biodiversity status on Natura 2000 sites. The

TAEA for Biodiversity was launched in 2011. The agreement involves both public institutions and local private actors. The TAEA implements an innovative multi-sectoral and participative methodology to pursue multiple agri-environmental objectives through an integrated suite of measures addressing biodiversity conservation. In this sense, the TAEA was structured as an integrated package, combining a set of RDP measures. The benefits of this approach are expected to be enhanced by integrated territorial interventions within the Natura 2000 area, as well as by communication and dissemination initiatives which have involved farmers and local Authorities (ENRD 2012). Moreover, collective approaches, such as TAEA could facilitate small farms to enter AE schemes.

### Identifying needs from practice and proposing directions

- See section 12.3 in Keenleyside *et al.* (2014) for ideas – downloadable from here: <http://ec.europa.eu/environment/agriculture/pdf/High%20Nature%20Value%20farming.pdf>
- Better identification of HNV farm types is needed in Rural Development programmes, in order to adjust policies and measures to their needs. This in turn requires improved data on HNV farms and their trends, for example through inclusion of HNV farm types in FADN and FSS.
- The need to interpret the regulatory framework in way that is favourable to HNVF in order to give a policy response to the latent needs/problems of HNV farms. The identification of possible regulatory obstacle to HNV farming should be addressed stimulating farmers participation in policy implementation and networking through a wide and finalised communication and information campaign.
- Regulatory obstacle to HNV farming activity/economic sustainability could be addressed by allowing possible derogations to EU rules (see Abruzzo example) or possible specific administrative procedures taking into account HNV farming conditions, methods and techniques.

### Proposing priorities for innovative actions

- Governance innovation, for example in the approval and monitoring of RDPs at EU level. The current system fails to ensure that individual RDPs address the needs of HNV farming.
- Organisational innovation among decision levels and institutions.
- Favouring the dialogue between innovators and decision makers and the building of the representation of the new vision the innovator brings.
- Increase HNV farming understanding within Managing Authorities, leading to the creation of the favourable conditions to the introduction of possible innovations.
- Animation in HNV farmland, definition of multi-sectorial and participative schemes (farmers participation in the scheme's definition), or collective actions facilitating "marginal" farms enter the schemes

### Potential practical operational groups

- Regional and national operational groups could be established to discuss ways of improving the regulatory framework for HNV farming, based on practical experience of farmers, scientists and nature conservation practitioners. These groups should focus on specific regulatory issues and how to address real issues that block innovation on the ground.

## Ways to disseminate experience and practical knowledge

- Role of brokers, territorial animators.
- Communication and demonstrative (best practices) initiatives which involves and allow discussion among farmers, scientists, practitioners, local Authorities and local communities.
- Creation of places in which to facilitate the process of sharing new vision and values, linking the innovator and institutional subjects and/or other subjects recognized by the policy decision arena.
- Establishment of farmer associations based on common needs and objectives. The association would favour the dissemination of experience and knowledge among other farmers, and would work as contact and consultation body for Public Authorities, researchers, extension services and other stakeholders.

## References

Keenleyside, C., Beaufoy, G., Tucker, G., and Jones, G. (2014). *High Nature Value farming throughout EU-27 and its financial support under the CAP*. Report Prepared for DG Environment, Contract No ENV B.1/ETU/2012/0035, Institute for European Environmental Policy, London.