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DIVERSITY STRATEGY***

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**COUNCIL FOR THE PAN-EUROPEAN  
BIOLOGICAL AND LANDSCAPE DIVERSITY STRATEGY**

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**Guide for the Implementation of the Final Declaration  
of the High-level Pan-European Conference  
on Agriculture and Biodiversity  
(Paris, June 2002)**

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## **Guide for the Implementation of the Final Declaration of the High-level Pan-European Conference on Agriculture and Biodiversity (Paris, June 2002)**

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In order to save space in the document, the EC Biodiversity Strategy and the Action Plan for Agriculture have not been included in the Appendix. They can be found at:

[http://www.europa.eu.int/smartapi/cgi/sga\\_doc?smartapi!celexplus!prod!DocNumber&lg=en&type\\_doc=COMfinal&an\\_doc=1998&nu\\_doc=42](http://www.europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=COMfinal&an_doc=1998&nu_doc=42)

<http://www.europa.eu.int/scadplus/leg/en/lvb/l28024.htm> (summary of Action Plan for Agriculture)

[http://www.europa.eu.int/smartapi/cgi/sga\\_doc?smartapi!celexplus!prod!DocNumber&lg=en&type\\_doc=COMfinal&an\\_doc=2001&nu\\_doc=162](http://www.europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=COMfinal&an_doc=2001&nu_doc=162)

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Nina Ladonina, of the IUCN office for Russia and the CIS, excellently managed the identification and provision of cases from Russia and its neighbours.

## **Introduction**

The Council of Europe has agreed to facilitate implementation of the Conclusions of the High-Level Pan-European Conference on Agriculture and Biodiversity, organised in co-operation with the UNEP Regional Office for Europe and hosted by the French government in Paris in June 2002. Aware of its own limited resources, Council of Europe sought a broad practical way in which to assist.

The Council therefore decided to produce a guide to implementation of the action points annexed to the Final Declaration of the Paris Conference. The Final Declaration is a short document laying out agreed policy on priority issues. The Appendix to the Declaration provides more detail on those priorities (the full texts are given in Appendix A) and adds several sub-themes.

There is a wealth of experience and experimentation in all European countries which can be tapped and shared. The Guide is far from exhaustive but enables users to review or check possible methods for addressing the key actions of the Conclusions of the conference. Not only will the Guide help to activate the Conclusions, it will also help in implementing provisions of the Convention on Biological Diversity, the Ramsar Convention and other similar instruments.

### ***Objectives***

To assist actors in the field to address conservation issues in the agriculture sector by describing selected concrete examples and providing contacts and useful sources of information related to the Annex to the Conclusions of their conference in June 2002.

### ***Scope of the Guide***

The Guide is not exhaustive but will give users a starting point for reviewing possible approaches for addressing those key actions of the Conclusions of the conference in which they are interested. In particular, it focuses as far as possible on practical experience which may often be in advance of or anticipate policy and which often illustrate where the gaps are in the policy architecture. A special effort has been made to include examples from the NIS which only found a small voice in the conference itself.

### ***Selection of examples***

The examples selected are conditioned by a number of factors.

- Only recent experience is used, in general no later than 1999, although there are some exceptions. On the other hand, for the NIS in particular, quite a few of the cases are new projects which are, nevertheless, built on thorough preparatory work.
- The source of many of the examples is the internet. It surprised the authors that there are in fact few concrete case studies on the web. Corporations are amongst the best at recounting experience and the sites of the GEF implementing agencies (especially World Bank and UNDP) provide a great deal of information in their project descriptions. The EU Life programme has just provided a very useful book of case studies, excerpts from some of which are in the Guide. NGOs in

Europe are reticent. The southern European countries are less likely to post case studies than the northern ones.

We are aware that, although we were able to work in four languages, we have probably missed some useful examples from central Europe because we did not have the resources to translate. With that caveat, it nonetheless appears that the internet is a much under-exploited resource for promoting examples of what is being done in the field.

- A number of people were contacted and provided information; they are thanked in the Acknowledgements.
- There was an attempt to avoid repeating the content of the papers prepared for the conference. They were mostly policy-oriented and the present Guide tries to remain resolutely practical.
- Finally, there is no judgement, comment or advice provided on any of the cases: they have not been included because they have been judged to be good or better than other similar examples.

### ***How the guide is structured***

The Appendix of the Paris conference Final Declaration is divided into five main "chapters" as follows (see Appendix A for full text):

- I. Conservation and sustainable use of biodiversity
  - A. Conservation of wild flora and fauna in biodiversity-rich areas and in the wider countryside
  - B. Conservation and sustainable use of genetic resources
  - C. Technologies and farming practices
  - D. Relationship with the Convention on Biological Diversity
- II. The integration of biodiversity in agricultural, rural and other policies
- III. The multiple functions of agriculture, especially with a view to biodiversity
- IV. Cross-sectoral and international conservation
- V. Research, monitoring, evaluation and training

There is a total of 36 action points under those headings. The origin of the action points lies in some 30 expert papers submitted for the conference according to themes identified by the Council of Europe/UNEP Agriculture Working Group. Their final form is a result of negotiations between governments with input from civil society organisations.

One or several cases or examples are offered, sometimes from outside Europe if it is felt that they offer interesting approaches, and then points of Contact related to that case.

There is considerable overlap between action points so that many cases illustrate several points. For example, many cases under Section I illustrate multifunctionality so there are no separate ones under Chapter III. Similarly, most larger projects include education and communication in one way or another and this is usually specified in the various case studies offered. In some instances, a range of action points are taken together such as for Chapter V.

Some of the action points exhort governments to take future action in policy fora. An example is point 2 of Chapter I.B where governments are asked to contribute to the CBD programme of work on agricultural biodiversity, or action is requested on new or yet to be enacted policy such as the polluter pays principle (Chapter II, para. 7). By definition, action in the future cannot yield cases of experience so these have been omitted.

Even where there are no cases offered, the paragraph from the Annex to the Declaration is included in both the table of contents and in the text so that reviewers and readers may provide information or opinions if they wish.

There is no attempt to be exhaustive in the Guide. It is hoped, however, that the information it contains will allow interested readers to begin the steps or trail towards satisfying their needs for information, confirmation, expertise or inspiration. It could also be expanded with new cases in an interactive exchange.

## I. Conservation and sustainable use of biodiversity

### A. Conservation of wild fauna and flora

1. Identify all agricultural areas of high value for biological diversity including wetlands, semi-natural grasslands, mountain habitats, areas important for breeding and/or migratory birds, undisturbed steppe ecosystems, semi-deserts, fragile reindeer pastures of the extreme north and some southern European habitats such as *dehesas* as well as the buffer zones of protected areas; Important sources: European Environment Agency <http://www.eea.eu.int/>  
The following cases demonstrate local or thematic approaches.

#### **Box 1 Identifying steppe areas in the Altai krai (2001-2003), Russian Federation**

In six administrative districts (about 15 000 km<sup>2</sup>) of the Altai krai, agricultural lands were surveyed to identify natural and semi-natural grassland. The majority of the sites identified are various kinds of steppe in the foothills of the Altai, mainly characterised as undisturbed.

Some of the steppes are created and near all maintained by grazing and burning which prevent the growth of bushes. Fallow fields, dispersed among the steppe, which were sown ten years ago (improved pastures) are now becoming semi-natural grasslands. All these communities are used as pasture for cattle, less often for sheep, and partially for haymaking. A group of small apiaries is situated here too.

The SibEcoCenter carried out field surveys on the four largest grassland areas (pastures of 10,000 ha and over). A significant number of rare, endemic and threatened species of plants were found. Some of them, for example *Gymnospermium altaicum* (Berberidaceae) and *Draba fruticulosa* (Brassicaceae), are located only on these sites in Russia. On three of the areas not less than 15 permanent nest sites of Steppe Eagle and Eagle Owl are situated as well as four nesting sites of the Saker Falcon and a number of other rare and endangered raptor species.

All of those bird species are supported to some degree by pastoral use. Abandonment of pastoral practices in one area leads to the birds' resettlement closer to used pastures.

Last summer (2003) a regional reserve was established in one of the largest and best sites. In the protected area pastoral use is not altered crucially while some limitations and regulations are added to protect steppe biodiversity.

The further development of the project in 2003-2004 will develop direct contracts with land users and the introduction of a legal framework to take into account biodiversity conservation on agricultural and pastoral land.

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NGO Siberian Environmental Center (SibEcoCenter)  
<http://ecoclub.nsu.ru> (in Russian only) P.O.Box 547, Novosibirsk 630090 Russia  
Tel./Fax +7-3832-397885

**Box 2 Plants as identifiers of important areas**

The Important Plant Areas (IPA) project is being undertaken by Planta Europa to identify the very best sites for plants across the continent of Europe.

- The project aims to identify a network of sites within each European biogeographic zone, that are critical for the long-term viability of naturally occurring wild plant populations.
- The IPA model can aid implementation of both the Habitats Directive (in EU member States) and of the Bern Convention (in Council of Europe member states).
- Ultimately, it is hoped that IPAs will act as a benchmark for determining whether the strongest protection under any existing legislation, is being afforded to the most important sites for plants.

The broad selection criteria for IPAs are:

- The site holds significant populations of one or more species which are of global or European conservation concern.
- The site has an exceptionally rich flora in a European context in relation to its biogeographical zone.
- The site is an outstanding example of a habitat type of global or European conservation and botanical importance.

The first phase of the IPA project will be carried out in seven countries of Central and Eastern Europe.

Contact: Planta Europa Co-ordinator, c/o Plantlife, 21 Elizabeth Street, GB-London SW1W 9RP. Tel. +44 (0)20 7808 0106 Fax +44 (0)20 7730 8377 E-mail [co-ordinator@plantaeuropa.org](mailto:co-ordinator@plantaeuropa.org) [www.planteuropa.org](http://www.planteuropa.org)

**Box 3 Identification of areas of ecological importance, including in agricultural areas, in the Czech Republic**

Around 17% of the country is protected for its environmental values. There are 23 protected landscape areas (PLA, IUCN V), four national parks (NP, IUNC II), and around 1 250 natural monuments (IUNC III) and micro-habitat protection areas (IUNC IV). Besides these, 41 special protection areas (SPA, Bird Directive) (of which 26 are outside the current PLA and NP) are to be designated in the near future. The protected areas are mainly afforested, covering about 12% of agricultural land. The share of grasslands in agricultural land is high at 44%. Therefore, about 23% of all grassland is under protection.

In addition, one can define a category of "other valuable areas", particularly those which benefited (in terms of biodiversity) from the decreases in production intensity encountered during the transition period. These areas are estimated to cover about 18% of the territory, including the same share of agricultural land and grasslands. Altogether, environmentally sensitive and high biodiversity value areas include at least 33% of agricultural land, and within this 45% of all grasslands.

Data source: the Central Administration of Landscape Protected Areas and the Ministry of Environment.

Source: Accession of Central and Eastern European Countries to the EU and its impact on land use and the environment: The impact of the Copenhagen agreement Final report for the Royal Society for the Protection of Birds by Agra CEAS Consulting Ltd, Imperial College, Wye, University of London, Ashford, Kent, TN25 5AH. June 2003

Contact: Tel. +44 (0)1233 812 181 Fax +44 (0)1233 813 309

#### **Box 4 National grassland mapping projects in Central and Eastern European countries**

From 1997 onwards, grassland mapping projects have been carried out in Central and Eastern European Countries (CEEC) with support from the Dutch government PIN-MATRA programme. One of the main aims was to identify areas suitable for application of agri-environment measures.

The projects in Poland and Hungary were to some extent different from the other projects because habitat mapping was the main goal. The same applies to the habitat mapping project in the Czech Republic in 2002/2003.

Grasslands everywhere are seriously declining in spite of their importance for biodiversity. A great number of species depend on them because they reflect long term and stable management. On average, about 40% of Red List plant species are connected with these habitat types.

In the other countries GIS-databases on grassland vegetation data were built up by teams of experts. Based on an identification of homogeneous grassland plots (so called grassland polygons) the grassland vegetation was described by making releves (according to the Tansley or Braun Blanquet scale). For every country a digital database is now available which can be used for selection of, for example, Natura 2000 sites or sites for agri-environmental schemes.

There is severe stress of marginalization and land abandonment. In some countries (Estonia, Bulgaria) up to 30% of the agricultural land has already been abandoned. On semi-natural grassland this percentage may be even higher (in Estonia 60% of the semi-natural grasslands are no longer managed). On the other hand, there are also many areas where intensification is expected which also means a loss of characteristic grassland biodiversity.

Source: Peter Veen, Royal Dutch Society for Nature Conservation  
Grasslands reports available at [www.veenecology.nl](http://www.veenecology.nl)

#### **Box 5 Another way of identifying key areas: risk assessment**

##### ***Environmental Risk Assessment for European Agriculture: EnRisk***

This EU Research Concerted Action project will carry out environmental risk assessments for European agriculture for five themes:

- soil erosion
- eutrophication
- pesticide use
- biodiversity loss
- landscape change

The objectives of the project are:

- to investigate the role of risk assessment as a decision support tool
- to test existing data & indicators
- to identify and map environmental risk zones at European & local level
- to formulate policy & methodology recommendations.

The project covers EU and 15 Candidate countries as well as Norway and Switzerland. Balkan countries and the part of Russia Southwest of Lithuania will be included as appropriate. Outputs will include a methodology, 5 risk-zone maps (Europe & local case studies) as well as scientific and policy recommendations.

The EnRisk project finishes at the end of 2004.

Contact: Mr Ben Delbaere, Project Co-ordinator, European Centre for Nature Conservation (ECNC). <http://www.ecnc.nl/doc/projects/enrisk.html>

2. Ensure biodiversity-sensitive management in areas of high nature value through implementing targeted agri-environment schemes or other appropriate mechanisms, especially in internationally designated areas;.

#### **Box 6 Natura 2000 and agri-environment**

The LIFE programme has published a report on the links and synergies between agri-environment measures and management of Natura 2000 sites. It contains numbers of case studies, some of which are used hereto illustrate various action points. But the whole report is useful on identifying lessons learned on biodiversity sensitive management and agri-environment schemes.

Source: LIFE and agri-environment supporting Natura 2000: *Experience from the LIFE programme*, European Commission, Environment Directorate General

Luxembourg: Office for Official Publications of the European Communities, 2003

ISBN 92-894-6023-7, ISSN N° 1725-5619, © European Communities, 2003

<http://europa.eu.int/comm/environment/life/infoproducts/index.htm>

#### **Box 7 Farming in the Burren: an example of the importance of targeting**

The Burren hills are "one of Europe's finest examples of what is described as glaciated karst landscape" Dunford, B. (2002) *Farming and the Burren*. Teagasc Publications, Dublin). The karstic soil means that it is not very productive and the area has been declared "less favoured" according to European agricultural standards. Ecologically these limestone hills are a very

important region. In implementation of EU agri-environmental schemes, Ireland has set up the REPS (Rural Environmental Protection Schemes), and there is one for the Burren.

