

## High Nature Value Farmland as an European evaluation indicator - definition, function and status quo -

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Agriculture is still one of the main drivers of biodiversity loss in landscapes of Europe. This because of growing intensification on one hand, on the other hand land abandonment and the loss of traditional farming practices, which have often generated species rich habitats. Thus agriculture loses on both ends, which led to the idea, that farming styles, which favour biodiversity rich landscapes, should be valued for that „service“.

The High Nature Value farming concept was established in the early 1990s and describes those types of farming activity and farmland that, because of their characteristics, can be expected to support high levels of biodiversity or species and habitats of conservation concern (Baldock et al., 1993; Beaufoy et al., 1994; Signal and McCracken, 2000).

The IRENA operations by the European Environment agency first led to a concept of an indicator named „high nature value farming“. The definition given by Andersen (2003) is still agreed on:

„HNV farmland comprises those areas in Europe where agriculture is a major (usually the dominant) land use and where that agriculture supports, or is associated with, either a **high species and habitat diversity** or the **presence of species of European**, and/or national, and/or regional **conservation** concern, or both“.

### *Hence HNV Farmland is characterised through three criteria:*

1. **Low intensity farming characteristics** - biodiversity is usually higher on farmland that is managed at a low intensity. The more intensive use of machinery, fertilisers and pesticides and/or the presence of high densities of grazing livestock, greatly reduces the number and abundance of species on cropped and grazed land.
2. **Presence of semi-natural vegetation** - the biodiversity value of semi-natural vegetation, such as unimproved grazing land and traditional hay meadows, is significantly higher than intensively managed agricultural land. In addition, the presence of natural and semi-natural farmland features such as mature trees, shrubs, uncultivated patches, ponds and rocky outcrops, or linear habitats such as streams, banks, field margins and hedges, greatly increases the number of ecological niches in which wildlife can coexist alongside farming activities.
3. **Diversity of land cover** - biodiversity is significantly higher when there is a „mosaic“ of land cover and land use, including low intensity cropland, fallow land,

semi-natural vegetation and farmland features. Mosaic agricultural habitats are made up of different land uses, including parcels of farmland with different crops, patches of grassland, orchards, areas of woodland and scrub. This creates a wider variety of habitats and food sources for wildlife and therefore supports a much more complex ecology than the simplified landscapes associated with intensive agriculture.

First, HNV was developed in an „area approach“, which tried to mark certain areas as HNV. Further Studies for the European Commission, DG Agriculture and thus in the framework of Evaluation of rural development programmes, stated, that it is clearly not the objective to delineate or designate particular areas as HNV, but rather to use rural development measures to preserve and develop HNV farming and forestry systems. (IEEP 2007a, 2008). This sets an important emphasis on the systemic view of farming practices, together with landscape and habitat characteristics.

The result of these works is a guideline, which gives a concept to the memberstates, how to develop a reportable set of indicators, which depict the status, trends in quantity and quality, and - as the final goal - the impact of RD-measures on the resource of „High nature value farmland“.

### *Summary of the guideline*

*Token from the 2<sup>nd</sup> newsletter of the European Evaluation Network for Rural Development (2009):*

The High Nature Value (HNV) Impact Indicator is one of seven indicators provided by the Common Monitoring and Evaluation Framework (CMEF) to assess the impacts of the 2007-2013 rural development programmes. Along with the Farmland Birds Indicator, the HNV indicator is intended to contribute to assessing the impact of programmes on biodiversity.

Indicators for HNV farming and forestry are in their infancy, and this HNV Guidance Document is intended to assist Member States in developing a workable HNV monitoring framework. The document is developed from, and replaces, a draft HNV Guidance Document that has been in circulation since 2007. Both documents build on a study carried out for DG Agriculture of the European Commission in 2007 (IEEP, 2007).

The challenge for Member States is to devise a set of indicators that will provide meaningful information on changes in the extent and in the condition of HNV farming and forestry, during the seven years of the rural development programmes.

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Logically, the first step is for each Member State to assess the baseline situation against which the changes can be measured. This means estimating the extent of HNV farming and forestry, and gathering information on its condition in terms of farming practices and associated wildlife species and habitats.

The HNV Guidance Document emphasises that the objective is not to delineate or designate particular areas as HNV. The policy priority for HNV as set out in the Community's Strategic Guidelines for rural development is to use measures to preserve HNV farming and forestry systems. The idea is to contribute to nature conservation by supporting the broad types of farming and forestry that favour biodiversity, not to designate particular areas as HNV.

So what are these HNV farming and forestry systems, and what indicators can be used to monitor changes in their extent and condition? In simple terms, they are types of farming and forestry that, because of their characteristics, can be expected to be high in „nature value“, meaning biodiversity generally, or particular species of conservation concern.

