High Nature Value farming in the EECCA countries

Final report for

Workshop on High Nature Value farming in the EECCA countries
16-17 November 2006, Chişinău, Moldova

This report and workshop have been made possible by grants from the Council of Europe and the Governments of Switzerland and Norway

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WWF Danube-Carpathian Programme (2006)

Note: The countries of Eastern Europe, the Caucasus and Central Asia (EECCA) are Armenia*, Azerbaijan*, Belarus, Georgia*, Kazakhstan, Kyrgyzstan, Republic of Moldova*, Russian Federation*, Tajikistan, Turkmenistan, Ukraine* and Uzbekistan. The name of this group of countries and its abbreviation is widely used, however not internationally recognized. All countries are members of the United Nations Economic Commission for Europe (UNECE). The star-marked (*) countries are member states of the Council of Europe (CoE), Belarus is a CoE's candidate member state.

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Introduction

In the pan-European region, traditional agricultural systems have shaped much of the rural environment. They have created semi-natural habitats for a wide range of species, many of which are of particular conservation concern. Domestic livestock has taken over the ecological role of wild herbivores even on some of Europe's natural habitats. The continuing decline in traditional, extensive and mixed farming practices, the intensification of agriculture and the abandonment of farming in certain regions is leading to the loss of biological diversity in much of Europe's farmland.

In response to these concerns, the Ministers and heads of delegation at the Fifth Environment for Europe Conference in Kiev (2003) agreed on the following targets:

- By 2006, the identification, using agreed upon criteria, of all high nature value areas in agricultural ecosystems in the pan European region will be complete.
- By 2008, a substantial proportion of these areas will be under biodiversity-sensitive management by using appropriate mechanisms such as rural development instruments, agri-environmental programs and organic agriculture, to inter alia support their economic and ecological viability.
- By 2008, financial subsidy and incentive schemes for agriculture in the pan-European region will take the conservation and sustainable use of biodiversity into consideration.

Against this background, a workshop was organized on 16th and 17th of November 2006 in Chişinău, Moldova by the WWF Danube-Carpathian Programme (WWF-DCP) and the European ECO-Forum / NGO BIOTICA Ecological Society in collaboration with the United Nations Environment Programme-Regional Office for Europe (UNEP-ROE). Financial support was given by the Council of Europe and the governments of Switzerland and Norway. Expert input was provided by the European Forum for Nature Conservation and Pastoralism (EFNCP) and the European Environmental Agency (EEA). The workshop took place in support of the agriculture and biodiversity target in the Kiev Resolution on Biodiversity submitted by the Pan-European Biological and Landscape Diversity Strategy (PEBLDS) Council to the 5th Environment for Europe Ministerial Conference (2003).

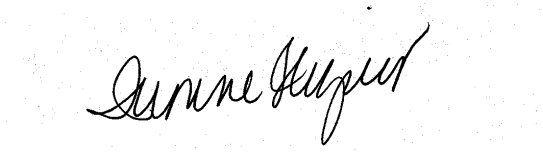
The purpose of the workshop was to build capacity, share experience and develop recommendations regarding the identification and protection of High Nature Value Farming (HNVF) areas in the Eastern Europe, the Caucasus and Central Asia (EECCA) countries of Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.
Participants and organizers, about 30 in total, came from various backgrounds, representing ministries, governmental organizations, universities and local, national and international NGOs.

The final report is structured in three parts:

- Part I will cover the ecological and political context of HNV farming, especially the role of HNV farming in the Convention for Biological Diversity, Kiev Resolution and within other policy instruments and processes, and the present status of the HNV farming concept definition, identification and protection in the pan-European region in general;
- Part II will assess the present the status of HNVF situation in the countries of EECCA in terms of agriculture and agricultural landscapes, existing political and institutional frameworks for the protection, identification and management of HNV farmlands;
- Part III will present the conclusions and recommendations as an outcome of the presentations and discussions of the workshop.

This final report aims to help setting the basis for a common understanding of the concept and status of High Nature Value Farmlands (HNVF) in the EECCA region. The report includes the results of a desk study, experts input based on questionnaires and the input of workshop participants. It will be used for wider dissemination in the region to increase awareness and understanding of the concept and to initiate actions for the identification and protection of High Nature Value Farmland in the EECCA region. The final report should by no means be taken as a comprehensive overview of HNV farmland in the EECCA region, but rather as a starting point for further work.

Assessing the current status of HNV farming in EECCA and protecting this heritage is pioneering work. The workshop and this report should be seen as first attempts to recognize the importance of EECCA for HNV farming and achieving the Kyiv objectives. There is an urgency to take this work forward, both on paper and on the ground. We hope and trust that this report will contribute to this task.



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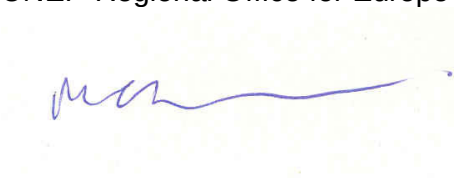

Michael Baltzer
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Textbox 1: Participants and expectations

The workshop participants could be divided into two groups. The first group comprised the members of the Biodiversity Issues Group of the European ECO-Forum, being the HNV farmland experts of the countries in the region and working jointly with BIOTICA Ecological Society and UNEP-ROE on a project for the identification of HNV farmlands in the EECCA region. The second group comprised the governmental and non-governmental representatives from Moldova and the wider EECCA region and the concept of HNV farming was relatively new to them.

The main expectations expressed at the beginning of the workshop are briefly summarized below:

- **HNVF Concept**: understand the basics of the concept of HNV farming; clarify why it is important; agree what HNV farming means in the region.
- **Scientific arguments**: collect scientific results to prove our understanding and position; use scientific arguments to get political attention and justify actions in the regions; but also, brainstorm what actions can be undertaken without perfect knowledge.
- **Instruments**: identify instruments needed for identification and conservation of HNVF in the region; build knowledge about potential economic mechanisms for HNVF conservation.
- **Networking**: establish partnerships; receive (continued) support from international organizations; identify (regional and international) stakeholders and sectors involved in conservation of HNV farmland and discuss what role they can play.

I. General Context of High Nature Value Farmlands

1. Importance of High Nature Value Farmlands for Biodiversity

The rural landscapes in the pan-European region are strongly influenced by human activities, and especially by agriculture. In some parts of the region natural formations – steppes, scrubland, semi-desert and Alpine pastures – have been used by domestic livestock for centuries. In others millennia of agriculture and pastoralism have created and managed a range of semi-natural habitats, co-evolving with the landscape and its ecology.

Even in zones where agriculture has only been present for a few hundred years, the mosaics created have increased biodiversity on a local scale. Arable cropping rotations, if no herbicides are used, are of nature value. Not only does the crop provide a food resource for small birds, but there are a range of 'archaeophytes' – arable weeds – whose main habitat is in these rotations. Around villages old grazed orchards mimic the ecology of open woodland, with both a HNV tree and a HNV pasture layer.

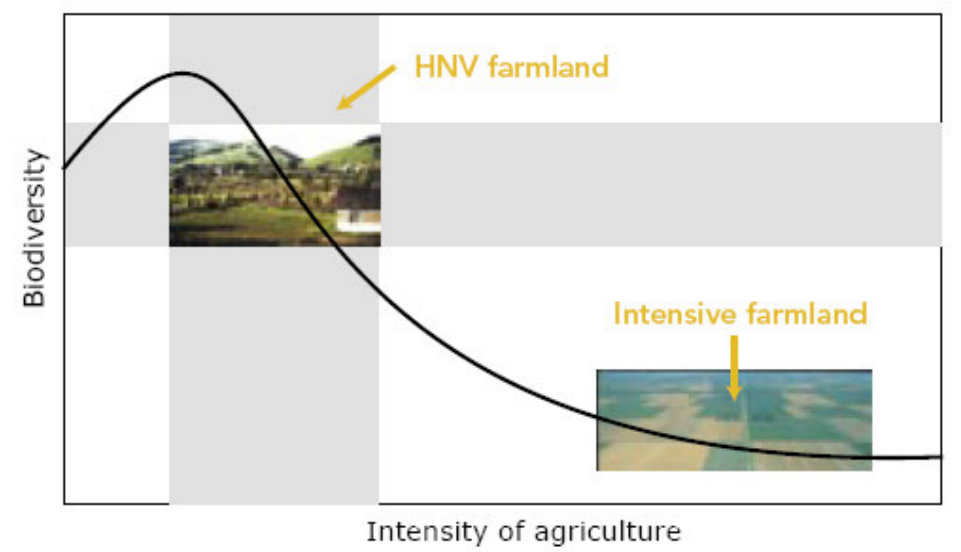
Regionally differing farming practices have led to a corresponding variety of agricultural habitats. At the same time, nature in Europe has had to adapt to human influence and interference. Indeed, by today many of Europe's habitats and their characteristic species are dependent on continued farming management to sustain their diversity.