Because of the speed at which water passes through the limestone, water-borne pollutants do not get trapped in the soil and are washed straight into the groundwater. This is why pollution control measures (sewage disposal, fertiliser and slurry application, feeding site and fodder management) are very important. But also cultural aspects are part of the REPS: Farmers who signed a REPS contract are obliged to keep and rebuild stone walls on their land.

The REPS introduced a relatively rigid farming system with, for example, precisely timed "winterage" periods which took away the freedom of local farmers to respond to unforeseen circumstances such as weather, disease and market conditions.

Source: <http://www.burrenbeo.com/>

### **Box 8 Testing a methodology for targeting agri-environment schemes**

The overall objective of the AEMBAC project, an EU Research project, is to suggest a common instrument for the identification, development and evaluation of locally more appropriate agri-environmental measures for biodiversity and landscape conservation. It is doing this through linking scientific information to policy decisions. Fifteen pilot sites in 7 candidate countries and member states are participating.

The project is not yet finished but it is expected that it will result in:

- A selection of scientifically based indicators to analyse and measure the supply of environmental goods and services;
- A clear distinction between ecological sustainability in agriculture (i.e. respect of Environmental Minimum Requirements) and realistically achievable results for the short term considering socio-economic aspects (i.e. agri-environmental policy targets);
- A clearer definition of risks and uncertainties with regard to unsustainable agricultural practices;
- Flexibility that will allow trade-offs between different objectives with more precise ecological, economic and social information;
- More effective monitoring of impacts on the environment and consequently a better evaluation of AEM effectiveness and efficiency.

The AEMBAC project will promote:

- The development of dynamic programmes for the transition phase towards sustainability;
- Identification of further research needs on issues of policy relevance;
- The enhancement of transparency and a wider application of the subsidiary principle in managing agri-environment programmes;
- The responsibility at local level (devolution to farmers and administrators) on the fine-tuning of policy measures in local agriculture, thereby creating an "evaluation culture";
- Technological adaptation and innovation; and

- Growing environmental awareness amongst EU citizens.

Contact: Riccardo Simoncini, Project Co-ordinator: [riccardo.simoncini@cce.unifi.it](mailto:riccardo.simoncini@cce.unifi.it)  
[www.aembac.org](http://www.aembac.org)

### **Box 9 Piloting agri-environment methods in a designated area: Austria**

ÖPUL (Oesterreichisches Programm zur Förderung einer umweltgerechten, extensiven und den natürlichen Lebensraum schützenden Landwirtschaft) is the Austrian agri-environmental programme. A pilot project within this programme was run in the Naturpark Pöllauer Tal during the years 1999 and 2000. The project was run in close co-operation with the government department responsible for nature conservation.

Nature protection, education, leisure and regional development are the main criteria in what is called a Naturpark in Austria. The definition of a Naturpark is "a protected area, which has its roots in the interaction of man and nature". Often the landscape of these areas has been evolving for centuries.

The aim of the project was to determine the extent to which agricultural activities could contribute to the aims of a "Naturpark". In the present case, preservation of the biodiversity, agricultural development and protection of natural resources (earth, water, plant species and varieties, etc.) were the main aims.

Gaining the interest of the farmers in the project was important from the beginning. Economic incentives helped: farmers were paid a certain amount for each field they included in the project to a maximum of 10 fields per farmer.

With regard to management measures for nature conservation, three approaches were followed:

- the surface approach: Certain types of habitats may need special management measures for their conservation (Natura 2000 areas, wetlands);
- the farm approach: Certain farmers show a special interest in optimizing their agri-environmental performance;
- the regional approach: The optimization of landscape and ecological value of a larger region is the aim here; normally this approach is for larger areas with a promising ecological situation. It normally involves several farms.

Source: The project is summarized in a book: By E.C.O. Institut für Oekologie (2001) Kulturlandschaftsprogramm Pöllauerberg (im Naturpark Pöllauer Tal). Pilotprojekt zur Umsetzung eines Naturschutz-Planes im Rahmen des ÖPUL 2000. Bundesministerium für Land- und Forstwirtschaft. Klagenfurt. The book gives details on how the different objects of the "Naturpark" were mapped and valued. It also gives details on the measures which were proposed to enforce the agri-environment programme. <http://www.e-c-o.at>

### **Box 10 Wetland rehabilitation and sustainability in a nature reserve: Estonia**

Matsalu Wetland of International Importance is situated in Western Estonia. Most of its habitats have been affected by man since land appeared from the sea. This influence included mowing, grazing, etc. as well as forest clearing and reed harvest. Semi-natural communities are among the chief values of the wetland. Measures to counteract abandonment of the meadows are therefore given high priority in the Management Plan for Matsalu Wetland. These include mainly grazing or mowing contracts with the farmers and paying compensation according to these.

Management has now been carried out for three years according to the Plan. Additional measures not included in the actions proposed in the Plan but contributing to its goals have been investments in machinery available to farmers. Negative trends have been slowed down but more work remains to be done.

Source: <http://www.fao.org/scripts/ag99/>

Contact: Matsalu Nature Reserve Administration <http://www.matsalu.ee/>

3. Strengthen the viability of farming in areas of high nature value by ensuring adequate funding/resources for well-defined and targeted agri-environmental programmes in synergy with other rural development measures and appropriate market instruments; strengthen the economic and social sustainability of land management enterprises in areas of high nature value that help maintain this value. Policy mechanisms include easy access and adequate funding/resources for well defined agri-environmental programmes in synergy with other rural development measures and appropriate market instruments.

#### **Box 11 Broad-based community schemes: Landcare Australia**

Landcare concentrates on groups rather than individual landowners. While setting out to find a balance between economics and ecology, productivity and resource protection, it contributes strongly to community development and it is the community, with its private and public interest groups, which is its main focus. It has also made efforts to involve and inform the urban community in a successful bid to generate support for, and awareness of, resource degradation and sustainability issues.

Workers from different disciplines (soil conservationists, foresters, geologists, hydrologists, biologists, economists and communicators) support the community on local, national and regional levels. There are also close partnerships with industry especially through Landcare Australia Ltd.

The structure of Landcare projects involves as many landowners as possible and its approach aims to create an environment of trust, emphasising local planning and decision-making, developing a supporting but not leading role for government, and promoting ready information-sharing between scientists and land managers.

Landcare has shown that financial assistance for land restoration must be teamed with government technical support and community empowerment.

The concept is becoming international. There are similar approaches in Canada, Iceland, New Zealand, the Philippines, South Africa and the US.

For the future, one promising path will probably be within community-based catchment management programmes sponsored by industry and commerce; implementing vegetation programmes to create carbon sinks, and bringing more landowners and managers from other countries to Australia to see Landcare in action on the ground.

Contact: Sue Marriott, Director, Secretariat for International, PO Box 415, Hamilton, Victoria 3300, Australia. [smarriott@silc.com.au](mailto:smarriott@silc.com.au)  
<http://www.landcare.gov.au>

### **Box 12 Introduction of methods of sustainable agriculture for conservation of steppe biodiversity in Russia**

Since October 2003 the Saratov Regional Public Organisation of the Russian Bird Conservation Union has begun implementing a project entitled: "Introduction of Methods of Sustainable Agriculture for Steppe Biodiversity Conservation in Russia" with the support of the Institute of Sustainable Communities within the framework of 11th round of the ROLL programme. The project aims to conserve the biodiversity of steppe communities, optimise economic activity and introduce practical methods of sustainable agriculture.

The following activities are envisaged:

- introduction of technologies of sustainable, ecologically and economically effective agriculture on the territory of two farms in the Fedorovsky district of the Saratov Oblast leading to restoration of steppe biodiversity. The sites will demonstrate the effective combination of economic development and biodiversity conservation (500 ha of low-profit arable land will be transferred into pastures and hayfields restored by a method of sowing steppe grasses);
- monitoring of key species on farms' territory (the data on the status of key steppe species of plants and animal will be collected and analyzed in order to use them as bio-indicators of steppe condition). The monitoring will allow estimates of the influence of the introduced technology on biodiversity conservation;
- holding of two educational seminars and advice on sustainable agriculture for farmers (with Russian and American experts and volunteers from ACDI/VOCA Ltd.);
- implementation of the conservation programme for Great Bustard clutches (*Otis tarda*) on farms' territory;
- implementation of a wide-scale information campaign on the project to popularise the idea of sustainable agriculture (number of publications in local and regional mass media, a monthly electronic bulletin called "Volga", the creation of a special unit on the web site devoted to the project, dissemination of press releases to regional news agencies (Regions.ru, VolgaInform.ru, Caspinfo, Ecoinform, Sarbs).

Contact: Alexandr Antonchikov, Russian Bird Conservation Union of Russia, Saratov Regional Public Organisation, PO 1385, 410017, Saratov, Russia. Tel. +7(8452) 523424 E-mail [rbcusb@overta.ru](mailto:rbcusb@overta.ru); [http:// home.overta.ru/users/rbcusb](http://home.overta.ru/users/rbcusb)  
 Institute of Sustainable Communities [www.iscmoscow.ru](http://www.iscmoscow.ru)

**Box 13 Nature conservation and agriculture without agri-environmental support but with astute marketing**

The Dijle valley in Brabant (Belgium) was long an area of small, mixed farms raising livestock on grass in the wetter areas and growing arable and fodder crops on the drier slopes. Changes in farming practice led to the abandonment of botanically valuable hay meadows. These were planted with poplars, converted to fish ponds or, more recently, sown with maize.

To manage blocks of land purchased and then restored by Natuurpunt, an NGO, the strategy was to co-operate with willing farmers; seven local farmers took up the offers to exploit the grazing blocks. Agri-environmental measures did not play a role because they had not yet been set up in Flanders. Instead, the beneficiary sought other ways to make management of this land attractive to farmers.

Direct on-farm sale of meat to consumers was tried but was unsuccessful. Next, collaboration was sought with a farmers' co-operative committed to sustainable production. Co-operative members are subject to strict production conditions and inspections, but do get a higher price for their produce than from conventional markets. The co-operative commercialises the produce through three shops and a restaurant in the Brussels urban area, using quality and sustainability as selling points.

Farmers mow their meadows in May or June, then graze them with Limousin cattle until November, under management prescriptions specified in the lease agreements with the NGO. The additional criteria imposed by the co-operative (sustainability = using fodder grown on the farm) mean that the mowed hay is fed to the stabled cattle in winter, thus closing the circuit.

For the farmers' co-operative, the arrangement with the NGO Natuurpunt is advantageous, because having meat originating from nature reserve management provides an extra selling point. It also provides access to a large group of potentially sympathetic consumers.

Source: LIFE and agri-environment supporting Natura 2000: *Experience from the LIFE programme*, European Commission, Environment Directorate General  
 ISBN 92-894-6023-7, ISSN N° 1725-5619, © European Communities, 2003

Luxembourg Office for Official Publications of the European Communities,  
 2003 <http://europa.eu.int/comm/environment/life/infoproducts/index.htm>

4. Promote biodiversity and landscape-sensitive management in the wider countryside through broader agri-environmental programmes to address dispersed species and scattered landscape features.

**Box 14 Using agri-environmental measures for a dispersed species**

The population of corncrakes in France has declined, over the period of a century, from several tens of thousands to a low of 1300 males in 1998. Their last refuges in France are the floodplain valleys of the Saône, Loire, Charente, Meuse, Oise and Seine. The main causes of the decline are mechanisation of agriculture, earlier mowing and the transformation of their habitat into arable land particularly for the cultivation of maize.

National parks and other protected areas protect less than 1% of the corncrake population. The Ligue pour la Protection des Oiseaux (LPO) working with regional nature conservation organisations has managed to extend protection to 10% of the population. One of the instruments was the application, to territories covering 75% of the population of the species, of specially adapted Local Agri-environmental Operations (OLAE) later known as Land Management Contracts (CTEs).

The contracts include measures such as mowing later (in mid-July) with or without grazing afterwards, and mowing from the centre towards the periphery which reduces the mortality of chicks.

Contact: Ligue pour la Protection des Oiseaux, Corderie Royale, BP263, F-17305 Rochefort Cedex. Tel. +33 546 821 234 Fax +33 546 839 586 E-mail [lpo@lpo-birdlife.asso.fr](mailto:lpo@lpo-birdlife.asso.fr)

**Box 15 A pilot scheme for dispersed features in England: Market Deeping**

The pilot Entry Level Scheme (ELS) is on an area of 22,379 ha in the east midlands of England. There are two distinct landscapes.

The southern fringes comprise gently undulating terrain, with ancient woodlands, wide shallow valleys and hedge-lined fields. The soils on the limestone support small pockets of high wildlife diversity in the form of agriculturally unimproved grasslands along disused railway lines, track ways and road verges.

In the fenland fringe towards the East there are disused borrow pits and sand and gravel workings which provide important refuges for breeding birds, insects and water plants. This area also supports good populations of water voles. It has high quality agricultural silts and peat soils. A network of ditches, drains and canalised rivers define and give structure to the fenland landscape. There are a number of archaeological sites many of which are designated of national significance as Scheduled Ancient Monuments, most of which are under cereal cultivation.

**Key Entry Level Scheme options**

The ELS pilot offers the opportunity to select from a list of management options listed in the Scheme Guidance Booklet. Identified below are those options that would be of particular benefit if applied within the Market Deeping ELS pilot area:

- Ditch management: the network of ditches in the fens is important for both landscape and wildlife.
  - In cropped areas, options for the provision of habitat or food for farmland birds – over-wintered stubbles, beetle banks and skylark plots, nectar and pollen mix blocks and management of field corners.
  - Hedgerow management: important features throughout the pilot area.
  - Management of archaeological features including taking them out of arable production or minimising damage through cultivations.
  - 2, 4 and 6 m buffer strips on arable land, particularly adjacent to watercourses, hedges and woodlands.
  - Conservation headlands especially against buffer strips on arable land.
  - Wild bird seed mix blocks next to managed hedgerows, avoiding areas near tall trees, telegraph poles or electricity pylons.
  - Management of woodland edges and rides
  - Management Plans: The benefit of many of the above options may be enhanced through the preparation of management plans. The implementation of advice contained within the plans would mean each option could be specifically targeted. Management plans could relate to:
    - Soil Management Control on a field by field basis.
    - Nutrient Management on a field by field basis.
    - Manure Management on a field by field basis.
    - Crop Protection (e.g. pesticide use).
- Contact: <http://www.defra.gov.uk/erdp/reviews/agrienv/default.htm>

### **Box 16 Management of wild bees for biodiversity conservation and the agricultural economy in Kazakhstan**

With financial support from the GEF Small Grants Programme and the ISAR Fund, "Naurzum – Southern Branch", an NGO based in Almaty, the Republic of Kazakhstan, carried out a project on wild bees in the pre-mountain/piedmonts and lowland belts of Zailisky Alatau Mountain between 1998 and 2000.