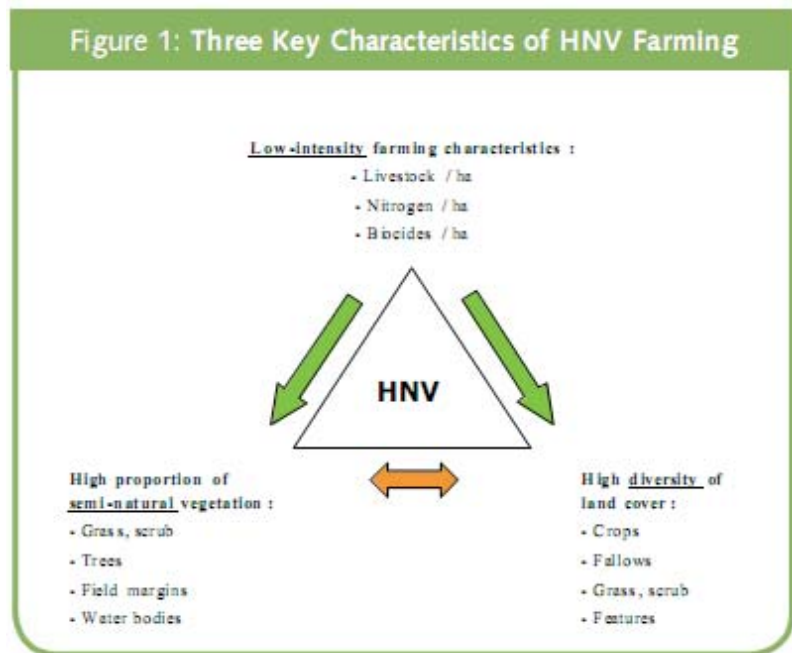
The HNV Guidance Document explains the broad land-use characteristics that are known to be critical for supporting nature value, and which then provide the basis for designing indicators for HNV farming and forestry. *Figure 1* summarises these characteristics.

As the diagram illustrates, high nature value results when certain patterns of land cover (those with a high proportion of semi-natural vegetation and a diversity of types) are managed for production in a particular way (under low intensity systems). This situation occurs most frequently with low-intensity livestock farming. This type of farming is unique in harbouring numerous habitat types from Annex 1 of the EU Habitats Directive, ranging from hay meadows to wood pastures and heaths, which depend on the continuation of low-intensity grazing and/or late mowing for their conservation.

Most arable farming is too intensive to be HNV, but there are some areas where this is not the case, especially in southern and eastern Europe. These are usually low-yielding, low-input dryland systems retaining a significant proportion of fallow and semi-natural vegetation. Traditional orchards and olive groves can be of high nature value. Key characteristics are large old trees, a semi-natural understorey - which is often grazed by livestock - and no or minimal use of nitrogen fertilisers, biocides or broad spectrum insecticides.

Semi-natural features such as hedges, copses and ponds, are significant for some types of HNV farmland, especially low-intensity cropping and bocage landscapes. Where semi-natural features survive on intensively managed farmland they conserve vestiges of biodiversity in landscapes that otherwise are of limited nature value.

The HNV Guidance Document explores these key characteristics in more detail, and explains how they can form the



basis for the design of indicators to monitor trends in HNV farming and forestry. A four-step approach is presented, with sufficient flexibility to be adapted to the conditions of different Member States, which can be summarised as follows:

### **Step 1 - Describing and characterising the main types of HNV farming and forestry in the Member State**

The first step is to gather information on existing types of HNV farming and forestry, and particularly on aspects that can provide the basis for designing HNV indicators:

- The predominant land cover associated with each HNV system, such as the types of seminatural vegetation and of cropped land, highlighting features that make a significant contribution to nature value.
- Farming/forestry characteristics and practices, i.e. how the land cover is managed, the grazing and mowing regimes, cropping patterns, livestock densities, nitrogen inputs.
- The nature value associated with these types of land cover and farming/forestry practices, especially species and habitats of conservation concern.

### **Step 2 - Developing indicators of the extent of HNV farming and forestry systems**

The HNV Guidance Document proposes using a basket of indicators for estimating the extent of HNV farming and forestry, drawing on a range of data sources, such as land cover data, farming statistics, or the distribution of wildlife species. For example, an indicator of the extent of HNV livestock farming could be the total area of semi-natural vegetation used for grazing or mowing. Another could be the total area of forage declared by holdings with a live-

stock density between thresholds that are associated with HNV. These would be defined on the basis of information gathered in *Step 1*. Similarly, data on the extent of arable land with a proportion of fallow within defined thresholds can provide one indication of the extent of arable land that is likely to be HNV.

Existing data sources on land cover and farming characteristics are far from perfect, and will afford only an approximate picture of the extent of HNV farming and forestry. Data showing the distribution of wildlife species on farmland can provide a complementary picture.

### **Step 3 - Developing indicators for monitoring changes in the extent and condition of HNV farming and forestry**

Changes in the extent of HNV farming and forestry can be monitored by means of the indicators developed in *Step 2*. Changes in condition are more difficult to assess, as the baseline situation cannot be defined so clearly. The HNV Guidance Document proposes using sample surveys to assess trends in the most relevant farming practices. Changes observed in suites of species associated with different types of HNV farming and forestry will provide another indication of trends in HNV condition.

### **Step 4 – Applying the indicators to assess changes in HNV farming and forestry in the context of the rural development programmes**

Assessing the impact of rural development programmes on HNV farming and forestry is not a simple exercise, and cannot depend on indicators alone, given that development of these is at an early stage. Also, there are inherent difficulties in evaluating what proportion of the changes observed may be attributed to the programmes themselves.

A considerable input of expert analysis will be needed, with the information gathered in *Step 1* providing an essential background.

To conclude, the HNV concept has come a long way since the early 1990s (some of the reports that have marked this

progress are listed below). Nevertheless, these are still early days in HNV monitoring. The new HNV Guidance Document is not the end of the story, rather it is part of an evolving process. Effective monitoring of HNV farming and forestry will require further adaptation and development of existing data bases. Ground-truthing of indicators through local case studies will be important.

By investing in appropriate data collection and monitoring schemes now, we can build a true picture over time of the biodiversity benefits and impacts of rural development programmes.

## **Literature**

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