This relationship has not always been a positive one, even under 'traditional' management. However, where there has been a true synergy, the positive relationship between management and environmental quality has depended upon low-input farming practices, in terms of use of capital and nutrients, while labour inputs were relatively high. However, rural economies have changed radically and agricultural land use practices associated with semi-natural habitats have themselves often fallen out of use. As a result, the biodiversity of farmland has rapidly declined across Europe in the last few decades. For example the population of common birds on farmlands has decreased by approximately 30% between 1980 and 2000 (BirdLife International, 2004, in EEA, 2004). Additionally, roughly two thirds of the threatened and vulnerable bird species in Europe occur on farmland (Tucker and Heath, 1994). Maintaining appropriate farming practices at an appropriate level of intensity is therefore of key importance to biodiversity conservation in much of pan-Europe's cultural and 'natural' landscapes.

Biodiversity generally decreases when the intensity of farming increases (in terms of nutrient and pesticide inputs, use of machinery and overall productivity) (Figure 1). The most intensive arable and grassland systems are virtually monocultures. Despite their low intrinsic biodiversity – a lack of 'bioluxuriance' as one ecologist put it - they may still provide wintering grounds for migratory waterfowl.

High biological diversity coincides with low agricultural inputs (again Figure 1). Although extensive mixed arable systems may also support high biodiversity, the majority of high nature value farmland consists of semi-natural grasslands. They are the true hot spots for biodiversity.

Figure 1: General relationship between agricultural intensity and biodiversity



Source: after Hoogeveen et al., 2001; in EEA, 2004

1.1. Definition and Classification of High Nature Value Farmlands

Despite the recent interest in the concept, producing a comprehensive definition of High Nature Value farming has proven difficult. The current most widely used definition is developed by Andersen et al (2003, in EEA 2004):

'High Nature Value 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 conservation concern or both'.

This does not necessarily imply causality between farming practice and the existence of HNV on farmland. High species and/or habitat diversity may exist alongside or despite farming (although for most categories of HNV farmland there would have been a positive link, at least historically). Farming intensity (e.g. grazing pressure) may be too high, or the habitat might exist without the presence of domestic livestock, for example.

Three broad categories of farmland were identified as being potentially of HNV:

- Type 1: Farmland with a high proportion of semi-natural or natural vegetation
- Type 2: Farmland with a mosaic of habitats and/or low-intensity land uses
- Type 3: Farmland that supports rare species or a high proportion of the European or World population of a species.

Type 1 and Type 2 are based on factors relating essentially to biodiversity, although this is not quantified. Type 3 areas are those which are only significant for rare species. What is different about Type 3 is that they are otherwise low in biodiversity. For example, some rare bird species such as wintering geese may be associated with biologically simplified agricultural areas with low vegetation and habitat diversity.

In summary, the 'types' only serve to highlight the uncertainties inherent in the original definition. These include:

- What exactly is farmland? Do natural habitats used by farmers count? Do they count only when natural herbivores are absent? What if grazing intensity is too high? These issues come across clearly with regard to dryland habitats in some EECCA states.
- Since most HNV farmland is 'nature-like', is it valid to say that there is a difference between farmland dominated by semi-natural communities and farmland with small areas of semi-natural habitats? If so, what does 'dominated' mean? This question is seen as important in countries such as Finland, where there is a feeling, deriving perhaps from the fear of the loss of farmland to the forest, that any cleared agricultural area gives added biological value.
- Even though HNV farmland may exist 'despite' farming under other conditions, are there levels of intensity where the farming systems themselves actively benefit biodiversity or it more about individual farming practices?

Typical examples of High Nature Value farmland are the long-deforested and extensively grazed uplands on the United Kingdom, mountain meadows and pastures in the Alps, Carpathians, Caucasus and Central Asia, fragile reindeer pastures of the extreme north, steppic areas and semi-desert, dehesas and montados in Spain and Portugal. In Europe west of the EECCA, small-scale agricultural farming systems in Central and Eastern Europe are seen as particularly important, responsible for creating and maintaining species-rich semi-natural grasslands but also associated with orchards and low-input gardens and, in places, arable/fallow systems. Some of the most valuable grasslands continue to exist in the CEE region (in Slovakia and the Czech Republic the Morava-Dyje floodplains, in Poland the Bierbza marshes, in Estonia Matsalu and Alam Pedja, in Bulgaria and Romania the grasslands in the Carpathians and Rhodopi mountains, in Hungary the Tisza floodplains) and are of crucial importance for biodiversity as well as for flood protection and nutrient reduction. Many species that are endangered at the European level are still abundant in Central and Eastern Europe. For example, in Hungary almost a third of the country's protected plant and animal species depend on grasslands, including the white-fronted goose (*Anser erythropus*), imperial eagle (*Aquila heliaca*), slender-billed curlew (*Numenius tenuirostris*) and mammals such as the lesser mole rat (*Microspalax leucodon*).

Textbox 2: Examples of interesting areas in terms of farmed HNV areas in the Western Balkans

- High mountain pastures and grasslands above 1800 m;
- Biomes of stony grounds, pastures and woods on stony grounds of oromediterranean mountains at south slopes of Sara, Prokletije, Suva, Kopaonik, Rumija, Vizitor, Komovi, and Durmitor mountain;
- Biomes of steppes and woodland steppes;
- Pontic steppes;
- Dacian steppes in eastern Serbia;
- Southern Russian steppe in the northern Vojvodina;
- Coastal mountain area along the Adriatic Sea and Adriatic islands;
- Lowland alluvial plains along the rivers such as the Danube, the Sava and the Drava Rivers.

Source: WWF DCP, 2006

Textbox 3: Clarifying High Nature Value farming (and what it is not…)

One approach to understanding HNV farmland is to try to define it by what it is. It may also be helpful to describe what it is not, or how it overlaps with other more familiar concepts.

- **Is it organic farming?** No, but there is an overlap. Organic farming is legally not more than a set of rules to comply with. In terms of nature conservation, organic systems may be better than comparable non-organic systems, however it is also true that some organic systems are less HNV than other non-organic systems. Some HNV farmers cannot even be organic at the moment, e.g. when their cows are grazing together with conventional cows on common grazing lands.

- **Is it farming beautiful and/or historical landscapes?** No, but there is some overlap. The beauty of a landscape is not directly related to intensity of use. Landscape character is often related to the presence of non-productive elements and the public's appreciation of the very same landscape features can change over time despite the biological value remains constant. Most HNV farmland could be described as "cultural landscape +" in that historically important features are combined with a high biodiversity interest.

- **Is it about crop genetic diversity?** No, but there is an overlap. Few areas with a high level of crop diversity are not HNV, but it does not necessarily have to be so! In Western Europe very few HNV areas use traditional varieties but where peasant agriculture is significant one might expect local cultivars to be extremely significant.

- **Is it about protecting rare breeds?** No, but again, there is an overlap. Certainly, not all HNV areas are managed by rare breeds, just as not all rare breeds are in HNV farming systems. Rare breeds often have physiological characteristics that make them adapted to low productivity environments, but some aspects of the behaviour of traditional livestock is 'cultural' - they are learnt during the animal's life, often froom older animals, and can be picked up by many different breeds.

- **Is it about agri-environmental measures?** No, but also here there is an overlap. Agri-environmental measures and schemes are basically just a policy instrument. They might e.g. target mainly powerful farmers. They might also ignore HNV farming systems. In principle, though, conserving such systems should be a major aim of the agri-environmental policy.

- **Is it farming on designated and/or protected sites?** No, but there is overlap. 'Old-style' designated nature areas excluded man and its practices from the area. In this vision nature should be protected against humans and e.g. farming practices. More modern designations can include HNV farmland, but HNV farmland is not limited to designated areas! Most likely designations will not cover all HNV farmland, especially in countries where it covers a large area.

- **Is it all about peasant farming?** No, but if you look to the overlap between European areas with a high-level of rural poverty and HNV areas one might argue that it is! This is an enormous challenge for HNV farmers, NGOs and governments.

1.2. Trends in High Nature Value farming

The extensive, low-input character of most High Nature Value farming systems can be explained by natural conditions which prevent the use of modern techniques and machinery, general socio-economic constraints, or a combination of both. High Nature Value farmland is threatened by two contrasting trends: intensification and abandonment. This is valid throughout pan-Europe despite the different historical development and current socio-economic conditions.

Intensification

Where natural and economic conditions allow, farming will intensify in order to increase yields and overall efficiency. This has been a continuous process in most parts of Western Europe for decades, reflected in a steady increase in fertilizer inputs and milk and cereal yields. Although certainly encouraged by direct subsidy or manipulation of markets, the rewards for intensification are such that in many areas is would have happened even in a free market. In Eastern Europe and the EECCA, investment in the agricultural sector has dropped substantially due to the political and economical changes during the 1990s. In part of both regions the land's economic potential is nonetheless significant and we can expect an increase in the intensity of production in these areas. Some areas which are temporarily HNV may well be lost.