Intensive agriculture in the region has resulted in nature degradation and agro-biodiversity impoverishment. One main concern is the reduction of flora and fauna diversity which can be partly traced to the widespread destruction of the habitats of wild bees. Single bees, acting as plant pollinators, are very important for biodiversity maintenance. Their well-being depends on the richness and stability of a variety of flowering herbs, abundance of wild fruits and berries and the productivity of many cultivated plants. Domestic bees cannot adequately replace wild ones. For example, the most valuable fodder crop of the region, alfalfa, is pollinated by only one species of single wild bees. The cultivation of alfalfa in Kazakhstan is substantially limited by the low supply and high cost of seeds; the absence of pollinators is one of the main reasons for poor alfalfa harvests.

A long-term objective of the project is the conservation of bee populations on agricultural lands around Almaty. One of the basic threats for the bees is destruction of suitable places for nesting which can be partially eliminated by the creation of artificial nests. During the project, more than 1 200 artificial nests in 14 locations, national park borders, farms and part-time farms, were

provided. Agro-technical measures (e.g. alfalfa crops and keeping un-ploughed sites so that bees' nests are not disturbed) to attract ground-nesting bees were also carried out. Educational work and an information campaign accompanied the project.

In total more than 14 species of wild bees including mass pollinators of berries, vegetable crops, alfalfa and clover, settled in artificial nests. Four of those are endemics of Central Asia and Kazakhstan. 70% of nests were settled. Some of the colonies are now used for distribution of wild bees into places where they have practically disappeared, mainly farmland.

The project continues: in the spring of 2002, about 100 artificial nests placed mainly on farms were settled by several species of wild bees.

Contact: Dr. Natalia Risakova, project co-co-ordinator, NGO "Naurzum – Southern Branch", 102 - 43 Tole-Bi str., 480012 Almaty, the Republic of Kazakhstan. Tel. +3272 921207, 920207  
E-mail: [nryssakova@pochtamt.ru](mailto:nryssakova@pochtamt.ru)

### **Box 17 Broad agri-environmental contracts in canton Aargau (Switzerland)**

To prevent the continuing decline of biological and landscape diversity in the canton of Aargau, the canton set up a new type of contract with the farmers in 1994. Farmers who want to be enrolled have to agree to implement environmentally friendly agriculture on 11-12 % of their cultivated land. Meadows rich in plant species, extensively used pastures, hedgerows, orchards with tall trees, strips of fallow land or of land sown with species-rich meadow vegetation, are some of the types of measures included in the special contracts.

The management of the selected areas is fixed by discussion between the farmer and officials from the office responsible for the contracts (mandated by the nature conservation department). A detailed management plan is established. The plan includes such measures as cutting periods for the meadows, type of hedgerow management and grazing pressure.

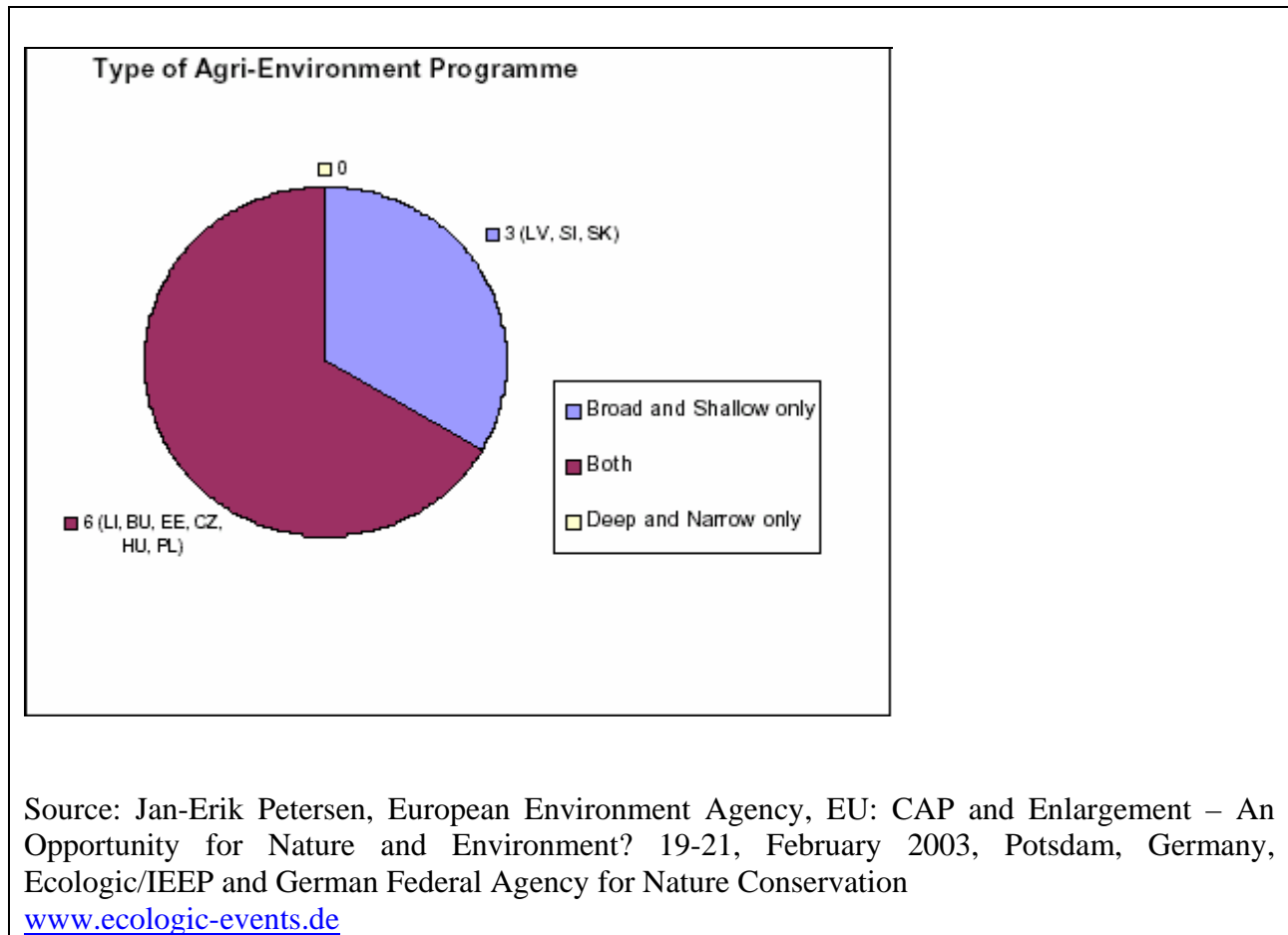
After five years of operation some signs of an increase in the species of breeding birds were visible. Species richness was comparable between the areas under contract at the beginning of the contracts, but it was about 20% higher after the first five years.

The number of farms under contract has been steadily increasing. Some of the farmers allow their land to be used as demonstration farms. They also promote themselves as advocates of an ecologically sensitive agriculture.

Examples of farms under these special agri-environmental contracts have been published.

Contact: Department of nature conservation, Canton of Aargau: <http://www.ag.ch/natur2001/> The site is available in German and gives detailed information.

### **Box 18 Relative proportion of broad and shallow and deep and narrow agri-environmental measures in agri-environmental programmes and the Candidate countries**



5. Strengthen and expand the biodiversity component of agri-environment programmes.

#### **Box 19 Leveraging broader biodiversity benefits from a local project**

The island of Öland off the Swedish coast has large areas of natural grassland on "alvars" (rocky pavements left behind after the retreat of the Ice Age glaciers) traditionally grazed by livestock. However, as alvars have poor soil and can only support low livestock densities, they were among the first to be abandoned during post-war rationalisation of farming. By 1994 only 60% of Stora Alvaret, with 26,000 ha the largest alvar on Öland, was still being grazed. The rest of the area had become overgrown.

The 1996 LIFE project "Stora Alvaret" was launched to recover the grassland habitats: 1 600 ha of overgrowth was cleared, re-establishing the typical grassland habitats. Farmers were contracted to do this work. Farmers were encouraged to take up contracts under existing agri-environmental measures.

Agri-environment premiums for extensive grazing ensured recurring management of the restored land.

By the end of the project in 2000, 85% of Stora Alvaret was again being grazed. Farmers were very enthusiastic, as the combination of increased grazing areas and agri-environmental support considerably improved their economic situation. Local firms became specialised in clearing and restoration of overgrown land.

The Kalmar County administration succeeded in using these results to get scrub clearing activities included in the new Swedish Rural Development Plan under Regulation 1257/99. Thus the benefits of this project now stretch well beyond the boundaries of Stora Alvaret.

Source: LIFE and agri-environment supporting Natura 2000: *Experience from the LIFE programme*, European Commission, Environment Directorate General

Luxembourg: Office for Official Publications of the European Communities, 2003

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<http://europa.eu.int/comm/environment/life/infoproducts/index.htm>

### **Box 20 Some suggestions for improving the biodiversity component in agri-environment programmes from German NGOs**

"Towards a New Agricultural Policy in the European Union" is the title of the proposals developed by the major German environmental organisations under the aegis of Euronatur and the Arbeitsgemeinschaft bäuerliche Landwirtschaft (AbL), a family farmers' association, which aims to rigorously reorient the European agricultural policy.

Biodiversity is an important part of these proposals, which demand that the agri-environmental programmes under the second pillar of the Common Agricultural Policy should be designed in such a way that they correspond to the ecological criteria for the basic premium and offer incentives for more environmental protection, nature conservation and animal welfare on all agricultural lands.

Concerning environmental criteria, the signatories of these proposals suggest:

- linking livestock production to area: max. 2 livestock units per ha;
- crop rotations should be used on tillage lands, with a single crop comprising not more than 50% of the rotation and with a minimum content of 20% 'recovery crops' (including legumes, grass-clover leys, set-aside) in the rotation;
- landscape elements such as hedgerows, woodland copses, field margins, and watercourses are to comprise a least 5% of a holding's area (the basic premiums would also be payable for these lands);
- agricultural land use in areas subject to flooding and in fenlands is restricted to grassland;
- genetically modified plants are not allowed on the holding;
- the holding adheres to good agricultural practices and complies with current environmental legislation.
- 

Several case studies are presented, a.o. on the environmental compatibility of the EU agricultural budget.

Source: [http://www.euronatur.org/englisch/Agenda%202007%20Gesamtprojekt\\_EN.htm](http://www.euronatur.org/englisch/Agenda%202007%20Gesamtprojekt_EN.htm)

6. Ensure both the application of agri-environmental programmes and the economic survival of agriculture in biodiversity-rich areas of Accession countries in the context of the European Union enlargement process in conformity with section 3 of the European Community Biodiversity Action Plan for Agriculture.

**Box 21 Manual for "Developing agri-environment programmes in Central and Eastern Europe"**

The manual, put together by IEEP and Avalon, is intended to help stakeholders inside or outside government who are interested in the development of agri-environment policy.

Agri-environment schemes have the potential to be particularly relevant in CEE as agriculture is the dominant type of land use (53% on average in CEE) and is likely to remain so in the foreseeable future. The sustainable use of natural resources is vital for the long-term development of CEE, and agri-environment programmes offer an opportunity to achieve this and to maintain the present, low-input, farming systems which contribute so much to the character and conservation value of the region.

The overall aims of the manual are to:

- assist Candidate Countries with the process of preparation for accession to the EU through disseminating knowledge and experience with the preparation and implementation of agri-environment measures, as defined by the Rural Development Regulation;
- increase knowledge of agri-environment policy beyond the circle of immediate Candidate Countries;
- contribute to the conservation of biodiversity and landscape on farmland in the region.

The manual discusses the different agriculture policies, ways to apply them, the relevance of agri-environmental schemes and how to design them.

Source: <http://www.ieep.org.uk/PDFfiles/PUBLICATIONS/Developing%20Agri-environment%20in%20CEEE%20Manual.pdf>

7. Consider developing or strengthening policies, as appropriate, to encourage concerted management by a range of actors in addition to farmers (e.g. grazing units managed by community groups, and sites managed by NGOs) particularly where this may prevent or address both abandonment and inappropriate intensification of areas rich in biodiversity.

**Box 22 Management by an NGO: Hope Farm, Cambridgeshire, UK**

Thanks to the generosity of its members, in 1999 the RSPB was able to purchase an arable farm in Cambridgeshire. For years the Society has been advocating the need for the development of wildlife-friendly farming practices - this is the chance to put its words into action.

There are far fewer skylarks, song thrushes, yellowhammers and tree sparrows - once common countryside birds - than there were 30 years ago because of changes in farming. Specialisation and intensification in crop and livestock farming spell bad news for wildlife in the countryside. Modern farming affects wildlife so much that tackling the declines in birds in the countryside has become one of the RSPB's highest priorities. Hope Farm was purchased in order to:

"Trial, demonstrate and advocate new farmland management techniques that favour farmland birds".

The challenge is to develop successful farming techniques that can produce food cost-effectively and at the same time benefit wildlife. The farm will enable the RSPB to try out things that most farmers cannot yet do because of economic, technical or information constraints. We will be able to use the farm to explore a more wildlife friendly future for farming and to put our best ideas across to the decision makers who influence the UK's farming.

The methods used will be closely scrutinised on their environmental, agronomic and financial benefits. It is expected that some techniques will have no significant costs to farmers (they may even save money and increase profits!) and could be adopted rapidly. Others will have costs to farmers and the RSPB will - with the support of the farming community, we hope - be calling on politicians to finance these actions through agri-environment schemes or similar subsidy systems.

[http://www.rspb.org.uk/countryside/farming/hopefarm/the\\_challenge.asp](http://www.rspb.org.uk/countryside/farming/hopefarm/the_challenge.asp)

### **Box 23 Management of agriculture in a protected area near Moscow by a range of actors**

In the framework of the Homeland of the Cranes Programme, the Biodiversity Conservation Centre (Moscow) is responsible for the project to harmonise agriculture with the management of the protected area in Taldom (Moscow Oblast) (2001-2002).

The multilateral scheme for biodiversity conservation on agricultural lands includes municipal bodies (District Administration), agricultural organisations (private companies and co-operative societies), nature conservation bodies (Taldom protected area staff and the Administration of the Homeland of the Cranes Reserve) and NGOs (Biodiversity Conservation Centre, Russian Bird Conservation Union).

All the agricultural data needed for management in specially protected areas were surveyed and analysed, often involving volunteers. A detailed assessment of grazing intensity on a model site formed the basis of a map of the hot spots for the project area and led to recommendations on harmonising environmental and agricultural use. The recommendations are the main basis for on-going negotiations with agricultural enterprises to find solutions including changes in crop-rotation schemes necessary for the long-term existence of meadow birds and migrating cranes.

A credit-mechanism for funding nature-friendly land use based on legally enforceable agreements was discussed and is starting to be applied. It is hoped that the mechanism will also serve to create an environmental fund in the Taldom Administration to be used for nature-friendly

agricultural management in the future. A special local commission has been established to distribute the funds.

Formal legal agreements between the Administration of protected areas and agricultural enterprises have been developed. Environmental assessment procedures are performed jointly by the Administration of protected areas, the agricultural enterprises and consultants and are starting to be implemented.

Activities to introduce nature-friendly agriculture into local practice are beginning:

- "meadow co-operation": Loans to improve management of grasslands important for rare bird species.
- additional feeding of Eurasian cranes: Planting 30 ha for feeding cranes during their autumn migration via Taldom.

Contact: Olga Grinchenko, Biodiversity Conservation Centre, Moscow, 117312 Moscow, Vavilov str., 41, office 2. Tel. +7(095) 124 71 78 E-mail [biodivers@bcc.seu.ru](mailto:biodivers@bcc.seu.ru)  
<http://www.bcc.seu.ru>

#### **Box 24 DuPont: management of corporate land**

The DuPont fibre manufacturing site in Asturias, Spain, has developed a land maintenance scheme that operates at "zero cost" while helping to preserve native endangered animals, including rare breeds of ponies, cattle, sheep and donkeys.

The site consists of 180 acres of land surrounding the manufacturing units. Searching for a way to maintain this land to assure operational safety and to limit costs, the site management decided to work with local organisations that were striving to preserve indigenous breeds.

Of the five livestock breeds kept at the Asturias site, three of them have been granted the status of endangered species by the European Community through legislation passed by the STAR Commission (consisting of the Agricultural Ministers of the EEC countries). This status recognizes these breeds as being in danger of extinction and deserving the right to receive grants aimed at encouraging their preservation and breeding. The following breeds are found at the Asturias site:

- Asturcon ponies: 12 specimens (the grant being 120.20 Euros/per head/per year);
- Xalda sheep: 14 at the site. The grant is 120.20 Euros/per every 6 specimens/per year;
- Highland cattle: we keep 22 specimens, the grant being 120.20 Euros/per female specimen/per year.

Because the animals are perfectly adapted to the local climate, they are cheap and easy to keep. Furthermore, surplus of stock is sold, allowing the whole program to be cost neutral to the business. Each of the breeds released on the site is championed by a local association of breeders - primarily farmers. This has allowed for a strong partnership between the site and the local community to emerge. With the program in place for over 5 years, the head count is now growing to an extent that demands the management of more land.

The creativity that was used to make this a ‘zero cost’ initiative demonstrates that working on biodiversity on the site can bring community value and does not have to be seen as an expense.

Contact: <http://www.dupont.com>

Further information: [IUCN/WBCSD Business & Biodiversity Handbook for Corporate Action](#)

8. Identify agricultural habitats of currently low biodiversity value where habitat improvement and restoration would significantly increase biodiversity.

### **Box 25 Growing margins in industrial agriculture**

Birds Eye Wall’s, a leading UK producer of frozen peas, is conducting research on how to improve biodiversity around pea fields. Peas are grown by farmers who work under contract to Birds Eye.

Studies by the company have shown that pea fields provide a home for some of the endangered species listed by the UK government. These include song birds such as skylarks and thrushes. The research also showed that there was less wildlife around pea fields than in unfarmed land or in other crops such as rape seed.

The company has introduced six-metre crop margins around the edges of fields on several UK pea farms. No pesticides or herbicides are used on the margins so that weeds and wildflowers can grow. The weeds provide a habitat for insects, which are a food source for birds and other wildlife.

Initial results show that the crop margins are supporting a greater diversity and number of wild flowers, insects and birds on the farms.

Researchers are now looking at the benefits of using 12-metre crop margins. They are studying these areas to see if they encourage natural predators, which would reduce the amount of pesticide needed. Checks are also being made to ensure that the margins do not cause long-term weed problems in the fields.

The company is now helping to organise a farmers’ forum, to discuss how crop margins can be introduced on all UK pea farms supplying Birds Eye.

<http://www.unilever.com/environmentsociety/casestudies/biodiversity/>

### **Box 26 Encouraging survival of biodiversity in intensively farmed areas...**

...in Germany: Strategies and measures are developed to preserve and further establish habitats for wildlife in intensively farmed areas. On the basis of the conservation of the abiotic resources with a sustainable farming method (i.e. Integrated Farming), biotic resources are the main focus. The aim is to preserve the site-specific and regional variety of species. Scientific research of biodiversity and ecological balances are being conducted on 5 project farms.

Source: <http://www.fao.org/scripts/ag99/> Contact: Fördergemeinschaft Integrierter Pflanzenbau e.V. (FIP) (Association for the Promotion of Integrated Agriculture [www.agp.uni-bonn.de](http://www.agp.uni-bonn.de))

...in the UK: The Sustainable Arable Farming For an Improved Environment project – SAFFIE - will explore whether manipulating vegetation architecture in the crop and uncropped margins will increase farmland biodiversity.

Experimental treatments will be designed to quantify the benefits of changing the architecture and management of the crop and margin vegetation on farmland biodiversity. Vegetation architecture refers to the three-dimensional structure of vegetation i.e. the components of patchiness, including bare ground, height, structural and species diversity of the vegetation. The study includes a cost benefit analysis and results will be made widely available.

Source: <http://www.saffie.info/>

### **Box 27 Breeding bird atlas as a tool for identifying biodiversity value in all types of landscape**

In the mid-1990s, a census of breeding birds of the region of Basle, Switzerland, was undertaken. For two consecutive years, some 100 ornithologists, many of whom were volunteers, mapped all occurrences of about 60 indicator bird species over the whole area.

The distribution maps of the species not only led to conclusions about their status; the sum of all species and numbers of birds also allowed an evaluation of the nature-value of specific areas. As an important part of the census work, areas of high quality for birds and areas of low quality were established and shown as objects on a map. Each object was then described, its value for birds established in a more precise way, and measures to maintain the value of good areas or improve it for bad areas were proposed.

The data from the project are available electronically, have been included in a GIS system and may be combined with other nature-relevant data of the region. Cantonal and communal authorities may use them for their planning (for instance rural plans) and actually commonly do.

The results were presented in a report to the cantonal administration and, later, in the form of a bird atlas for the region and as a CD ROM version for a larger public. Local governmental institutions, planners, land owners and people interested in birds may use one of the published media to find out which species are present in specific areas, what can be done to support these species and to maintain the quality of good bird areas and improve that of less rich areas.

Contact: Ornithologisches Inventar beider Basel, 1997.

Information: [jean-pierre.biber@natcons.ch](mailto:jean-pierre.biber@natcons.ch)

## **B. Conservation and sustainable use of genetic resources**

1. Monitor, study and support the *conservation of local in situ*, "on farm" and *ex situ* genetic resources for food and agriculture, in accordance with international standards and priorities,

taking into account national, regional and local peculiarities in order to ensure the security of plant genetic resources and biological diversity in general.

### **Box 28 Fruit, herb and vegetable varieties being saved in Switzerland**

In Switzerland, there are more than 1 000 varieties of apple and more than 600 of cherries. In some 120 orchards associated with Pro Specie Rara there are more than 3 000 trees offering more than 1 000 varieties of fruit. The aim is to sell these varieties to farmers or even gardeners and thus regain some of their agricultural value. Guided tours are organised in the orchards, and the fruit are presented in special exhibitions or for sale in the local markets.

Similar programmes also exist for aromatic herbs or vegetables, and also for farm animals. Rare races are being bred in farms and are very often also for sale. Sales may be directly from the farm to individual customers, thus allowing the clients to see the plants or animals before processing. Direct sales also have the advantage of increasing the income of the farmers.

Source: Pro Specie Rara is a Swiss foundation which aims at preserving rare breeds, agricultural plant varieties and races of farm animals. <http://www.psrara.org/>

2. Strengthen the conservation, characterisation and utilisation of genetic resources in agriculture through research, education of the public and farmers, information sharing and technical co-operation, following common approaches where appropriate.

### **Box 29 Grassroots seed network preserves food crops diversity in Australia**

The Seed Savers' Network, founded in 1986, has taken on the task of preserving the diversity of species and varieties of food plants to help sustain the food plant genetic system in the continent. The Seed Savers' Network has focused attention on varieties that do well in biodiverse small-scale systems by:

- appealing to the general public for seeds of traditional varieties of food plants;
- popularizing seed saving of these plants;
- organising their exchange among growers in all parts of Australia; and
- including seed of food plants in trials, and bulking quantities of these varieties at its seed centre and through a network of experienced seed savers.

The network gets seed samples from the public who hear of the network's work through the media or through friends, and from subscribers to its newsletter. These individuals act as generators of rare traditional varieties. The network connects seed savers who exchange their seeds with the seed bank and with other subscribers.

The network maintains the Seed Centre, a seed bank where incoming seed batches are accepted and documented, tested for viability, stored in a low-tech insect-proof system and packed for distribution to subscribers and community projects. The Seed Centre maintains gardens that are both species and variety diverse. There is a strong programme of growing batches of seeds for comparative trials, for producing more seed and for teaching seed-saving techniques to interested

people in workshops and training sessions. Seed Savers' Network also publishes materials such as the Seed Savers' Handbook and a semi-annual newsletter.

Extracted from: Conservation and Sustainable Use of Agricultural Biodiversity (2003) published by CIP-UPWARD in collaboration with GTZ, IDRC, IPGRI and SEARICE Available from [cip-manila@cgiar.org](mailto:cip-manila@cgiar.org)

Contact in Australia: [info@seedsavers.net](mailto:info@seedsavers.net). [www.seedsavers.net](http://www.seedsavers.net)

### **Box 30 Traditional livestock breeds encouraging biodiversity**

Many traditional Dutch livestock breeds are at risk of dying out because they cannot compete with today's ultra-productive breeds (primarily the case with cattle and sheep in modern agriculture).

This trend is disturbing, since these old breeds possess unique characteristics which can help to maintain biological diversity. It is important that these breeds be preserved. Old livestock breeds are hardy and well adapted to the Dutch climate; nearly all of their names are associated with a very specific Dutch region. This makes them extremely well suited to year-round grazing as instruments of landscape and nature management. The significant role of sheep in heathlands management is well known. Dutch landrace goats make a useful contribution in the fields by cleaning up the remains of woody crops.

Since horses, cattle, sheep and goats all graze differently, a diversity of flora and fauna can arise on large landscapes if they are grazed simultaneously by a variety of animals. Native horse breeds such as the Groningen horse and Dutch draught horse also have uses in these rural landscapes. They are better suited for use on some compaction-prone soils than heavy machines and are gentle and easy-going by nature.

The Rare Domestic Breeds Foundation (Stichting Zeldzame Huisdierrassen) works to draw public attention to the issues around old agricultural breeds. The foundation provides informative presentations, advice and information. It also promotes the interests of breeders.

H.F. Cnossen, Stichting Zeldzame Huisdierrassen, Dronten [www.szh.nl](http://www.szh.nl)

Extracted from: 'Grazing and Grazing animals' Vakblad Natuurbeheer - Special issue <http://www.minlnv.nl/grazers/>

### **Box 31 Orenburg Tarpaniya - Restoration of wild steppe horse**

In 2003 the Steppe Institute of the Ural Branch of the Russian Academy of Sciences (Orenburg), Laboratory for Microevolution of Hoofed Animals of the Severtsev Institute of Ecological and Evolutionary Problem of the Russian Academy of Sciences (Moscow) and the "Revival of Orenburg Steppes" Fund (Orenburg) signed an agreement for the creation of an International Centre for the Reintroduction of the Przheval'sky horse (called the Orenburg Tarpaniya). An Action Plan on reintroduction of this species into Russia is being developed under aegis of the Ministry for Natural Resources of the Russian Federation.

A former military site of 16 000 ha of natural steppe pastures and semi-natural grasslands situated on old fallow lands, has been rented. In 2003-2004 fencing and infrastructure (building, enclosures, wind generator etc.) are being put into place. The Laboratory for Microevolution of Hoofed Animals is selecting a group of horses from zoos in Moscow, St.Petersburg, Prague and Holland. In the summer of 2004, if all goes well, the horses will begin settling into the site.

In neighbouring regions, local breeds of domestic horse (Kalmyk and Bashkir in Russia, Mugalzharskaya and Kushumskaya in the neighbouring regions of Kazakhstan) are maintained, among which Bashkir and Mugalzharskaya (representing the Kazakh group of the Dzhabe breed) are especially close to a wild type. The genetic potential of Przheval'sky horse is expected to be used to improve these breeds.

Significant areas of steppe ecosystems, including populations of endangered and valuable (decorative, medicinal) plants, endangered and protected animals (Great Bustard, Little Bustard, Red Duck, Demoiselle Crane), will be maintained and restored along with the Przheval'sky horse in Orenburg Tarpaniya. Within the limits of the site, hunting will not be allowed, but the site will be a place of reproduction and concentration of game species - partridge, quail, grey hare, fox - from where they will settle on neighbouring agricultural lands and be available for hunting. A visitor centre, excursions and seminars will complete the project.

Contact: Sergey Levykin, Fund "Revival of Orenburg Steppes", 11 Pioneer str., Orenburg, 460000, Russia. [steppe@mail.esoo.ru](mailto:steppe@mail.esoo.ru)  
and Boris Petrishev, Severtsev Institute of Ecological and Evolutionary Problem of the Russian Academy of Sciences, 33 Lenin Avenue, Moscow, 117312, Russia

### *C. Technologies and farming practices*

1. Ensure that the transfer, handling and use of living modified organisms resulting from modern biotechnology conforms to the provisions of the Cartagena Protocol on Biosafety to the Convention on Biological Diversity (Montreal, 2000) and relevant European Union and national legislation;

No cases found.

2. Encourage the adoption of technologies which reduce the risks to biological diversity, including the use of an appropriate mix of modern as well as traditional agricultural techniques; See boxes below under paragraph 3.