Abandonment

Land abandonment is already a common phenomenon in regions where agricultural productivity is relatively low (Baldock et al., 1996). In addition, the socio-economic conditions in rural areas with extensive agriculture are generally unfavourable – agriculture is extensive precisely because of this combination in most cases. Depopulation is occurring in many rural areas, affecting the countryside and the environment profoundly. Low incomes, hard working conditions and a lack of social services in many areas make farming a less attractive option for young people. The proportion of the elderly is already very high amongst farmers. Agriculture not only gives a low economic return but a low social return – young people move away, no-one wants to marry a farmer. This also contributes significantly to land abandonment with extensive farming systems being most vulnerable to it.

Impacts on nature value

Loss of semi-natural vegetation is a consequence of the above mentioned agricultural trends. Driven by the desire for increased production, agricultural intensification processes such as land reclamation, drainage, irrigation, mechanization, application of fertilizers and pesticides, higher stocking densities, removal of structural landscape features, and simplified management methods all contribute to biodiversity loss. The loss is explained as the environmental conditions of the 'improved' sites represent a much higher similarity than the former "unimproved" sites. Consequently, habitats for species are lost. Intensification can also lead to fragmentation of habitats, which negatively affects population viability due to isolation.

Marginalization and land abandonment can in some cases lead to beneficial effects in intensively used, biodiversity-poor areas. However, in most cases abandonment is detrimental in biodiversity-rich, high nature value farmed areas as it can lead to the deterioration and eventual disappearance of semi-natural habitats created by low-input agriculture and labor intensive farming practices. For example, on semi-natural grasslands, succession to forest will mostly occur in the absence of grazing or mowing, but botanical values will decline much sooner after abandonment. Due to the extreme vulnerability to both

intensification and abandonment, semi-natural grasslands are among the most vulnerable ecosystems.

Although many case studies on the loss of agricultural biodiversity exist (see for example Veen and Seffer, 1999), no reliable pan-European trend data are currently available for plant communities and habitats. The best data available are for birds. Farmland birds are in some cases indicative of overall biodiversity, since they depend on a variety of plant and animal food and diverse vegetation structures for feeding, nesting and shelter against predators (see for example Potts, 1986). Tucker and Heath (1994) estimate that more than 40% of all declining bird species in Europe are affected by agricultural intensification, whereas more than 20% are affected by abandonment.

The black grouse (*Tetrao tetrix)* occurs on grazed heaths and moorland, and is showing a rapid and almost Europe-wide decline (Tucker and Heath, 1994). Upland habitats in the United Kingdom suffer from overgrazing and afforestation, causing moderate population decline. In lowland Western Europe, this once rather common species is now practically extinct because of habitat destruction and agricultural intensification. In the Netherlands, for example, black grouse numbers fell from several thousands in the 1950s to less than 100 today (see Niewold, 1990).

Loss of extensive grassland habitat is reflected by the large-scale decline of the corncrake (*Crex crex)*. Its numbers have fallen by more than 50% in 10 countries. Drainage of wet grasslands, intensification and the conversion of hay meadows into silage grasslands are the main causes (Tucker and Heath, 1994). The corncrake is most common in central and eastern Europe, but habitat loss and population decline also occurs there (Veen et al., 2000; Tucker and Heath, 1994).

The great bustard (*Otis tarda)* is characteristic of steppe and steppe-like (especially low-intensity cereals) habitats in Southern and Eastern Europe. The species has declined seriously throughout its range (Tucker and Heath, 1994). In Hungary, the great bustard population dropped from 2,500 individuals in 1985 to 1,100 individuals in 1990 (Fésüs et al., 1992). Reasons for this are intensified agricultural use of meadows and pastures, as well as increasing cultivation of maize and sunflowers. In the 1990s, the Hungarian great bustard population was stable (Faragó, 2003).

2. Political context of High Nature Value farming

2.1. Convention on Biological Diversity and PEBLDS

Conserving biodiversity within the agricultural land is an integral part of overall biodiversity conservation efforts. The need to take measures preserving farming-related biodiversity is explicitly addressed in a number of policy frameworks, such as the Pan-European Biological and Landscape Diversity Strategy, and, at EU level, the Habitats and Birds Directives and the Rural Development policy.

At a global level, an important commitment of more than 180 parties is the Convention on Biodiversity (CBD). Signed at the 1992 Earth Summit in Rio de Janeiro, the CBD has three main goals, namely (1) the conservation of biodiversity; (2) sustainable use of the components of biodiversity; and (3) sharing the benefits arising from the commercial and other utilization of genetic resources in a fair and equitable way.

As signatories to the CBD, the EECCA countries have committed themselves to protect biodiversity, including on agricultural areas.

The Pan-European Biological and Landscape Diversity Strategy (PEBLDS), in its role as an instrument for regional implementation of the CBD in the pan-European region, provides a forum to prepare for the Meetings of the Conferences of the Parties to the Convention on Biological Diversity. This preparation takes place through the *Biodiversity in Europe* Conferences, with the secretariat hosted by the United Nations Economic Commission for Europe (UNECE). At European level more than 50 countries participate in the *Environment for Europe* process, stretching from Western Europe to the Caucasus and Central Asia. The PEBLDS provides a pan-European framework for promoting a consistent approach to the implementation of the CBD, emphasizing in particular the importance of landscape diversity in land-use planning. PEBLDS introduces a coordinating and unifying framework for strengthening and building on existing initiatives. It does not aim to introduce new legislation or programmes, but to fill gaps where initiatives are not implemented to their full potential or fail to achieve desired objectives. It provides the opportunity to take more effective measures by facilitating the development of a common approach to the conservation of Europe's biodiversity and by helping to promote coordinated action.

In 2003, following a proposal of the Council of the Pan-European Biological and Landscape Diversity Strategy (PEBLDS), Environment Ministers and Heads of delegation from 51 countries in the pan-European region adopted the **Kiev Resolution on Biodiversity** including a commitment to ‘halt the loss of biodiversity by 2010’.

The Resolution set out objectives in relation to seven main areas of activity that touch on biodiversity: forests; agriculture; the pan-European ecological network; invasive alien species; financing; monitoring and indicators; and public participation and awareness. Nine key targets were set out in relation to these areas. The Kiev commitment to halt biodiversity loss was inspired by the same commitment by EU Heads of State at the Göteborg Summit in 2001.

At the same meeting, the need for measures to prevent the loss of high nature value farmland was recognized. In their final resolution (UNECE 2003), the European Environmental Ministers declared the following on agriculture and biodiversity:

'By 2006, the identification, using agreed common criteria, of all high nature value areas in agricultural ecosystems in the pan European region will be complete.

By 2008, a substantial proportion of these areas will be under biodiversity-sensitive management by using appropriate mechanisms such as rural development instruments, agri-environmental programmes and organic agriculture, to inter alia support their economic and ecological viability.

By 2008, financial subsidy and incentive schemes for agriculture in the pan European region will take the conservation and sustainable use of biodiversity in consideration'.

As a contribution to meeting these objectives, EEA and UNEP have published a Joint Message (EEA 2004), presenting a preliminary map of high nature value farmland and analyzing the current targeting of policy instruments. The report estimates that high nature value farmland covers 15-25 % of the EU countryside, with the largest areas being found in eastern and southern Europe and northern Britain. The situation outside the EU is not known as data are not easy to obtain.

The Plitvice Intergovernmental Environment in Europe Conference (February 2006) recommended:

- Further work on the nature, status and distribution of HNV farmland, especially in the Eastern Europe, Caucasus and Central Asia (EECCA) area
- Setting up of a monitoring scheme for HNV farmland, ideally incorporating both ecological and socio-economic data
- The specific inclusion of HNV farmland in the in-depth study of agriculture and biodiversity issues planned for inclusion in the next "Programme of Work"

2.2. EECCA Environmental Strategy

An important stimulus to the political process aiming at safeguarding the environment in the region is the Environmental Strategy for the countries of EECCA, adopted by Ministers at the Kiev Conference on 23 May 2003.
The overall objective of the Strategy is 'to contribute to improving environmental conditions and to implementing the World Summit on Sustainable Development Plan of Implementation in the Eastern Europe, Caucasus, and Central Asia (EECCA) by strengthening efforts of these countries in environmental protection and by facilitating partnership and cooperation between EECCA countries and other countries of the UNECE region, including all stakeholders.' (UNECE, 2003)

Two documents provided the model for the EECCA Environmental Strategy: the Environmental Action Plan (EAP) (Lucerne, 1993) and the Regional Environmental Reconstruction Programme for Southeast Europe (REReP), respectively for Central and Eastern Europe and for Southeast Europe. To find solutions to common environmental problems in the countries of EECCA, the Strategy stresses the need for close cooperation, both within the region and with other countries in the UNECE region. The Chişinău Workshop on HNV farming can be put in that perspective of multilateral cooperation.