3. Stimulate traditional, extensive and mixed farming practices in order to contribute to the conservation and sustainable use of biodiversity.

#### **Box 32 Farm machinery innovation**

Development of machinery specifically for conservation management or the modification of commercial equipment already available provides technical solutions. Very low ground pressure tractors (primarily using various forms of caterpillar tracks) have enabled farmers to manage wet ground without compaction and rutting. Such machinery has evolved from an innovative and

imaginative partnership between conservationists with a practical grasp of conservation management requirements and creative engineers.

Source: Agriculture and Nature Management - From Practice to Policy, IUCN and Eurosite  
Contact: Eurosite <http://www.eurosite-nature.org/>

### **Box 33 Technologies of the future**

"Robots make unlikely green warriors, but they could soon be doing their bit for the environment. Trials of a Danish robot that maps the position of weeds growing among crops suggest that herbicide use could be slashed by 70% if farmers used it to adopt more selective spraying techniques. The robot drives across fields scanning the ground for any weeds and noting their positions. A later version will be able to kill the weeds too by applying a few drops of herbicide, says developer Svend Christensen from the Danish Institute of Agricultural Sciences in Tjele. But the longer-term goal is to avoid herbicides altogether by having the robot pluck the weeds out of the ground rather than poisoning them. ... The Danish weed killing robot - a four-wheeled, battery-powered cart with high ground clearance - works by scanning the ground with a camera and recognising the shape of particular plants. It does this by harnessing software techniques from face-recognition research."

Duncan Graham-Rowe. New Scientist Magazine (June 7, 2003; page 16).  
[http://www.agrsci.dk/index\\_uk.shtml](http://www.agrsci.dk/index_uk.shtml)

### **Box 34 Traditional mountain farming with research into adapted varieties**

Gran Alpin is a co-operative for ecologically sensitive farming in the mountains of the Grisons, Switzerland. It was created in 1987. Besides the ecological approach, the co-operative aims to produce high quality products for the regional population and restaurants. During the 1990s, it gained the official Swiss label for biological production.

Now, 50 exploitations are involved in the project and produce 100 to 150 tons of cereals per year. The co-operative takes the production of its members and is responsible for its processing and sale. Gran Alpin also supports projects aiming to find cereals which are especially well adapted to mountains and terraced fields. In the mountains, cereals grow later than in the lowland and thus benefit from more intensive sun, which again increases its quality.

Today, mountain agriculture in Switzerland consists chiefly of livestock breeding. The cultivation of cereals produces some surplus income for the farmers, increases their self-sufficiency, reduces dependence on only one activity (livestock breeding) and allows for a better utilisation of the dung.

Lastly, the landscape of the Grisons region is the result of this form of traditional agriculture. With its project, the co-operative pays an important tribute to the preservation of that traditional landscape.

A further advantage of the project is that processing of the cereals takes place within the region. there are therefore no long transport routes and sales are direct without a long chain of intermediaries.

The lesson of this project is the fact that it is institutionalised co-operation (in a co-operative) that has ensured success: individual farmers would have had great difficulty acting alone.

Contact: Gran Alpin <http://www.granalpin.ch/>

### **Box 35 Pastoral practices in the Crau, France**

This is a complex grazing system of about 100 000 Merino d'Arles sheep. At present the system depends on three main types of pasture.

In autumn (lambing) and winter, the sheep graze on the rich hay-fields of the Crau. In March the sheep are moved to the Coussoul (stony, semi-arid steppe). Because this is now limited, some herds spend the spring on fallows. In some cases dry crops of cereal and/or legumes are also grazed in the spring for complementary forage. In mid-June the herds undertake a 200-450 km transhumance (by truck) to the mountain pastures in the Alps where they stay until October.

The Crau shelters breeding populations of Pin-tailed Sand Grouse and Lesser Kestrel as well as Little Bustards and Calandra larks. The arthropod community is very diverse and the plant community as a whole is unique. In 1990, the remaining steppe patches were declared a Special Protection Area (SPA) under EU Regulation 79/409 which led to the creation of a Natural Reserve over 75 km<sup>2</sup> of steppe in 2001. To help maintain extensive pastoralism, agri-environment measures were introduced and a LIFE project implemented accompanied by research initiatives. Co-operation between the Espaces Naturels de Provence, the Chambre d'Agriculture and local farmers' associations has been the backbone of the measures so far.

There are around 10 different European, national and local measures in place which help support what remains of the system to which will be added Natura 2000 arrangements in the near future. The main policy gaps concern the lack of instruments to support transhumance itself and the need to make links between activities in the whole region of the Crau including intensive activities, the nature reserve and the pastoral system.

Source: Pastoral Project QLRT-2000-000559, EU Research Programme. Workshop 4 La Crau, France.

Contacts: Axel Wolff, Espaces Naturels de Provence (CEEP) [axelw@bdway.com](mailto:axelw@bdway.com)

Patrick Fabre, Chambre d'Agriculture des Bouches du Rhône [PaFABRE@wanadoo.fr](mailto:PaFABRE@wanadoo.fr)

### **Box 36 Extensive pastures and biodiversity in Switzerland**

Between 1996 and 1998, a project was carried out by Agrofutura on behalf of the Swiss government to determine biodiversity in long-term extensive pastures used by cattle and others used by sheep compared to long term mown grassland.

Considering plants, cattle pastures were the species richest, followed by mown grassland, sheep pastures being the species poorest. Red-List species are better represented in mown grassland than in either pastures. Pastures are richer in grass species than mown grassland.

Considering animals (only some groups of invertebrates taken into account) cattle pastures are the species richest again, this for all groups of invertebrates considered. This is also true for Red-List species. Sheep pastures are similar to cattle pastures.

The conclusions of the study for grassland management:

- long-term extensive pastures are species richer than when they have only been used for a short period;
- the combination of pasture and mown grassland on the same land is especially damaging for biodiversity because the characteristic structures of pastures never manage to develop;
- pastures which were used early in the season had a very high species richness;
- the ecological value of sheep pastures increased with their dryness and nutrient-poverty.

Source: <http://www.agrofutura.ch/weideprojekt.htm>

### **Box 37 Traditional animal husbandry on the Irendik protected territory, Bashkortostan**

One of the largest surviving areas of only lightly disturbed steppe landscape (mixed herbal-turf-grassy steppe of more than 28,000 ha) is in the Irendik range, east of the Southern Urals (the Republic of Bashkortostan). In 2003 the Department of State Protection and Use of Immovable Objects of Cultural Heritage of the Ministry for Culture and National Policy of the Republic of Bashkortostan, created the Irendik Historical Archaeological and Landscape Museum Reserve (a form of protected area) in the Buymaksky district of Bashkortostan. The project was designed by the All-Russian Institute of Natural and Cultural Heritage (Moscow).

Steppe grasslands have remained in Irendik mainly because the territory was used for grazing in an extensive animal husbandry system. This type of use has lasted for not less than 200 years. Although, after 1950, attempts were made to replace local breeds of cattle by "modern" ones adapted to more intensive technologies, local breeds were conserved especially horses. In traditional Bashkir horse-breeding, the horses graze the pastures all year round in spite of severe winter weather. Irendik was also used for extensive cattle breeding. Local breeds of large-horned cattle are kept in enclosures far from villages, grazing on natural pastures for most of the year (from May to October). The territory used in such a way has kept a rich biodiversity; for example, the population of the Imperial Eagle can survive through hunting souslik which favour grazing pastures; the baloban, common steppe kestrel and others nest in the region. At the same time the traditional use did not destroy numerous historical and archaeological monuments.

One of the tasks of the museum-reserve is to support and stimulate traditional animal husbandry (horse breeding) to ensure its continuation. For this purpose the Programme on Conservation and Development of Bashkir breeds of cattle in the east of the Republic of Bashkortostan (on the basis of the museum-reserve) is planned, as well as a Scheme for the Organisation of Pasturable

Cattle Breeding within the limits of the museum-reserve (these plans have been submitted for state financing for the coming years).

Support to local kumiss production (a drink made from mare's milk, the basic product of local horse breeding) is included. The presence of herds of half-wild horses in the vicinity of Mansurovo farm, is regarded as a feature of a planned tourist route in the museum-reserve, and the use of local horses for riding tourism is being considered which may well stimulate an increase in revenue from the sale of kumiss.

Contact: Dr. Nikita S. Saveliev, Department of State Protection and Uses of Immovable Objects of Cultural Heritage of the Ministry for Culture and National Policy of the Republic of Bashkortostan, Ufa, 47 Chernishevsky str., 450052 Ufa - 52, Bashkortostan, Russia. E-mail [saveliev@ufacom.ru](mailto:saveliev@ufacom.ru)

### **Box 38 Conserving traditional sylvo pastoral systems in Germany**

Hutewald or Hudewald is a type of wooded pasture in Germany. It is normally a park-like forest with widely spaced trees and therefore much light where grassland forms. The trees usually have wide crowns (beech or oak in the lowland, fir or larch in the mountains). In the area of the Solling-Vogler nature park Hutewälder used to be very common as wooded pastures used to be in Europe generally. Now only some relicts are left.

In summer 2000 the Solling project was started in a forest-park-complex of 170 ha. The aim is to maintain and restore a "Hutewald" with its rare animal and plant species. The Agency for Nature Protection (Bundesamt für Naturschutz) is financing the project.

To restore the habitat old breeds of herbivores have been chosen: The "Heck cattle" which is very similar to an aurochs, but smaller, and the Exmoor pony. These herbivores are ideal for the region because they can survive in a rough climate. They both also eat ligneous food. These two species were also chosen because they are relatively close to wild herbivores.

Human interference is very small in the Solling; populations of the animals are meant to grow and stabilise by themselves and also to build the characteristic habitat type of a wooded pasture.

The project has also got an educational value: visitors are welcome, and it is hoped that they will see how this ecosystem works. Explanations are provided throughout the area. Source: <http://www.hx.uni-paderborn.de/fachbereiche/fb9/fachgebiete/hutewaldprojekt/allgemeines/projektuebersicht.htm>

### **Box 39 Conservation of Streuobst, a traditional agro-forestry system in temperate Europe**

In temperate Europe, fruit trees were traditionally grown on agricultural land undersown with crops or managed grassland (Streuobst).

The historical evolution of this agro-forestry system has been driven by the interaction of technical progress, market development and intervention by public authorities. Streuobst reached

its peak in the 1930s, but has since been in continuous decline due to the development of intensively managed dwarf-tree orchards. However, even today, it still occupies approximately one million ha in 11 European countries and has a strong impact on the European fruit market.

The profitability of Streuobst is relatively poor due to its low labour productivity, but it has advantageous ecological and socio-cultural features, particularly in terms of biological diversity and landscape aesthetics. Accordingly, it finds strong acceptance among the general public, such that subsidised eradication programs have been abandoned and, in a number of countries, Streuobst is now supported by non-governmental organisations and by state conservation policies.

Source: <http://www.fao.org/scripts/ag99/>

Contact: <http://www.ufz.de>

#### ***D. Relationship with the Convention on Biological Diversity***

1. Apply the "sustainable use" objective of the CBD and in wetlands the "wise use" principle of the Ramsar Convention as a rationale for the application of agri-environmental programmes in areas not covered by designations such as Natura 2000, the Emerald Network and national systems, and ensure the application of these principles in all agri-environmental programmes with biodiversity objectives.

#### **Box 40 Agricultural management of a Ramsar site**

Lake Engure Nature Park has been protected since 1957 as a bird reserve and since 1998 as a nature park; it was included on the Ramsar site list in 1995.

Over-expansion of reedbeds, the absence of meadows management and a failure to implement the existing management plan (due to a lack of public involvement and awareness) are the main threats to the biological diversity.

The first step in improving the situation was to obtain the co-operation of the local communities. This was done by creating livelihood opportunities: for example, breeding meat cattle were loaned to local people who were allowed to keep the offspring thus earning income. At the same time, the cattle grazed the meadows and thus helped to restore them.

Other actions were also taken. One was to cut the invading reeds, another was to protect the forest from logging. Another plan is to bring nature friendly tourism to the area, providing visitors with information about the region and its nature value as well as how to build a sustainable economy within it.

This project serves as a pilot project for similar problems in other regions of Latvia.

Source: Inga Racinska (2003) Implementation of a Management Plan for the Lake Engure Nature Park. *Internat. J. of Ecology and Environmental Sciences* 29: 109-111.

E-mail: [inga@lanet.lv](mailto:inga@lanet.lv).

#### **Box 41 Environmental measures for Ramsar Sites in Estonia**

Environmental measures have recently been developed for 216 000 ha of wetlands – all Ramsar sites – in Estonia. These sites of high value semi-natural habitats were all threatened by land abandonment, the loss of traditional practices and adverse agricultural activities. Two environmental measures were applied:

- agri-environmental support;
- semi-natural habitat management support.
- 

Both measures started in 2000 and it is already clear that they have had beneficial effects.

The agri-environmental support is part of the National Agri-Environment Programme (AEP) regulated by the Ministry of Agriculture. The semi-natural habitat management support is provided by the Ministry of Environment. This division of responsibilities initially resulted in conflicts of interest which have been solved by the Ministry of Agriculture taking over both schemes.

To obtain AEP support, farmers must meet whole farm agri-environmental requirements, including an agri-environment plan prepared in conjunction with approved advisors. The AEP is implemented in co-operation with local governments and includes training and demonstration projects.

The Semi-Natural Habitat Management Support enables farmers to obtain financial compensation for sustainable practice and helps to avoid the extinction of semi-natural biotic communities. At the moment, it is only applied in existing protected areas but it should be applicable in Natura 2000 sites later. Payments are made for the following activities:

- management of wooded, floodplain, swamp and coastal meadows or pastures;
- restoration of semi-natural habitats;
- construction of fences.
- 

Source: Palm, P. (2003) Current and future environmental measures for Ramsar Sites in Estonia. *International J. of Ecol. and Env. Sciences* 29:93-96

2. Contribute to the implementation of the programme of work on agricultural biological diversity of the CBD and other biodiversity-related treaties and programmes, giving due attention to all dimensions of agricultural biodiversity including genetic resources, life-support functions (e.g. pollinators, soil biodiversity) and wildlife and habitats, and raise the profile and pay more attention to the "wildlife and habitats" component in the CBD context.

No practical cases found: policy area.

3. Make greater efforts to include the relationship between agriculture and biodiversity in National Biodiversity Strategies and Action Plans where this has not been done, and consider

how to deliver improved reporting on all components of agro-biodiversity in National Reports under the Convention on Biological Diversity.