One of the key objectives in the Strategy is to 'manage natural resources in a sustainable manner'. Within this objective, one of the areas for action is 'Biodiversity Conservation and Protection of Ecosystems'.
Another important objective is the integration of environmental considerations into the development of key economic sectors', with agriculture one of the main fields of action.
As a result of the Convention on Biodiversity, UNEP and its partners REC, IUCN and ECNC started up a Biodiversity Service to assist CEE and EECCA countries in the implementation of National Biodiversity Strategies and Action Plans. The Service offers help in discussing needs and priorities related to the national policies on biodiversity and suggested solutions.

3. Identification of High Nature Value Farmlands in the Pan-European Region

There are several approaches possible for identifying HNV farmland in the pan-European region, all with their own limitations and imperfect results. Knowledge regarding relationships between agricultural practices and biodiversity is important for any identification exercise.

One possible approach, the *species approach*, focuses on identifying typical species found in HNV farmlands. A major limitation to this approach is the very diversity of species found between countries. There is also great variation between the level of knowledge and data sets that exists between countries and species groups. Moreover, data are mostly only available as present/absent data, and rare species often are not good indicators of diversity.

The major approach in the European Union at the moment is based on *satellite imagery interpretation*, better known as CORINE land cover. The project of the European Environmental Agency (EEA) mentioned in chapter 2 of this report established a set of criteria and standard classes giving a broad indication of Type 1 and some Type 2 HNV areas at a EU scale. The basic tool for mapping was data available in the CORINE data set. By choosing the appropriate regional and national land cover categories relating to Types 1 and 2 it is possible to produce maps of HNV farming areas at both national and EU (not EECCA) scales.
Two general maps for the EU countries have been created, according to a minimum/maximum method. Minimum means here: “What land cover classes are going to be HNV farmland most of the time?” Maximum is “What land cover classes are going to be HNV farmland some of the time?” Based on this method, HNV farmland in the European Union is estimated to be about 25-40% of the territory.
The CORINE land cover approach provides a good but broad indication of the location of the largest HNV areas in most countries, and it could be improved with local data. Even with the little knowledge there is, the maps ‘look good’ and are thus politically useful. A weakness is that class definitions are sometimes unhelpful, especially for pastures and natural grasslands.
Recently operational biodiversity criteria for HNV farmland have been defined. The criteria aim to provide a basis for a consistent approach for identifying HNV farmland areas in the EU. They give insight in the biotic quality that is required to justify identification as High Nature Value farmland, ultimately the decisive criterion. Therefore a list of selected semi-natural habitats and lists of selected bird and butterfly considered to be part or representative of HNV farmland species have been proposed.

A third approach is a *farming system approach*. In contrast to the satellite imagery interpretation approach, which tends to lead to the delineation of ‘HNV areas’ which include some non-HNV farms and exclude others which are of high nature value, the systems method works, like policy implementation, at the level of the farm itself. By defining criteria and thresholds related to farming practices, e.g. stocking density, one is able to identify HNV on the farm level.

In the context of the EECCA countries, one can take a satellite imagery interpretation of HNV farming areas to provide a first approximation of location. It is anticipated that this equates very closely, not surprisingly, to what in agricultural terms would be regarded as the marginal areas. Of course within this area nature value is not homogeneously "high" nor are farms homogeneously well managed. Conversely, we know that some farmland outside of these areas also has high nature value, including of course the Type 3 farmland.

However, of key importance in identification exercises is to increase knowledge and awareness regarding relationships between agricultural practices and biodiversity. Starting

with the farming system approach is both easy and potentially powerful and better makes the link with farmers in HNV areas.

An ideal scenario might concentrate on farming systems, but use satellite imagery interpretation and other mapping tools, ground-truthed by the farming system approach as a political tool to highlight the scale of the issue as well as significant concentrations.

II. High Nature Value Farmlands in the EECCA countries

1. Overview of nature conservation and agriculture in the EECCA countries

The region of Eastern Europe, Caucasus and Central Asia encompasses 12 countries, covers more than 22 million km^2 (more than 5 times the area size of EU-27) and roughly stretches from the Black Sea and the Caspian Sea in the south-west to the Siberian Sea and Bering Sea in the north-east. A variety of climates allows a diversity of ecological systems to exist within this huge area: deserts, semi-deserts and artic deserts; arid scrublands; grassland steppes and forest steppes; wetlands and swamps; broadleaf and coniferous forests; alpine and sub-alpine meadows; taiga; tundra and forest-tundra.

As some of the ecoregions are globally outstanding, enclosing unique ecological qualities and supporting numerous endemic species, 15 ecoregions are included in the WWF Global 200[1]. Out of 15 Global 200 ecoregions in the EECCA region, 13 are terrestrial and include habitats like tundra, montane steppes, temperate forests, deserts, taiga, and wetlands, all harboring unique species, communities, adaptations and phenomena. To lose examples of these assemblages would represent an enormous loss of global biodiversity.

This outstanding biodiversity is to some extent protected in the national protected areas but most of it is without any legal protection. Only two of the countries have more than 10% of their territories under nature protection (Tajikistan 22,7% and Armenia 10,4%), four of the countries between 5 and 10%, and six countries less than 5%.

Table 1: Share of protected areas in total territory

Country	Protected Areas (%)
Armenia	10,4
Azerbaijan	8,5
Belarus	7,9
Georgia	3,94
Kazakhstan	7,7
Kyrgyzstan	4
Moldova	1,9
Russia	7,6
Tajikistan	22,7
Turkmenistan	4
Ukraine	3,37
Uzbekistan	4,6

Source: EECCA HNVF workshop participants

Environmental problems in the region are often on a different scale from those in Western Europe while the financial situation and cooperation between countries is much worse (EEA, 2003). Perceived problems related to biodiversity are (UNECE, 2003):

[1] **WWF Global 200**: This list contains more than 200 areas that have been identified by WWF as the most critical regions for conservation. They are some of the richest, rarest and most endangered terrestrial, marine and freshwater natural areas on the planet.

- Degradation of natural ecosystems, of genetic fund of animals and plants, destruction of migration routes for wild animals and birds;
- Inadequate integration of biodiversity aspects into national policies and economic/social development programmes;
- Lack of or inefficiency of existing economic, finance and other instruments for biodiversity assessment and conservation. Insufficient financing of activities related to protected territories;
- Inadequate transboundary cooperation in the sphere of biodiversity conservation and international exchanges of ecosystem goods and services;
- Inadequate public information on biodiversity problems

In most of the EECCA countries agriculture is an important sector of the economy both in terms of share in GDP and employment as well as land cover. However, there is a significant land use diversity between the countries with Moldova and Ukraine having predominantly agricultural areas (respectively 74,4% and 72%) and Georgia, Kazakhstan and Tajikistan having less than 40% of their territories under agriculture (respectively 37%, 33% and 32%). The shares of pastures and meadows also varies significantly between the countries: more than half of the territories of Turkmenistan and Uzbekistan (63% and 50%) and as little as 10%,12% and 13% in Moldova, Russia and Ukraine.

This simple statistics can already reveal that the diversity of High Nature Value Farmlands in the region is significant both in terms of share of land and the related agricultural systems.

Table 2: Overview of the share of agricultural and arable land, pastures and meadows in the total country area

Country	Total area (,000 km^2)	Agricultural land, (% of total)		
		Total	Arable	Pastures& meadows
Armenia	29,8	44	17	24
Azerbaijan	86,6	54,8	20,2	31
Belarus	207,6	43,7	26,7	16
Georgia	69,7	37		
Kazakhstan	2 724,9	33,4		
Kyrgyzstan	199,9		<8%	44
Moldova	33,8	74,4	53	12
Russia	17 075,4	24	14	10
Tajikistan	143,1	32		
Turkmenistan	491,2		3	63
Ukraine	603,7	72	69	13
Uzbekistan	447,4	61,5	11	50,6

Source: EECCA HNVF workshop participants

The processes of land privatization and/or restitution and farm restructuring have brought significant changes in the agricultural production systems and their performances, and the related social and environmental services. Some of the problems identified in the EECCA Environmental Strategy (see I.2.2.) are related to:

- Prevalence of economic and short-term social needs in land use at environmentally sensitive landscapes;
- Use of extensive environmentally hazardous farming practices, low-yield and inefficient cultures and animal species, inefficient management of animal husbandry;

- Lack of or non-compliance with legislative acts regulating environmental aspects of land use, including agriculture.
- Inadequate rehabilitation of affected areas results in their alienation from agriculture use;

Overview per country

Armenia

Armenia is mostly mountainous country, with fast flowing rivers and few forests. The land rises up to 4 095 meters and no point is below 400 meters. Although the smallest country of the EECCA countries it is characterized by a relatively divers vegetation cover. Different types of environments including desert and semi-desert (236 000 ha), steppe (242 000 ha), forest (712 000 ha), sub-alpine and alpine meadows (629 000 ha) exist. Pastures of sub-alpine and steppe habitats are particularly important for cattle breeding

Agriculture occupies less than half of the territory, with pastures and hay-fields (24%), arable land (17%) and permanent crops (3%). Overgrazing of pasture by livestock has resulted in significant changes and losses in vegetation cover up to 20-40% in some cases. However, there has been a general reduction in livestock numbers since the collapse of the Soviet Union and land privatization and it can be assumed that this pressure has been relieved in some areas.

About 10,4% of the surface of the country is protected area which hosts about 60% of the Armenian biodiversity. However there is a bias towards forest habitats in the protected areas. It was not possible to estimate the surface of HNV farmland in Armenia at this stage.

Azerbaijan

Azerbaijan is home to a vast variety of landscapes, with the highest peak of almost 4500 meters and a lowest point at minus 28 meters. This variety is reflected in the climate, as nine climate zones can be found. Azerbaijan is bounded by the Caspian Sea to the east where most of the lowlands (semi-deserts, deserts) are situated. Azerbaijan is however a predominantly mountainous country, surrounded by the Major Caucasus, Minor Caucasus, Talysh and North Iranian Mountains in the north, the west and the south. Low mountain areas are characterized by steppe landscapes, higher up mountain and alpine grasslands can be found.

More than half of the territory (4,75 million ha) is agricultural land (data from 2003), of which more than one third is arable land (37,4 %, in 2002) and 56,5% pastures and hayfields. A typical Azerbaijani farm is 5 to 15 ha family farm. Farmers are specialized in grain, livestock and fruits and vegetables.

Protected areas comprise 8,5% of the territory. In 32% of this area certain agricultural activities, such as grazing, are allowed. The majority of the HNV farmlands can be found in the mountainous landscapes and is not designated as protected area.

Belarus

Belarus is mainly a flat country, with an average height of 160 m above sea level. Typical of it is the alternation of high, flat and low lands with bogs, lakes and rivers. Ancient glaciations and water coming from their melting had a key role in the relief formation. The percentage of forest lands in the Republic is 36,3%, while agriculture takes 43,7%, with a large share of arable land on the territory: 26,7%. Fallow lands and perennial plants occupy much smaller areas. Meadows and pastures occupy a total area of 3289,7 thousand ha (16% of the territory), 2272,4 thousand ha of which are improved and 1017,3 thousand ha natural meadows. Natural meadows consist of 78,9 thousand ha marshy meadows and 64,4 thousand ha brushy meadows.

Only 16% of the agricultural land is privately owned, the rest being state property. The distribution of public and private lands seems to be even throughout the country. The average size of collective farms is 2500-3000 ha, private farms about 75 ha and semi-subsistence or household farms typically not more than a hectare. Livestock farming (mainly

cattle breeding, including fodder production) and potato growing are the main agricultural activities on collective and private farms (mixed farming), while subsistence farms specialize in growing fruit, vegetables and potatoes.
The share of protected areas in the land use is 7,9% (2005), i.e. their total area is 1636,5 thousand ha. The share of potential farmed HNV areas (according to expert estimations) is 20-25% of the territory. They are irregularly distributed – a large area in Polesje and Poozere (South-west and North Belarus) and small areas in Western, Central and South-Eastern Belarus.

Georgia
Georgia, derived from the Greek *Georgios* which is a name meaning farmer, is geographically diverse with a variety of landscapes. Forests cover around 40% of Georgia's territory, agriculture 37%. Alpine/subalpine zone accounts for roughly around 10% of the land. Lowland and foothill plains cover about 46% of the territory, but mountains are the dominant geographic feature of Georgia with peaks above 5 000 m. Meadows for hay-making can be found at all mountain belts: alpine, sub-alpine, middle-mountainous and low-mountainous, with sub-alpine meadows (around 2 000 m) accounting for 87 500 ha or 55% of the total meadow area. Almost 75% of the summer pastures are located in the sub-alpine (51,8% or 605 400 ha) and alpine belt (22,9% or 267 600 ha), indicating the importance of high altitude areas for certain types of farming. 90% of the winter pastures are situated in the low-mountain belt and the foothill plains of Eastern Georgia, thus seasonal livestock migration takes place. Recently, some of the alpine pastures have been abandoned, while a development towards overgrazing takes place near villages and settlements.
Main agricultural activities are the production of grain, tea, citruses, bay-tree leaves and fruit as well as stockbreeding for milk and cattle, sheep, pig and poultry breeding. Georgia has been called the birthplace of wine, due to archaeological findings which indicate wine production back to 5000 B.C, and viticulture is still important and famous nowadays.
About 270 000 ha of the land has a protected status, being natural reserves or national parks. Experts assess that about 32 200 ha (11,9%) is likely to be HNV farmland. No information is available at this time about the surface of farmed HNV areas outside protected areas.

Kazakhstan
Kazakhstan has identified two major ecological disasters within its borders: the shrinking of the Aral Sea, and radioactive contamination of semi-arid steppes around the Semipalatinsk nuclear testing facility: the first due to agriculture, namely the diversion of tributary rivers for irrigation, and both restricting farming due to respectively salinisation and radioactive contamination. Steppes cover 40% of the territory of this huge country and are mainly located in the north and the central part. The Kazakh Steppe consists of few trees, temperate grasslands, savannas, scrublands and large sandy areas. An equal share of the territory is semi-desert and desert in the south of the country. Mountain ranges are found in the east and the south of the country.
Agricultural land covers 33,4% of the territory. Small-sized farms prevail, middle- and large-sized farms are few. Agricultural land can be private, public or granted for long-term, but more precise data is not available.
Protected areas comprise 7,7% of the Kazakh territory. According to experts, 7 to 15% of the protected area can be considered as HNV farmland. For the total country, estimations are that approximately 30% is potential HNV farmland.

Kyrgyzstan
Mountainous ranges cover the majority of Kyrgyzstan, occupying more than two third of the national territory. The highest points can be found in the Tian Shan range, above 7000 m and forming the border with China. The remainder of the country is made up of valleys and basins. Less than 8% of the land is arable land, and this is concentrated in the northern lowlands and to a lesser extent in the valleys in the south-west. Permanent pastures cover

44% of the land-use, making livestock raising the largest agricultural activity. In 1994 the size of livestock herds averaged twice the carrying capacity of pasturage land, continuing the serious overgrazing problem and consequent soil erosion that began when the herds were at their peak in the late 1980s.
Almost 4% of the country's area lies within 86 protected areas. Assessments of the percentage of HNV farmland in Kyrgyzstan are not available.

Republic of Moldova
Moldova's rich soil and temperate continental climate have made the country one of the most productive agricultural regions in the EECCA region. The economy depends heavily on agriculture, featuring fruits, vegetables, wine, cereals and tobacco. While the northern part of the country, on the margins of the foothills of the Carpathian Mountains, is hilly, elevations never exceed 430 meters. Forests are distributed mainly in the central part of the country. Steppes are distributed on more steep parts of hills throughout the country while meadows can be found alongside small watercourses. Lowlands are mainly used for arable farming.
Almost three quarter of the territory is agricultural land. Arable land occupies more than half of the territory (53%) and permanent crops 9% (vineyards and orchards 8,5%; perennial legumes 0,5%). Surface of grazing land is 374 000 ha (11,1% of the territory), hay lands 2 800 (0,1%) and fallow land 8 000 ha (0,2%). As a rule arable lands including perennials are private while grazing lands are public. Land parcels are mapped on 1:10 000 land use maps.
The share of potential HNV farmland is recently assessed by experts at approximately 2% of the country, with 82% or more outside protected areas and 18% in pastures.

Russian Federation
Semi-natural vegetation used by domestic animals is one of the main types of farmland in Russia. Dominating types of vegetation are different kinds of steppes, forest meadows on watersheds, inundation meadows on floodplains, salt meadows and continental marshes, different kinds of arctic tundra, alpine meadows and tundra-steppes, steppe shrubs, floodplain shrubs, some kinds of open woodlands (especially mountainous). Surface of agriculture land is about 220 million ha (FAO data, 2000) with 90 million ha pastures, 121,6 million ha arable land and less than 2 million ha permanent crops.
In 2002, from 220 million ha agricultural land in Russia, 138,1 million ha were private (land plots used by agricultural companies, farmlands and land for individual use) and 81.9 million ha were public lands (land used by municipal enterprises and lands included in the land reserve). The average size of agricultural enterprises is 3-7 thousand ha, private farms 10-100 ha and household plots typically about 1 ha. Agricultural production enterprises develop all kind of agriculture such as growing cereals and sunflower, and livestock breeding. Private farms grow grains, sunflower, melon, vegetables. Small household plots grow vegetables, potatoes, breed poultries, pigs, flocks and herds.
Experts estimate that about 10 to 20% of the country area is farmed HNV areas. Distribution of HNV farmland throughout the country is according to experts very uneven, and about 90% is outside protected areas. They take a high portion of the land cover in the Arctic (tundra grazed by deer) and mountains in the south of Russia (Caucasus, South Urals, Altai, Sayans, etc.) while only small portion in semi-humid plains and in the centre of European part of Russia.