**Box 42 Assessing CBD implementation in the agricultural sector**

The UNEP Regional Office has assessed implementation of the Convention on Biological Diversity in six countries: Albania, Czech Republic, Kyrgyzstan, Lithuania, Moldova and Romania of CEE (also the UK in the EU). The project is being co-ordinated by the UNEP World Conservation Monitoring Centre.

The primary aims of the project are:

- to identify progress in implementing the convention;
- to assess the extent to which the National Biodiversity Strategies and Action Plans address the full range of obligations;
- to identify limiting factors and what additional support is required.

Space does not allow reproduction of the full agriculture assessment of a report, but here is the summary of relevant points from the Czech assessment. The full text and further details are available on the site noted below.

CBD Implementation Assessment, National Assessment of Implementation of the Convention on Biological Diversity, Czech Republic, Version 1.1 – 16 August 2000.

Extracts from summary

Much of the information included in the assessment came from the First Report of the Czech Republic on the Convention on Biological Diversity. This was prepared at the same time as the National Biodiversity Conservation Strategy and Action Plan and shows a methodical step by step approach to the Convention. The cross-sectoral targeting of measures and the interdisciplinary composition of the Czech National Committee on the CBD demonstrate a strong intention to address the problems that arose from the strict sectoral separation that existed during the Communist period.

**Agricultural Biological Diversity** Agriculture has had a significant impact on the environment of the Czech Republic, both in terms of the large area of land involved and the environmentally damaging intensive farming methods used. At present organic farming is increasing its share of the sector, as farmers can no longer afford agrochemicals, although at the same time other problems, such as the abandonment of farms and development on agricultural land are becoming significant.

Source: <http://www.unep-wcmc.org/index.html?http://www.unep-wcmc.org/cis/~main>

**Box 43 National Biodiversity Conservation Strategy and Action Plan of the Russian Federation**

Russia's National Biodiversity Conservation Strategy was prepared with the support of the GEF project "Biodiversity Conservation in the Russian Federation" and was accepted by the National Forum on Nature Conservation in Russia (Moscow, June 2001).

The Strategy envisions a preventive rather than reactive approach. It calls for regional differentiation of strategies, development of new categories of territorial ecosystem protection, and integration of ecological networks into the region's socio-economic context.

Approaches are tailored to different degrees of transformation of nature in various regions. In agricultural regions with high levels of infrastructure development, ecosystem disturbance and fragmentation, the Strategy states that the first necessity is to secure and restore interconnections between protected areas ("ecological corridors"). Priority should be given to a combination of strict protection measures and a range of partial restrictions, as well as to special management measures for restoration of natural ecosystems.

Both Strategy and Action Plan place particular emphasis on measures concerning biodiversity conservation in agricultural lands, developed landscapes and also the diversity of varieties and breeds of domestic animals and plants.

In particular, the Action Plan includes as priority:

- conservation of rare breeds of animals and varieties of plants;
- conservation and restoration of natural ecosystems including: restoration of steppe and forest steppe sites, arid and semi-arid ecosystems (improvement of vegetation cover and reintroduction of species etc.); measures on sustainable use of steppe and forest-steppe, arid and semi-arid ecosystems (reduction of ploughing, regulation of cattle grazing, organisation of shelterbelts and ecological corridors etc.); measures on preventive maintenance of natural ecosystems destroyed as a result of human activity (e.g. reduction of pesticides and herbicides use, application of biological methods of pest control, erosion prevention etc.);
- conservation of mountain ecosystems, including: restoration of disturbed mountain ecosystems; sustainable forest and land use in mountain ecosystems and organisation of recreation and traditional land use;
- sustainable use of artificial ecosystems – agri-ecosystems;
- prevention of spread and acclimatisation of alien and invasive species and genetically modified organisms including the isolation of farms using alien and genetically modified organisms from natural ecosystems and open agro-ecosystems.
- 

Russia's National Biodiversity Conservation Strategy. Ì., 2001. 76 pp.

The National Action Plan on Biodiversity Conservation in Russia. Priority Activities. M., 2001. 24 pp.

Contact: Prof. Arkady A. Tishkov, E-mail [tishkov@rcmc.ru](mailto:tishkov@rcmc.ru) and Dr. Alexander S. Martynov, E-mail [martynov@rcmc.ru](mailto:martynov@rcmc.ru)

Strategy Component of the GEF Project "Biodiversity Conservation in the Russian Federation", 105-8/1, Kedrov str., 117874, Moscow, Russia. Tel./Fax +7 (095) 125 57 73; <http://www.biodat.ru>

4. Contribute to the implementation of the Programme of work on agricultural biological diversity of the CBD through the European Community Biodiversity Action Plan for Agriculture and national biodiversity strategies and action plans.

No practical cases: policy area.

## II. The integration of biodiversity in agricultural, rural and other policies

1. Promote general principles of Good Agricultural Practice, which clearly take into account the conservation and sustainable use of biological and landscape diversity and which make full use of the ecosystem goods and services, including the life support functions of biodiversity;

### Box 44 Good Farming Practice (GFP) from different regions

**Bulgaria:** A working group of stakeholders has been set up to develop GFP codes. They are based on environmental legislation, verifiable standards and additional recommended but voluntary codes for the protection of water. The focus of Bulgarian GFP is mainly on water pollution, soil fertility and designated conservation sites. Some examples of verifiable standards include the prohibition of storing or disposing of pesticides within 20 metres of a river bank, stream, lake, water reservoir or seashore; and, the prohibition of any construction of cattle sheds or manure storage within 20 metres of a river bank, stream, lake, water reservoir or seashore. The Ministry of Agriculture is responsible for controlling most elements of GFP, although the Ministry of Health controls sanitary issues. Additional requests from the European Commission have resulted in the inclusion of recommended stocking densities and levels of application of fertilisers specified by types and crop in the GFP codes and a table setting out the responsible controlling institution and verification method for each GFP standard.

**Poland:** The relevant Polish legislation has been gathered together and acts as a statutory baseline for GFP. Details of some elements of GFP refer, for example, to the agricultural use of municipal sewage sludge and natural fertilisers and soil protection. Polish GFP covers a total of 30 requirements and obligations. Manure management is expected to be the most difficult issue in terms of implementation. It is estimated that only five per cent of all Polish farmers currently comply with GFP. There is a need for suitable reference materials to be made available to Polish farmers.

**Estonia.** Estonian GFP has been developed in co-operation with the working group on agri-environment support. Several GFP codes (e.g. for water protection, pesticides and manure management), include record-keeping as a key theme. Animal welfare and landscape conservation are included. Compliance with GFP, except for the Water Code, is monitored by various supervisory authorities according to their competence, as specified in Estonian law. As there is relatively strict environmental legislation in Estonia, the opportunities for paying farmers agri-environment incentives for going beyond mandatory levels were restricted.

Source: extracted and summarised from Good Farming Practice in Central and Eastern European Countries, Seminar Report, April 2003 Edited by Harriet Bennett, IEEP <http://www.ieep.org.uk/PDFfiles/Note%20of%20the%20meeting%20final.pdf>  
See also country reports from EU member states at same site

### Box 45 Good agricultural practices in Switzerland

Awareness of the environment has generally increased during the last twenty years, and has not failed to have an effect on agriculture. Farmers face new demands requiring a more ecological

approach. Consumers ask for cheap food but at the same time want products to be produced in an ecological and animal-friendly manner. Furthermore, the taxpayer wants state money allocated to agriculture to be reserved to those farmers who produce in as environmentally-friendly a way as possible. However, ecological production is not necessarily economically competitive. Farmers try to find a balance between economic viability and ecology.

Ecology is an important component of the schooling of farmers. The general rule is to produce with less dependence upon chemical fertilisers, pesticides or concentrated feed thus reverting to a more extensive agriculture. Switzerland was one of the pioneers in the field of environmentally-friendly production methods in agriculture and remains a leading example for other countries.

This agricultural policy has led to two main new forms of agriculture in Switzerland:

#### 1. Biological or organic farming

Biological farming strives for closed nutrient cycles and gentle techniques in controlling pests, fungi and weeds by exerting as little pressure as possible on the natural resources such as soil, water and air. The use of organic fertiliser, compost, green manuring and a varied crop rotation improves soil fertility. The type and use of inputs is precisely fixed, animals are kept in adequate housing. Biological products are produced under natural conditions and are processed ecologically.

Farmers come together in the Association of Swiss Organisations for Biological Farming. Only those who fulfil the strict requirements are allowed to market their products using the label for biological production, the bud. This guarantees that the consumer only pays a higher price when he/she really gets a biologically produced product. In 1997, Switzerland had about 4,300 biologically producing farms.

#### 2. Integrated Production (IP) in Switzerland

Integrated Production steers a middle course between conventional agriculture and biological farming whereby the use of fertilisers, pesticides and concentrated feed is reduced to the absolute minimum. In accordance with a sophisticated fertilising scheme, the crops are only given the amount of nutrients indispensable for healthy growth.

The farmer regularly monitors his crops and no longer act preventively. Sprays are only used if damage caused by pests and diseases gets out of hand. Modern pesticides can be used in small amounts, are effective, and can be broken down rapidly. Integrated plant production requires extra time, comprehensive knowledge, keen powers of observation, a special feeling and dedication. Since the amendment of the Agricultural Act in 1999, Integrated Production has become the standard agricultural production method in Switzerland. Contributions and direct payments are only paid if the farmer complies with the rules and regulations of Integrated Production. More than three quarters of the agricultural area is cultivated according to the standards of Integrated Production.

### **Box 46 Conservation agriculture**

Conservation agriculture refers to soil management practices which minimise the disruption of the soil's structure, composition and natural biodiversity thereby also minimising erosion and degradation, and water contamination. Direct sowing and minimum cultivation systems are examples.

Conservation agriculture has an increasingly prominent role to play in world agriculture as farms seek to develop Integrated Crop Management (ICM) systems that benefit the environment and enhance farm profitability. Direct sowing and minimum cultivation systems are already in widespread use in North and South America and other parts of the world, but not yet in Europe.

The European Conservation Agriculture Federation (ECAAF) brings together eleven national associations which promote among Europe's farmers the soil management "best practice" aspects of conservation agriculture. With member associations in Belgium, Denmark, France, Germany, Greece, Italy, Portugal, Slovakia, Spain, Switzerland and the United Kingdom, ECAAF represents the interests of the majority of the European Union's cropped farmland and can help Europe to catch up with other regions.

At national level, ECAAF's member organisations aim to:

- improve technology transfer to farms;
- promote agricultural and environmental policies supportive of sustainable soil management;
- improve information exchange in the research, policy and practitioner communities; and
- research, develop, evaluate and promote soil management systems to improve crop production and protection of the environment.

To reinforce the aims of its members, ECAAF operates as a point of contact with European policy makers, as a clearinghouse at European level to collect and spread information to practitioners, as a focus for encouraging investigation, development and teaching of conservation agriculture, and as collaborator with other international and national organisations with related objectives.

Source: <http://www.ecaf.org/English/englis.htm>

2. Assist in ensuring the application of strategic environmental assessment and, where required, environmental impact assessment to agriculture and to rural development measures as a whole.

The EU Directive 2001/42/EC is only recently being transposed into national legislation (final date June 2004) and there is very little experience of its application to agriculture and rural development measures.

#### **Box 47 Strategic Environmental Assessment (SEA)**

The UK Policy Commission on the Future of Farming and Food (FFC) was established with a remit which includes advising the Government on the creation of a sustainable farming and food sector.

With consultants Levett-Therivel, the Commission developed an appraisal tool based around seven objectives for sustainable agriculture. It appraised the sustainability impacts of 16 submissions to the FFC.

The purpose of the sustainability appraisal was to highlight the links between the different dimensions of sustainable development with regard to food and farming, and to show the extent to which the proposed policies meet the Commission's objectives for sustainable agriculture.

Source: Sustainability Appraisal of Policies for Farming and Food: A report for the Policy Commission on the Future of Farming and Food from the Sustainable Development Commission, December 2001, UK

<http://www.sd-commission.gov.uk/pubs>

Levett-Therivel [riki@levett-therivel.fsworld.co.uk](mailto:riki@levett-therivel.fsworld.co.uk)

Ownership Transformations in Agriculture vs. Environmental Protection. (Zbigniew M. Karaczun, Radosław Grzeszkiewicz), 1995: Examines environmental impacts of privatisation of state farms.

Source: Institute for Sustainable Development, Poland

<http://www.ine-isd.org.pl/en/publi.htm>

There are a few examples of SEA applied to land-use which include agriculture and biodiversity (e.g. Slovak Republic, SEA of Land-Use Plan, Bratislava. Ireland, Eco-Audit (Pilot)).

[http://www.europa.eu.int/comm/environment/eia/sea-studies-and-reports/sea\\_integration\\_case.pdf](http://www.europa.eu.int/comm/environment/eia/sea-studies-and-reports/sea_integration_case.pdf)

#### **Box 48 Developing an SEA methodology for Polish agriculture under SAPARD**

Even though SAPARD is being phased out in those Accession countries becoming full members of the EU in May 2004, it was hoped that the methodology would be useful over a longer time span and for other programmes.

Although pollution was selected as the test case, biodiversity was a key element of the methodology. In fact, the ECONET network was used as a basis for assessing the impact on protected areas and other areas of high natural value. At the national level the assumption was that the force of a programme's impact is directly proportional to three components: volume of livestock production in the country, environmental sensitivity, and presence of areas of high natural value.

Source: "Programme for Reduction of Pollution Resulting from Agriculture in SAPARD Operational Programme for Poland. 2000

<http://www.iucn-ce.org.pl/publications/>

3. Integrate biodiversity concerns into appropriate systems of certification of agricultural practices and labelling of products, as appropriate, paying particular attention to cost-effectiveness, transparency and the quality of environmental information provided, national as

well as regional (regional labels) environmental characteristics, institutional capacity and the conduct of a participatory design process at all levels.

No cases of biodiversity integration into labelling found.

4. Ensure that there is a balanced dialogue with experts on biological diversity (and between all sectors and stakeholders) regarding policy measures for agricultural activities employed to address the effects of agriculture on climate change and vice versa.

**Box 49 Gathering stakeholders together for climate change measures: England**

A Rural Climate Change panel has been established within the Rural Affairs Forum for England sponsored by the Department for Environment, Food and Rural Affairs (DEFRA). The Panel is relatively new and is just getting into its stride but its membership reflects the call in this action point for a balanced dialogue with biodiversity experts and all sectors and stakeholders.

Amongst other items, the Panel will examine, propose and promote practical ways to reduce and offset greenhouse gas emissions, including the uptake of research findings and other information. It will also seek to inform and influence relevant policy reviews, including those mainstream policies which affect rural areas.