Tajikistan
Tajikistan is a landlocked mountainous country with a 93% mountain cover and peaks over 7000 m. More than half of the country is over 3000 m above sea level. Major areas of lower land are in the north and the south-west. Agricultural lands in Tajikistan hold a share of about 32% of the total surface, with a 22% majority share for pastures. Main problems on agricultural land are related to erosion and lack of rational land use.
Land belongs to the state, and is leased. Cotton is the main agricultural crop, mostly occurring on irrigated lands. A typical farm is about 80-120 ha on leased land, large-scale farms are almost absent. Pastoralism takes place in the mountain areas however steppes

and rocky steppes are rarely used as pastures. Orchards of high nature value are hazelnut and peanut forests.
The total area of protected areas comprises 3,254 million ha (22,7% of the national territory). The estimated share of HNV farmlands in the territories of protected areas comprises 50-60% (there is no accurate data).

Turkmenistan
Some 90 percent of the country (491 200 km2) is covered by the Karakum Desert. The centre of country is dominated by Turan Depression and the Karakum Desert which are mostly flatlands. Less than 10% is mountainous, reaching about 3000 meters. Arable land comprises 3% of the country, permanent pastures: 63%. Desertification goes on and is in some cases caused by overgrazing.
About 4% of the land has a protected status. No estimations of the amount of HNV farmland are available.

Ukraine
Ukraine (603 700 km2) consists mostly of fertile plains, steppes, and plateaux crossed by rivers. Agricultural land occupies 71,2% of the country's territory, out of which 83% is arable land, 5% of hayfields, 9% of pasturelands, 2% perennial plants and 1% fallow land (data from 2004). One fourth of the country has very productive lands, including the famous chernozem soils. Cereals are among the most popular grown crops, while sunflower, potatoes and maize take important shares.
Land ownership in Ukraine is in a period of transition. Land distribution to individuals is since years ongoing, while the opening of a market to sell and purchase land is only foreseen for the near future. Other problems are the lack of clarity on the exact demarcation of the land plots, the lack of machinery and finances, and ageing farming population. Therefore many small landowners rent their lands to agribusinesses, often private companies renting huge areas of fertile agricultural land (up to 100 thousand hectare) on long-term contracts. In 2004 collective agricultural enterprises owned 48%, and private owners possessed 41,3% of all agricultural land, while 8,6% was in the national land reserve or with uncertain ownership.
The network of protected areas consists of 7040 territories that cover 2718,4 thousand hectare or about 4,5% of the territory. Farming activities, such as grazing and mowing, are allowed in certain protected areas and seen as an economic activity and there is controversy whether it should be seen as sound nature conservation.
There is no exact data on HNV farmed areas in Ukraine. According to experts evaluations, the share of HNVF areas can reach 5-15% of agricultural lands in the country, unevenly spread over the country. Largest shares of HNV farmed land are meadows and marshy lands in Polesie (northern Ukraine) and the Carpathian mountains (estimated 15-20% of agricultural land) and forest-steppes (10-15%). Due to intensification and overexploitation, lowest percentages are found in the steppe zone (southern Ukraine) and the Crimean mountains. It is clear however that with better management practices the nature values in these areas can be increased. The share of HNVF areas not included in the network of protected areas is estimated at about 60-70%.

Uzbekistan
Uzbekistan is a dry country of which 10% consists of intensely cultivated, irrigated river valleys, concentrated around the Aral Sea in the north of the country, with large share (about 90%) of cotton plantations. The country is the second-largest exporter of cotton in the world. About 60% of the country is arid landscapes, ranging from several kinds of deserts (sandy, clay, gravel, salt) to desert-steppes and mountain steppes. Permanent meadows and pastures count for 50,6% of the territory and arable land for about 11%, thus 61,5% of the total land is used for agricultural purposes.
All agricultural lands are national property controlled by state, in some case leased to natural or legal persons. One of the main trends of recent agricultural policy is the replacement of

large-scale collective farms with private, small or medium sized ones. However, in any case farmers remain under very strong control of state: they have no rights to choose crops (in majority cases they have to grow the same cotton and/or wheat), to sell production to free markets, etc.
The total surface of protected areas comprises 4,6% of the Uzbekistan, from which 40% is under strict protection. Farmed HNV areas are insignificantly covered by protected areas however no information exists about their status outside these areas.

2. Existing Policy and Institutional Frameworks

The issues of High Nature Value Farmlands identification and protection are comparatively new issues in most of the countries at pan-European level. It is therefore understandable that the commitments the European governments made in Kiev in 2003 are slow in implementation. However, in some countries more is done at governmental level and in others more is done by non-governmental organizations and academic institutions. This is largely defined by the existing national policy, legal and institutional conditions and traditions.
The review of the existing policy and institutional frameworks in the EECCA countries reveals that in most of them there are no administrative units dealing with the interaction between agriculture and environment or nature. Furthermore, most of the Biodiversity strategies incorporate little or no farming-related biodiversity in the countries. The rural development policies (if any) are mostly focused on improving the social problems in the rural areas and/or improving agricultural productivity and efficiency. Thus, environmental considerations are again split from agricultural ones.
Below a closer look at country level is given upon existing institutional frameworks and national strategies and programmes related to agriculture and nature conservation.

Armenia
Ministry of Nature Protection and the Ministry of Agriculture are respectively responsible for biodiversity and agricultural affairs. Outside protected areas, nature conservation is approached via a series of laws and regulations to limit the use of natural resources. In 1999, the Biodiversity Strategy and Action Plan were launched, but the level of implementation is unknown.

Azerbaijan
The Ministry of Agriculture is the responsible ministry for agricultural matters, but has no or little focus on integrating environmental issues. No support is directed towards farmers in HNV areas. However all farmers in the country are excluded to pay taxes for a five-year period. Regional agricultural advisory services or the ministerial Center for Agri-Science deal with consulting, technological innovations and agri-economics. Advocacy and technical support for environmental protection and HNV farmlands is out of their scope.
A main strategy focusing on the development of rural areas is the state programme 'Sustainable development of the Azerbaijani regions'. The environmental issues fall outside the scope of the programme which focuses on solving social problems.
The Biodiversity Strategy is in process of elaboration, but there is no chapter on the role of agriculture planned.

Belarus
The Ministry of Agriculture and Food does not deal with HNV farming in its work, however (very) few people are working on broad environmental issues, e.g. water quality. In 2005, a five-year programme Rural Revival and Development was launched, aiming at the 'sustainable development of agriculture and food provisions in the country'. Although the 'introduction of new methods for ecological agriculture' is mentioned, the programme seems

to be provided to intensify and increase efficiency in agricultural production through mineral fertilization, pest control etc. In the Polesje region, one of the largest marshes in Europe and identified as an important farmed HNV area, the programme targets at 'increasing the efficiency of lowland marches to develop animal husbandry'. One of the objectives is to 'preserve the direct governmental control over the most significant agricultural industrial complex units'.
There is no farming support measures aimed at conserving biodiversity. Farmers do not receive direct financial support, but among others seeds, machinery, chemical fertilizers and pesticides are heavily subsidized. Agricultural industrial complexes are supported through putting building and communication nets at their disposal. Agricultural extension services' main activity is the introduction and distribution of new varieties and breeds, agri-environmental issues are not a priority.
The Strategy on Biodiversity was declared in 1997 and addresses a wide range of sectors, including agriculture. 'Sustainable use of agricultural biodiversity' and 'good agricultural planning and building' are amongst the most important. Interesting is the mentioning of 'agro-ecological zones, representing original, large enough territories with traditional farming systems farming with varied biotical composition'. The Strategy considers these zones of important significance for the preservation of fauna diversity on different kinds of anthropologically modified territories.

Georgia
A national policy to promote sustainable farming is absent, and no civil servants are working on biodiversity issues in the agricultural sector. Farmers are supported by the state not via subsidies but via tax cuts and privileged access to credits.
A National Biodiversity Strategy and Action Plan were launched in February 2005, and the importance of certain agricultural practices for nature conservation is acknowledged. However, measures to promote these kinds of HNV farming are absent, and the level of implementation of the Strategy is low.

Kazakhstan
Two important programmes related to agriculture are the 'State programme on agriculture and food' and the 'State programme on the development of rural areas'. The implementation is relatively strict as these programmes are supervised at the highest levels. However links with biodiversity conservation and thus HNV farming are not made. In general terms, both programs have a positive impact on rural areas development.
Environmental-friendly food production is insufficiently supported. Support available for all farmers consists of low/no-interest governmental loans and support in kind e.g. fuel.
A National Biodiversity Strategy and Action Plan was elaborated in 1999 but is not yet ratified by the government. In the Strategy a chapter is dedicated to agricultural diversity but no attention is given to HNV farming.

Kyrgyzstan
In 1998 the National Biodiversity Strategy and Action Plan were prepared by the Ministry of Environmental Protection. However it has not been approved by the government yet, therefore it has no official status neither budget.