Members of the panel include:

The Bishopric of Ely  
 Forestry & Timber Association  
 HGCA – cereals and oilseeds marketing and production  
 Institute of Grassland & Environmental Research  
 Meat & Livestock Commission  
 ODPM- Office of Deputy Prime Minister  
 Association of National Parks Authorities  
 Centre for Ecology & Hydrology (Co-chairman), National Environment Research Council  
 Country Landowners & Business Association  
 Countryside Agency  
 Cranfield University  
 English Nature  
 Environment Agency  
 Forestry Commission  
 Forum for The Future  
 National Trust  
 National Farmers' Union  
 Royal Society for the Protection of Birds  
 UK Climate Impacts Programme  
 University of East Anglia  
 Various regional governmental offices  
 Woodland Trust

Contact: [www.defra.gov.uk/environment/climatechange/rccp/index.htm](http://www.defra.gov.uk/environment/climatechange/rccp/index.htm)

5. Assess selection of sites with regard to biodiversity impact and support the production of guidelines for maintaining and enhancing biodiversity whenever carbon sequestration on agricultural land (afforestation) is being undertaken.

**Box 50 Afforestation of degraded agricultural land (Carbon Fund), Romania**

Romania contains 3 million ha of degraded agricultural land. The prospect of harnessing carbon finance from the Prototype Carbon Fund (PCF) under the Afforestation of Degraded Agricultural Land Project, or other sources, now gives an incentive for the government and the National Forest Administration (NFA) to boost afforestation. The NFA plans to test the flexible mechanisms of the Protocol by afforesting around 7 000 ha of State-owned degraded agricultural lowlands in Southern Romania.

The Project has one main objective, namely (1) the reduction of greenhouse gas concentrations through carbon sequestration in planted trees and in soils. In the process of working towards this objective, the Project will also achieve two subsidiary objectives: (2) stabilization of degraded sandy agricultural lands through the planting of *Robinia* sp. and, conditions permitting, *Quercus* sp. and a number of minor species; and (3) ecological reconstruction of degraded lands in the lower Danube floodplain through planting of native broadleaf species, mostly *Populus alba*, *Populus nigra* and *Salix* sp.

The pre-feasibility study requires extensive approvals. It will be critical to ensure that the feasibility studies incorporate site-specific screening to verify that no plot to be afforested is part of a protected or endangered habitat, or represents an area of local cultural significance. All the land to be afforested in the Project is state-owned.

In the Danube island of Insula Mica a Brailei (declared a Ramsar site), the poplar plantations form part of a larger project to protect bird populations in the lower Danube River corridor (as part of an ongoing LIFE-NATURA project funded by the European Union).

Native poplars (*Populus alba* and *Populus nigra*) are the main species of the natural vegetation of that particular floodplain island (together with some *Salix*, which normally regenerates naturally after the flood season). Accompanying species like *Salix* sp., *Alnus* sp. or *Quercus* sp. will be introduced in time (either naturally or artificially, to be spelled out during baseline study) to achieve a natural forest composition. These stands will not be subject to harvesting and will be managed on a purely ecological basis with minimum intervention. No road construction (new or upgraded) is planned; use will be made of existing roads and tracks for access. In addition, about 200 ha of invasive and exotic *Amorpha fruticosa* will be mechanically destroyed as part of site preparation activities.

The biodiversity impact/benefits of the Project are further examined in the baseline study. WWF has made some comments on the ecological aspects.

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/Document library/project specific. [www.prototypecarbonfund.org](http://www.prototypecarbonfund.org)

6. Support the conservation of farmland biological diversity by phasing-out environmentally harmful subsidies and moving them towards biodiversity-supportive measures.

#### **Box 51 Changing disincentives for biodiversity conservation on agricultural land in Russia**

In 2000-2003 within the framework of the project "Steppe Programme: Steppe Conservation for Sustainable Agriculture» (the Revival of the Orenburg Steppes Fund, Orenburg, Russia; SibEcoCenter, Novosibirsk, Russia; The Laboratory for Natural Ecosystems, Togliatti, Russia, supported by the MacArthur Foundation) the Legal Component was developed. The main target is to contribute to the changes in the system of law, including tax law, regulating land use to make it more favourable for conservation and restoration of biodiversity on agricultural lands (especially in natural ecosystems).

The land and agrarian legislation of Russia does not take into account the unique biodiversity significantly connected with agricultural lands, neither does it consider conservation as a priority or promote this issue. On the contrary, current legislation stimulates unlimited economic development of the land. For example, tax privileges for new agricultural land development are stipulated whereas non-use of land can incur penalties and is a lawful reason for withdrawal of land for the benefit of the state. Among all the variants of agricultural use, the legislation gives priority to arable lands. At a local level the conversion from arable into pasture and haymaking is frequently forbidden. The legally approved method for the cost estimation of agricultural land takes into account their industrial potential only.

The project referred to here aims to overturn regulations which discriminate against the ecological functions of agricultural lands.

Within the framework of the project the analysis and monitoring of land, nature conservation and agrarian legislation in the sphere of legal regulation of agricultural lands is being carried out. In particular, a review of the situation "Legal Regulation of Natural Ecosystems on Agricultural Lands" was prepared and published in 2002-2003. The draft law «On the Formation of Sustainable Agricultural Landscapes» (previously planned under the name "On Protection of Natural Ecosystems on Agricultural Lands") has been prepared. Some formulations prepared within the framework of the project, were included in the Land Code of the Russian Federation (accepted in 2001).

A methodology has been developed, and will shortly be published, for the valuation of biodiversity in agrarian landscapes where the landowner becomes economically interested both in intensification of agriculture and biodiversity conservation. The methodology has been applied at Boevgorsky farm in Orenburg Oblast.

Contact: Andrew Elizarov, Laboratory for Natural Ecosystems of the Volga R. Basin Institute, 445003 Tolyatti, Komzin str. 10. Tel. +7-(8482)-489504 [hobdo@infopac.ru](mailto:hobdo@infopac.ru)

### III. The multiple functions of agriculture, especially with a view to biodiversity

See other sections for concrete examples: especially Section I. Both these points are essentially policy issues.

1. Work towards a clearer understanding at a pan-European level of the multiple functions of agriculture while promoting policy actions and instruments that can contribute to the conservation, sustainable use and enhancement of biological and landscape diversity in relation to this concept;
2. Continue commitment to the objective of sustainable development within the context of international agreements on liberalising world trade taking into account, in particular, the conservation of biological diversity within Non-Trade Concerns in the agricultural negotiations in a manner which is targeted and transparent and considering the needs of developing countries and countries with economies in transition.

### IV. Cross-sectoral and international co-operation

1. Strengthen institutions, frameworks and methodologies for working cross-sectorally at international, national and local level and between global and regional multilateral environmental and agricultural agreements, in order to promote increased mutual supportiveness between them in achieving sustainable development and adapting them as appropriate to address more directly the interface between biological diversity and agriculture.
2. Intensify international co-operation in the pan-European region to share experiences in training and education and in the use of legal instruments, in order to support national administrations in the development and implementation of policies for the conservation and sustainable use of biological diversity on farmland.

#### Box 52 Sharing agricultural information

InfoAgrar is the agricultural information and documentation service of the Swiss Agency for Development and Co-operation (SDC). Its focus is on information related to agriculture in Africa, Latin and Central America, Asia, but also Eastern Europe. The target public of InfoAgrar's services are *inter alia* partner organisations of the SDC, both in Switzerland and abroad, but also other public sector institutions, NGOs, the broader public and private businesses that are involved in international agricultural development.

Source: <http://www.infoagrar.ch/information.htm>

Contact: InfoAgrar, c/o Swiss College of Agriculture, Länggasse 85, CH-3052 Zollikofen, Switzerland.

Tel. +41 31 910 21 90/91 Fax +41 31 910 21 54 E-mail [info@infoagrar.ch](mailto:info@infoagrar.ch).

3. Provide urgent support to countries with economies in transition, in particular to the Newly Independent States to work on assessment of the status of biodiversity in agricultural areas, identification of problems regarding conservation and sustainable use of biodiversity and the development of policies to integrate biodiversity concerns into agricultural policies.

**Box 53 Conservation of the Wetlands-Steppe Complex in the Daurian Steppe Ecoregion: a GEF/UNDP project**

The Russian Ministry of Natural Resources approved the start of the Medium-Sized GEF Project "Conservation of the Wetlands-Steppe Complex in the Daurian Steppe Ecoregion" of the WWF Russian Program Office and UNDP. The project is expected to last over four years from 2004 and follows on from a three-year development phase. The total project cost is about US\$ 2 800 000.

The area is of international importance since it represents one of the most intact remaining examples of a steppe and wetland ecosystem in the world. Relatively intensive agricultural development, mainly in the form of sheep ranching and the cultivation of cereal crops, is currently occurring throughout the Russian part of the Daurian region. Ploughing and grazing disturb the nesting sites of ground birds and destroy the steppes. Soil erosion and gully formation is exacerbated by inappropriate ploughing practices. The residual and long-term effects of agricultural chemicals on the region's biodiversity and human population remain rather unknown. The increasing frequency and extent of grassland and forest fires caused by agricultural activity is of great concern. These fires have been destroying large areas of steppe vegetation during dry years.

The goal of the project is to protect and sustain the unique and globally significant biodiversity of the Russian part of the Daurian Wetland-Steppe ecoregion (about 70000 sq. km). There are a wide range of activities associated with the project many of which address the linkages between biodiversity and agriculture and the need to identify problems and develop solutions. For example:

- raising environmental and biodiversity awareness along with the introduction of alternative agricultural and other resource use practices that do not have a negative impact on the region's biodiversity;
- the development of a regional land-use planning framework (definition of needs, identification of stakeholders, facilitation of dialogue, definition of goals and development of land and resource use strategies, regulations and activity zones);
- support for and development of Species Conservation and Restoration programmes to conserve selected species of special concern, principally on agricultural lands;
- a limited number of demonstration projects to promote the sustainable economic use of natural resources and promote new practices, especially agricultural;
- dissemination of experience throughout the region (seminars for farmers).

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<http://www.wwf.ru>

4. Provide training and exchange experience to support the strategic use of communication as a policy instrument, and use the resulting professional expertise to assist with interactive policy-making amongst stakeholders and programmes and campaigns for raising public awareness.

**Box 54 The Nature Policy Plan of the Netherlands: conflicting interests between farmers and nature conservationists**

The 1990 Nature Policy Plan, designed to conserve and develop nature over the following 30 years, was collectively rejected by the nation's farmers. Why?

Farmers had a limited view of the seriousness of the nature problem. Nature, as seen by them, exists in spite of (and sometimes with the help of) agricultural practices. Their nature was doing fine they could not see the need for a Plan. In addition, farmers distrusted the Plan in view of the large numbers of expensive government regulations that they had had to meet around that time and the changes being proposed in the Plan did not match with modern intensive farming methods. Finally, farmers felt that they were being asked to shoulder the whole burden of what other citizens were demanding. In short, farmers' perceptions of nature conservation and nature conservation policies were completely different from those of other stakeholders.

Farmers had not been involved in the design and development of the Plan it was largely the brainchild of biologists and ecologists. Gradually, however, farmers have become increasingly aware that society is blaming them for destroying high quality natural areas. Farmers feel the need now to communicate with government and with other relevant organisations in order to become involved. The government and farmers feel mutually dependent and are searching for new possibilities to communicate. How is this being managed?

The farmers are organising themselves at local and regional levels in order to get involved in the process of policy development.

To try to overcome the problems a more interactive policy approach was tried at the regional level of the Environmental Co-operative de Peel (EC De Peel) in the southern provinces. The process of interaction resulted in a common plan supported by all the parties, to develop the region in an ecological and economically viable way. The plan is accepted by the government as an experiment, not a final plan, and the results will be checked carefully.

Extracted from: Communicating Nature Conservation: A Manual on Using Communication in Support of Nature Conservation Policy and Action. Ed. Sandra Rientjes, ECNC 2000.

<http://www.ecnc.nl>

and

[http://www.iucn.org/webfiles/doc/CEC/Public/Electronic/External/Comm/Casestudy/Dutch\\_Van\\_Woerkom\\_1\\_1.pdf](http://www.iucn.org/webfiles/doc/CEC/Public/Electronic/External/Comm/Casestudy/Dutch_Van_Woerkom_1_1.pdf)

### **Box 55 Rusne Fund for Nature – education for farming compatible with nature**

The Rusne Fund for Nature (RGF) is a non-governmental organisation of farmers and environmentalists working on Rusne island in the Nemunas delta (Lithuania). The low-lying island has a unique landscape – meadows divided by delta branches and drainage channels. It is an important stopover during bird migration and home of many endangered meadow birds.

Although grasslands were used very intensively during Soviet time, livestock numbers have declined sharply, farming has extensified, and renaturalisation of grassland is taking place since 1990. The abandoned grasslands and drainage ditches are overgrowing with grasses and shrubs which creates unfavourable conditions for breeding meadow birds.

Rusne Fund for Nature organises seminars, and discussions for the local population. It runs an ethnographical museum which attracts visitors from Lithuania and abroad. Four farmers provide agro-tourism services. To promote the local awareness and protection of nature values RGF also publishes a newsletter "Rusnes gamtos fondo inios".

RGF has one tractor and some machinery for the management of abandoned meadows. About 53 ha were mowed in 2000 to improve the meadow bird habitat. With the support of EUCC, the organisation tries to promote silage making as a viable option for maintaining most grassland types on Rusne.

Rusne Fund for Nature would like to expand its activities in future, even on a commercial basis. The main obstacle for the work of the organisation is a lack of funds and machinery. As a non-profit organisation RGF cannot benefit from SAPARD investment funds. However, its farmer members could participate in the planned pilot agri-environment scheme on the island that will receive SAPARD co-funding.

Source: Rural Areas Newslink Issue 8 October 2000 [www.IEEP.org.uk](http://www.IEEP.org.uk)

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### **Box 56 A platform for dialogue in a rural part of France: Nord-Pas-de-Calais**

The "Campagnes Vivantes" Association aims to promote dialogue between the different actors in the rural landscape. The Association is primarily active in northern France, in the region of the Nord-Pas-de-Calais. There are three main themes of discussion:

- a specific group of the Campagnes Vivantes, the "Forum de l'Agriculture Raisonnée Respectueuse de l'Environnement FARRE" (a forum for an environmentally sustainable agriculture] encourages dialogue between farmers and people who have been invited to visit their farms, about how farmers try to combine modern agriculture with economic and ecological aspects. At the moment, nine farms are open to visitors;
- farm buildings which need to be efficient but should also be integrated into the landscape;
- farming and biodiversity.