Republic of Moldova
The Department of Environment and Natural Resources under the Ministry of Ecology, Construction and Territorial Development of the Republic of Moldova has the responsibility on biodiversity matters. Activities are conducted within the implementation of the National Biodiversity Strategy and Action Plan (2001). However, implementation of this policy plan is weak especially regarding action on the ground. HNV farming is not mentioned in the NBSAP, but a few agri-environmental measures are foreseen. Also setting up a National Ecological Network (NEN) is planned, as a part of the Pan-European Ecological Network.

Farmers receive limited financial support by the government, but there is no targeted support for HNV farmland. There are several internationally supported projects on organic and environmental friendly farming.

Russian Federation

In 2005, the President presented the 'National Project on Agriculture' which is the actual national policy on the subject. Recently also the Federal Government adopted two Programmes: 'Conservation and restoration of soil fertility on agricultural lands and agricultural landscapes as national property, 2006-2010' (in 2005, allocating about 6 billion euro, and in 2002 'Rural development till 2010' (about 6 billion euro). The soil fertility programme is in the starting phase, while the implementation of the rural development programme is midway. The first phase is completed and the results are presented by the Federal Minister of Agriculture in March 2006.

Both the programmes and the National Project address the issues on the ground, i.e. crediting small farms, leasing pedigree cattle to small farms, transport and housing infrastructure, etc. Their impact on the ground is not yet assessed. Positive relationships between agriculture and nature conservation are not mentioned. Therefore there are measures aimed at conserving HNV farmlands in the Russian Federation.

The Ministry of Agriculture does not work on environmental/biodiversity issues in the agricultural sector. The Consultation Service of the Ministry of Agriculture has regional advisory services throughout country and deals with information support on production technologies, farm economics, marketing, etc. Unfortunately it does not integrate environmental/nature issues in their routine practice. In 2002-2003 however, the IUCN Office for CIS (based in Moscow) took the chance to disseminate some materials on organic farming through the Service's network.

The Russian Federation has extensive and mostly indirect financial support for farmers and agri-businesses: credits at preferential or fully subsidized interest, land-secured loans, duty exemption for import of technical equipment for the livestock sector, restrictions on import of agricultural goods competing with domestic market, preferential conditions for private business investing in agriculture, among others. None of the support measures is specifically targeted at HNVF farmers.

A National Biodiversity Conservation Strategy and Action Plan are ready since 1999 but their status is not official. There is practically no implementation of it. More environmental friendly farming practices are integrated in the NBSAP.

Tajikistan

A National Agricultural Programme is in preparation, there is no attention to HNV farming. Few people in the administration deal with biodiversity issues in agriculture. They can be found in the Department for Land Irrigation and Ecology in the Ministry of Agriculture, and the State Committee for Nature Protection. In 2003 the National Biodiversity Strategy and Action Plan was approved. Some of the most important goals are the establishment of a national ecological network, the development a legal framework on both biodiversity conservation and on regulating the human impact on biodiversity, and the integration of biodiversity conservation requirements into the sectoral policies and projects. There are no targets in the agricultural sphere.

Turkmenistan

In the Ministry of Natural Resources Use and Environmental Protection there is a department responsible for the protection of flora and fauna. A National Biodiversity Strategy and Action Plan were prepared in 2002, but their status of adopting and implementation is unknown. HNV farming is not mentioned in the Strategy.

Ukraine

There is a wide gap between the intentions towards sustainable development in legislation on agriculture and the practices on the ground. Moreover, there is not a strategy linking

agricultural practices and biodiversity or wider landscape conservation. The term HNVF is not present in the Ukrainian legislation. Also the implementation of nature conservation legislation is weak.
The agricultural sector is supported by the government via direct subsidies, price regulation, lower taxes, preferential credits, wider rural development measures. Nonetheless the efforts, the support is generally considered as unsuccessful and insufficient. The main financial support to farmers comes from their own income. Agricultural advisory services are in process of establishment, and are supported by state and international programmes.
Ukraine lacks integrated biodiversity conservation legislation, although laws on flora, fauna, threatened species and ecological networks exist. Recently a draft for a National Biodiversity Conservation Programme was elaborated by the Ministry of Environment. Sustainable agriculture is here mentioned as general necessary, without further instruments for implementation.

Uzbekistan
Several strategies in the agricultural sphere exist, targeting -at least on paper- sustainability in the sector. The impact on the ground depends largely on political willingness of local authorities. Except for issuing hunting licenses, there is no special department or person dealing with biodiversity within the ministry. The HNVF concept is not included into the state policy and is not part of work programs of any governmental agency, also not of the State Committee for Nature Protection. Also in Uzbekistan a National Biodiversity Strategy has been prepared (1999) but was not implemented due to a lack of financial, technical and human resources.

3. Current status of identification and protection of HNV farmland in the EECCA countries

The first exercise to identify High Nature Value Farmland areas is undertaken within the HNVF project[2] for the EECCA region coordinated by Biotica Ecological Society from Moldova. The findings of the project were presented during the workshop in Chisinau[3]. There are no other national or international attempts in this direction yet in the EECCA region.
One of the main obstacles for the identification of the HNV farmlands identified during the workshop is the correct understanding of the concept. A big confusion is caused by the interpretation of “farmlands”, “farming areas” and “farmed areas”, which translates as general as agricultural or even arable land in the national languages.
For the purposes of the EECCA HNVF project[3], the following definition was developed:

High Nature Value farmlands are lands (including in forest and water land funds) and territorial water formations within the areas of predominantly agricultural use where the high biodiversity is conserved and/or formed as proved by assessment criteria and/or by features of a particularly valuable or unique landscape, forming the special conditions for existence of ecosystems, communities and species.

There is a general agreement that the three types of potential HNV farmlands could also be applied in this region. However, more work on the translation of these types into the regional specifics is required.

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[2] *UNEP Project High Nature Value Farmland of EECCA Subregion, implemented by Biotica Ecological Society, Moldova and experts from the European ECO-Forum, 2006*

[3] *For more details please see: Andreev, A. and L.Jura (eds.) 2006, High Nature Value Farmland of EECCA Subregion: Vision of the experts of the European ECO-Forum from the subregion countries, Biotica Ecological Society, Moldova*

At the moment only NGOs are involved in the identification of the HNV farmlands in the EECCA region, with at least one NGO in each country making attempts to identify and conserve HNV farmlands. Capacities do exist at other levels as well: governmental organizations (ministries of environment and agriculture), expert organizations (e.g. institutes for nature conservation, biological and agriculture institutes, academies of sciences), educational centres (universities), protected areas authorities, etc. However, experts from these organizations and institutions are mostly not aware about the HNV farmland concept and thus are not yet active in this field.

Identification of High Nature Value farmlands in the EECCA region is an ambitious task, which could be carried out only as a joint effort of different experts, governmental and non-governmental organizations and with support from international organizations.

Textbox 4: Good High Nature Value Farmland examples from the EECCA region

The experts of the European ECO-Forum identified the following examples of High Nature Value Farmlands:

- Bagerovo steppes in the north part of the Kerch pennunsula (Ukraine)
- Ulitau dry-steppes landscapes in Arganati Mountains and in the north part of the Ulitau Mountains (Kazahkstan)
- The floodplains of Soj river (Belarus)
- Sevlich reserve alpine meadows in the central part of the Karabachos plateau (Armenia)
- Colchis swamps (Georgia)
- Teriaevskie ponds in Moskow oblast (Russia)
- Aivazia tract in the Dniester river valley (Moldova)

Source: Andreev, A. and L.Jura (eds.) 2006, High Nature Value Farmland of EECCA Subregion: Vision of the experts of the European ECO-Forum from the subregion countries, Biotica Ecological Society, Moldova

III. Conclusions and recommendations from the workshop

The expert estimations show that there are large areas of High Nature Value farmlands in the EECCA countries. However, this report reveals that concept of HNV farmlands is known only by a limited number of experts and (mostly) non-governmental and academic organizations in the region. Moreover, almost no data is available on the distribution of HNV farmlands and only a few good examples for conservation of these lands are known. At the same time agriculture is undergoing serious changes due to the transition from centrally-planned, state-owned and -managed status to market-based (predominantly) private and cooperative forms of management. This will put a significant pressure on the natural resources and areas related to agricultural production. Therefore there are a number of urgent issues that need to be solved in order to ensure that firstly, the HNV farmlands in the EECCA region continue to exist and secondly, the Kiev targets are met by the governments of these countries.

In order to address these urgent issues, participants from the Chişinău workshop discussed and listed the next steps to be undertaken to identify and protect HNV farmlands in the region. It should be kept in mind that datasets on HNV farmland are in principal missing at the moment and that virtually no policy measures are specifically targeting HNV farmland. Recommendations for identification and conservation of HNV farmlands are mentioned separately, although in some cases they are overlapping. The identified actions are in no way a comprehensive action plan for the HNVF identification and conservation in the region but rather the actions setting the enabling conditions to do it.

A. Identification of HNV farmland:

1. Inventory:

- There is an urgent need to translate the HNVF concept into workable criteria and/or examples relevant for the region.
- Execute a comprehensive inventory of HNV farmland in the region, based on a widely agreed methodology to assess the values. A reference was made here to the ongoing inventories of the EEA concerning HNV farmlands in EU-27 and the grassland mapping project in Central and Eastern Europe, supported by the Dutch Royal Society for Nature Conservation (KNNV). A remark was made that this could be part of a general biodiversity assessment, as there is a broad need on data of nature values in the region.

2. Networking: At the same time with the inventory, start networking between stakeholders to build awareness and capacity. Actions here should include:

- Raise understanding that inter-sectoral cooperation is needed
- Ministries of Agriculture and Academies of Sciences are crucial players and should work together with the Ministries of Environment
- Build up a good understanding and cooperation between ministries and NGOs
- Organize HNV farmlands training for specialists on vegetation, fauna, agriculture, GIS from the region to help them understand the concept
- Attract international high-profile organizations (UNEP, UNDP, IUCN, WWF, etc) to support and reinforce the message at all levels, including putting pressure on national governments
- Involve local authorities in this issue either by legal requirements or voluntary cooperation (monitoring, feedback)
- Convince local, informal key-leaders to become partners and support the message
- Organize national (identification) workshops involving ministries, Academies of Sciences and other stakeholders, and international experts and donors
- Identify funding opportunities. There should be a strategic decision on what can be done with national resources and for what international financial support is necessary

B. Conservation of HNV farmland:

1. **Networks for cooperation**:

It was spelled throughout the workshop that any efforts for the conservation of HNV farmlands should involve partners from various sectors – and not only agriculture and nature conservation, but also foresters and forestry departments as they work in similar and/or neighbouring terrains. Some of the other necessary actions include:

- Need for inter-sectoral cooperation with ministries, other governmental organizations, local authorities and NGOs to catalyze change. The Ministry of Environment and Ministry of Agriculture need to sit together and discuss their responsibilities for HNV farmlands. In these discussions the link between nature and people should be recognized and supported
- Public awareness and information distribution. This will not only increase the public's knowledge of the national natural values but will also serve as moral stimulation for land owners and users to be proud to have these HNV on his land and develop a sense of responsibility.
- Disseminate best practices and utilize the existing know-how and support from foreign institutions and experienced organizations
- Regional trans-boundary cooperation to join efforts for areas in similar ecological, political and economic situation

2. **Policy**:

- Advocate for political priority to HNV farmlands. It was widely recognized that until the issue gets among the political priorities little will be achieved at national level.
- The biodiversity conservation policy needs to be improved at national level. Many of the Biodiversity Strategies and Action Plans were only drafted without being approved or if approved are not implemented. The HNV farmlands concept should become part of this improved nature conservation policy and legislation.
- Furthermore, conservation of HNV farmlands should be integrated in existing (sectoral) laws (e.g. laws on pastures or organic farming)
- In terms of administration and financial measures, it is recommended that incentives should also be considered rather just fines and taxes.
- Improve management of protected areas and their buffer zones. Stricter law enforcement.

3. **Regional characteristics**:

- Include HNVF concept into current issues like soil protection, poverty alleviation, flood protection and forestry
- Usage of local customs, by involving local leaders
- Give an important role to women to take the HNVF issue forward
- NGOs to work directly with land users as long as governments are not supportive enough.

To summarize the workshop discussions we can confidently state that there are large territories of High Nature Value farmlands in the EECCA region. Unfortunately, the number of people and experts that recognize this at the moment is quite limited (mostly within NGOs). The efforts undertaken to identify the HNV farmlands are mostly opening the HNVF discussion rather than present final outputs of the HNVF status in the region.

However, there is a lot of optimism also since once people get to understand the concept they become enthusiastic about it. The bigger challenge will be how to translate this enthusiasm into actions. There is a general perception that change should come from "outside" and sometimes huge underestimation of the own capacity and potential to make

things happen. However, the region is so diverse and large that any future efforts (technical, financial, etc) should be targeted at smaller sub-sets in order to achieve efficiency and effectiveness. The criteria to select these sub-sets should be discussed. However some initial ideas include grouping the countries by similar HNVF-related conditions: (a) geographical and/or natural similarities; and/or (b) farming systems similarities; and/or (c) readiness and willingness to take the HNVF concept forward.

There is huge amount of work that has to be undertaken for the identification and conservation of the High Nature Value Farmlands in the EECCA region. In conclusion, we can only say that the sooner this starts the more chances to keep their specific natural values we have, and the more stakeholders are involved the more sustainable the outcomes will be.

Textbox 5: A few snapshots, thoughts and quotes from the workshop (without claiming there is general agreement on these among participants!)

Oleg Tsarug: Participants are all convinced [about the HNVF importance], but what about the people out there? We are smart people here, but how can we make it in practice? How to persuade people in ministries etc. We are mostly scientists here…

Yanka Kazakova: "Step by step. In Bulgaria, the first discussion started in 2000, in 2005 HNV farmland is part of ministrial strategy: this is a success! There is still lack of precise data on the HNVF boundaries. But you need to know where they are to be able to target the money. The JRC/EEA HNVF mapping exercise could be a way out.."

Peter Veen: "Problem in the region is the intensity of the agriculture. These areas were very productive. Maybe we should also discuss potential (restored) HNVF. E.g. areas essential in PEEN, or catchment areas near rivers related to climate chaos."

NBSAP were developed in 1999 with support of international donors. No support for follow-up, no funds. How not to leave everything on paper now? How to make it happen?

Ivonne Higuero: NBSAP is obligation under CBD, and were mostly GEF funded. After this they become responsibility of government. But money shouldn't always come from outside, biodiversity conservation can be made a priority by governments. If 'there's no money', make it a priority! So small steps should be taken, and raise the interest of others.

Recommended literature

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References

(Most of the references can be found in the recommended EEA (2004) report above)

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List of acronyms

CBD	Convention on Biological Diversity
CEE	Central and Eastern Europe
CoE	Council of Europe
CORINE	Coordination of information on the environment
EEA	European Environment Agency
EECCA	Eastern Europe, Caucasians and Central Asia
EFNCP	European Forum for Nature Conservation and Pastoralism
EU	European Union
EU-27	The 25 countries belonging to the European Union after the accession of ten new member states in 2004, plus the in January 2007 acceding countries Bulgaria and Romania
FAO	United Nations Food and Agriculture Organization
HNV	High Nature Value
HNVF	High Nature Value Farming
IUCN	International Union for the Conservation of Nature and Natural Resources - World Conservation Union
NBSAP	National Biodiversity Strategy and Action Plan
NGO	Non-governmental organization
PEBLS	Pan-European Biological and Landscape Diversity Strategy
UNECE	United Nations Economic Commission for Europe
UNEP-ROE	United Nations Environment Programme - Regional Office for Europe
WWF - DCP	World Wide Fund for Nature - Danube-Carpathian Programme

Annex 1 Issues for discussion during the workshop

The experts' estimations show that there are large areas of High Nature Value farmlands in the EECCA countries and we will learn more about it during the workshop. However, the current background report reveals that concept of HNV farmlands is known only by a limited number of experts and (mostly) academic and non-governmental organizations in the region. At the same time agriculture is undergoing serious changes due to the transition from centrally-planned state-owned and managed status to a market based (predominantly) private and cooperative forms of management. This will put a significant pressure on the natural resources and areas related to agricultural production. Therefore there are a number of urgent issues that need to be solved in order to ensure that firstly, the HNV farmlands in the EECCA region continue to exist and secondly, the Kiev targets are met by the governments of these countries.

These questions can be summarized by the following:

1. Catalyze more governmental and stakeholder support for HNV farmlands in the EECCA region:

- How to activate the governments in the region to take their due role in the process of identification and protection of HNV farmlands?
- How to motivate and involve other stakeholders in the process – nature conservation NGOs, agricultural organizations, academic institutions, local governments, etc.
- What roles should each of these stakeholders have in the processes of identification and protection/management?
- Who should initiate it?
- What should be the role of PEBLDS Secretariat, UNEP, CoE and other international organizations in this process?

2. Ensure the future existence of HNV farmlands in the region

- How shall HNV farmlands be preserved in the region – through legal protection or incentives for land managers or a combination of both?
- Which institution should have the lead role for the preservation of HNV farmlands – Agriculture or Environment ministries, or they should have split responsibilities?
- Financial support – what is the best form of financial support (subsidies, credits, grants, etc.) for the management of HNV farmlands given the regional characteristics of agricultural systems?
- Technical support – there is a clear lack of agricultural advisory services integrating biodiversity concerns in the region – how shall this be managed? Who shall provide support to land managers of HNV farmlands?

3. Increase the understanding of the concept of HNV farmlands in the EECCA region

- How to increase agricultural producers and cooperative managers awareness and knowledge on the importance of HNV farmlands
- How to increase politicians and civil servants understanding of the concept?
- Is it realistic that it will gain higher importance on their agendas given the other pressing social and economic problems in the countries?