Discussion is very much around the fact that after many years of increasing intensification in the agricultural sector, the point has arrived at which aspects other than economic have to be considered. In 1999 the number of active farmers in France was only 3% of what it was in 1953; but these farmers were still managing more or less the same area of farmland. The enormous socio-economic and ecological disruption which resulted from that situation is one of the main motivations of the actions of "Campagnes vivantes".

Source: <http://www.campagnes-vivantes.asso.fr/>.

### **Box 57 Management priorities dictate communication priorities**

If the success of a biodiversity intervention is 80% dependent on a certain major stakeholder, a similar investment in communication should be made and not vice versa.

In Slovakia a deadlock occurred in protection of the endangered species *Spiranthis spiralis*: studies, lectures and posters about the species with the message "returning to traditional agricultural practices" did not have much effect.

With the help of IUCN CEC a communication plan was developed aimed at establishing relationships between the National Environment Association and local stakeholders to gain trust and credibility. Round tables and field visits were organised to involve villagers.

It appeared that most communication investments had been made in mobilizing the support of villagers, and only a little had been done towards the authorities: this endangered the sustainability of the practice. Negotiations with the regional agricultural authorities were key to inducing them to broaden the criteria for agricultural subsidies for sheep grazing as a means of protecting the species.

**Source:** Communication, Education & Public Awareness towards Participation in Sustainable Development: the case of biodiversity conservation. Frits Hesselink, June 2002 Communication, Education and Public Awareness Case Studies

[http://www.iucn.org/webfiles/doc/CEC/Public/Electronic/External/Comm/Casestudy/Participatio\\_ncase.pdf](http://www.iucn.org/webfiles/doc/CEC/Public/Electronic/External/Comm/Casestudy/Participatio_ncase.pdf)

5. Encourage the use of appropriate global and regional financial instruments to promote biodiversity-friendly agriculture.

### **Box 58 Management of dry lands in Kazakhstan: a GEF/World Bank project**

Since 2000, the Ministry for Environment Protection of the Republic of Kazakhstan with financial support of the World Bank / GEF has been developing the "Management of Dry Lands" project. Implementation will begin at the end of 2003.

The district of Shetsky in the Karaganda Oblast has been selected for the project. It is a region of extreme soil, climatic, economic and technological conditions which limit the opportunities for economic development. After the disbandment of collective farms in 1991-1994, land, cattle, agricultural equipment and buildings were distributed between farmers. 60% of the land is now owned by farmers. But the majority of farms are not economically viable because of the absence of an acceptable credit base.

The goal of the project is the demonstration and promotion of sustainable systems of land use in ecosystems with extremely dry conditions.

Within the framework of the project more than 1 million ha of unprofitable or fallow arable land will be restored and transferred into pasture by 2010. Farmers will be helped through training seminars on animal husbandry, production and marketing. Estimation of the potential of carbon absorption in dry steppe ecosystems is another project activity. A public education and replication strategy, including the strengthening of policy and management for sustainable use of natural resources on lands with extremely dry conditions is a further project element.

In 2003 the Decree of the President of the Republic of Kazakhstan Mr. Nursultan Nazarbaev was signed. By this Decree the project of grant agreement (Grant of the Confidential Fund of the GEF No. TF052161-KZ) was approved, so the Minister of Environment Protection Mrs. Aitkul' Samakova was authorized to sign it on behalf of Kazakhstan.

The GEF finance the project through the International Bank for Reconstruction and Development/World Bank), and the project budget is \$5 270 000. The International Fund for Agricultural Development (IFAD) is also allocating a small sum. The contribution of Kazakhstan are the projects on environmental protection and the creation of the necessary infrastructure in the Shetsky district which will be financed from the local budget.

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## **V. Research, monitoring, evaluation and training**

### *Priority research themes*

1. Review methods of valuing and monitoring the farm production of biodiversity in a variety of European countries and apply the best approaches in further policy development.
2. Consider the provision of funding specifically for a targeted programme of workshops, seminars and conferences on good farming practice for biodiversity conservation especially where farming is undergoing major transition.
3. Encourage efforts to better understand the relationship between agricultural, rural development and agri-environmental policies and to provide financial resources to appropriate organisations, at

national and international level, to improve research, monitoring and evaluation in the whole field of agriculture and biodiversity.

4. Provide financial resources to appropriate organisations, at national and international level, to improve monitoring of the status of biodiversity, especially of extensively used "semi-natural systems", on a harmonised Europe-wide basis;.

5. Increase research into alternative farm management systems, including organic, to establish which systems best enhance biological diversity, and target policies to encourage uptake of favourable methods.

#### **Box 59 Maximising biodiversity, and other functions, in organic agricultural systems**

The Danish National Environmental Research Institute is conducting a wide-ranging four-year project (ending in 2004) on Nature Quality in Organic Farming.

The expectation that organic farming also favours land use and farm practices that supports ecosystem functioning and to a higher extent contribute to nature qualities are generally not well documented. The proposed project considers the biological, the agricultural and the aesthetic aspects of nature quality in organic farming. The overall research question is: under which conditions it is possible to favour a high biological diversity in a high yielding organic production system that supports esthetical and recreational opportunities?

A number of e-documents/papers arising from the project are available on the web.

Contact: DMU/NERI, Dept. of Wildlife Ecology and Biodiversity, Grenåvej 14, DK-8410 Rønne. Tel. +45 89201700 Fax +45 89201515 <http://www.dmu.dk/>

#### **Box 60 Testing methods of rice cultivation for biodiversity gains**

The Ebro Delta (Catalonia, Spain) covers 32 000 ha, of which about one quarter is marsh and lagoon. The remainder is paddy (rice) fields. It is one of the leading Natura 2000 sites for overwintering of migratory birds. However, modern rice cultivation uses large quantities of fertiliser, herbicides and pesticides, which contaminate the water and adjoining lagoons and marshes. In addition, efficient drainage dries out the paddy fields completely during autumn and winter, reducing their value as habitats for birds.

The 1996 LIFE project "Delta del Ebro" examined the ecological and economic viability of different styles of rice farming:

- conventional;
- organic;
- and with agri-environmental management contracts.

The test blocks were monitored for species diversity, physical production of rice and financial returns.

The greatest gain in biodiversity occurred on the organically farmed land. Water quality was best on the organic plots. Rice yields were highest on the conventionally farmed land, although land farmed under agri-environmental contracts scored only 5–10% less well. Net financial returns were higher from organically and agri-environmentally farmed fields than from conventionally farmed fields.

As organic farming was shown to be the best system for nature conservation, a demonstration project for organic rice farming was run by LIFE in 1999. Although it showed production costs only 20% higher than those of conventional growing, the rice produced could be sold at twice the usual price.

The measures have been continued as part of the Rural Development Plan for 2000–2006, with additions such as incentives for reducing nitrogen use and for mechanical control of weeds in irrigation channels.

Source: LIFE and agri-environment supporting Natura 2000: *Experience from the LIFE programme*, European Commission, Environment Directorate General  
Luxembourg: Office for Official Publications of the European Communities, 2003  
ISBN 92-894-6023-7, ISSN N° 1725-5619, © European Communities, 2003  
<http://europa.eu.int/comm/environment/life/infoproducts/index.htm>

### **Box 61 Researching the integration of land management and agricultural production in Nordrhein-Westfalen**

The guided transformation and quick introduction of integrated land management methods into agricultural practice is the main objective of the co-operative project 'Pilot farms of integrated farming systems in Nordrhein-Westfalen. The 11 pilot farms are characterized by different production systems like forage-growing farms, commercial farms, intensive livestock farms and mixed farms. They are placed in the different natural regions of Nordrhein-Westfalen and they are used as prototypes for their region.

The farmers have a close relationship with the local advisory service. With the extension specialists the farm structure is analysed with regard to all factors which will influence the production. After analysis the nutrient management, crop protection, soil protection, and other aspects of plant and animal production will be optimised for the special farm. This cycle of analysis and optimisation will be done every year. The focus in the last years is the nutrient balances of N-P-K on farm, stable and field level.

In the future the integration of areas for the protection of biodiversity and landscape is planned. To demonstrate the success of the pilot farms every year several farm days are organised. The farmer and the regional extension service show their progress to other farmers, consumers and politicians.

Source: <http://www.fao.org/scripts/ag99/>  
Contact: [www.iol.uni-bonn.de](http://www.iol.uni-bonn.de)

**Box 62 Long-term research into ecological agriculture in Germany**

This project started in 1994 and is financed chiefly by the Land Rheinland-Pfalz and executed by the Stiftung Ökologie & Landbau (SÖL), Bad Dürkheim and the Landesanstalt für Pflanzenbau und Pflanzenschutz (LPP), Mainz.

The aim is to study ecological agricultural methods, to demonstrate them and to help apply them. The long-term aim is to find agricultural systems which will preserve the ecological equilibrium of agricultural systems for the generations to come.

The project is based near Mainz and is to last for about ten years. Experiments are carried out on 30 plots of 30 x 100 m each. On these plots, different types of soil management, cultures, crop rotations and so on are practised.

The impact of the different ecological (organic) farming systems on the evolution of soil quality is documented scientifically; so are other ecological parameters of the agri-ecosystem.

The first results in 2000 (6 years after the start of the project) show:

- the comparison of soil structure between ecological (organic) and integrated farming systems show that the soil is less dense and more stable in the organic system and also has a better water filtration capacity;
- the number of wild agrestal plants in cultivated land increased in the organic farming system from 35 species to 80 species per plot within 6 years;
- ploughing methods have an important impact on soils structure and composition;
- reduced ploughing (with special ploughs which do not turn the soil but simply break it up it and do not plough as deep as normal ploughs) increases the top layer of humus, the number of earthworms and the water filtration capacity;
- crop rotation with seeded set aside land (called Buntbrache in German) increases species diversity;
- yields are satisfactory in the organic farming plots, but lower than in integrated farming due to increased agrestal plants. No figures are given on the difference.

An illustrated booklet with first results may be obtained at Stiftung Ökologie & Landbau (E-Mail [info@soel.de](mailto:info@soel.de) or [info@gut-hohenberg.de](mailto:info@gut-hohenberg.de))

Source: [http://www.soel.de/projekte/poeb\\_ueber.html](http://www.soel.de/projekte/poeb_ueber.html).

**Box 63 Long-term comparative research: Switzerland**

The Research Institute of Organic Agriculture FIBL in Frick, Switzerland (source: <http://www.fibl.ch/english/>) is running a long term project (started in 1978 and still running) comparing three different types of agriculture: the bio-organic, bio-dynamic and conventional farming systems.

The most prominent results gathered so far are presented at the following site: <http://www.fibl.ch/english/research/annual-crops/dok/index.php>. The site gives details on the

field trial design compared for organic farming systems and conventional ones, including crop rotation, yield, nutrient input, effects on the soil etc.

#### **Box 64 Joint interdisciplinary and applied research across Europe**

To carry out their joint research, the PEER (Partnership for European Environmental Research) members have agreed to establish the following topic-oriented pillars in which PEER scientists work together:

Biodiversity and Nature Conservation (Co-ordinator: Dr Allan Watt, CEH - Centre for Ecology & Hydrology, Hill of Brathens, GB - Banchory, Aberdeenshire AB31 4BY Tel. +44 1330 826300 Fax +44 1330 823303 E-mail [adw@ceh.ac.uk](mailto:adw@ceh.ac.uk))

Dr Jurgen Tack, CONNECT Secretary, Institute of Nature Conservation, Kliniekstraat 25, B-1070 Brussels, Belgium, Tel. +32 2 5581861 Fax +32 25581805 E-mail [jurgen.tack@instnat.be](mailto:jurgen.tack@instnat.be))

Aquatic Ecosystems and Sustainable Water Management (Co-ordinator: SYKE, Finland)

Contaminated Environments, Risk Assessment and Remediation Strategies (Co-ordinator: NERI Denmark)

Global Change Impacts (Co-ordinators: ALTERRA / SYKE)

Society, Natural Resources and Environmental Policy (Co-ordinator: Prof Bernd Hansjürgens, UFZ - Centre for Environmental Research Leipzig-Halle, Permoserstrasse 15, 04318 Leipzig, Germany. Tel. +49 341 2352771 Fax +49 341 2352825 E-mail [hansjuer@alok.ufz.de](mailto:hansjuer@alok.ufz.de))

Landscape Planning and Management (Co-ordinator: MLA Dirk Wascher, Landscape Europe, Alterra, Droevendaalsesteeg 3, 6700 AA Wageningen, the Netherlands. Tel. +31 317 477932, Fax +31 317 419000 E-mail [d.m.wascher@alterra.wag-ur.nl](mailto:d.m.wascher@alterra.wag-ur.nl))

Other members: CEMAGREF, France. JRC-IES, European Commission

**Contact:** <http://peer-initiative.org/html/obj44.html>

## ***Appendix A***

### ***Actions recommended to support the implementation of the Declaration***

*Governments and the European Community, as well as regional and sub-regional organisations, institutions and NGOs are invited to consider the following actions for implementation, as appropriate:*

#### **I. Conservation and sustainable use of biodiversity**

##### ***A. Conservation of wild flora and fauna in biodiversity-rich areas and in the wider countryside***

1. Identify all agricultural areas of high value for biological diversity including wetlands, semi-natural grasslands, mountain habitats, areas important for breeding and/or migratory birds, undisturbed steppe ecosystems, semi-deserts, fragile reindeer pastures of the extreme north and some southern European habitats such as *dehesas* as well as the buffer zones of protected areas;
2. Ensure biodiversity-sensitive management in areas of high nature value through implementing targeted agri-environment schemes or other appropriate mechanisms, especially in internationally designated areas;
3. Strengthen the viability of farming in areas of high nature value by ensuring adequate funding/resources for well-defined and targeted agri-environmental programmes in synergy with other rural development measures and appropriate market instruments; strengthen the economic and social sustainability of land management enterprises in areas of high nature value that help maintain this value. Policy mechanisms include easy access and adequate funding/resources for well defined agri-environmental programmes in synergy with other rural development measures and appropriate market instruments;
4. Promote biodiversity and landscape-sensitive management in the wider countryside through broader agri-environmental programmes to address dispersed species and scattered landscape features;
5. Strengthen and expand the biodiversity component of agri-environment programmes;
6. Ensure both the application of agri-environmental programmes and the economic survival of agriculture in biodiversity-rich areas of Accession countries in the context of the European Union enlargement process in conformity with section 3 of the European Community Biodiversity Action Plan for Agriculture;
7. Consider developing or strengthening policies, as appropriate, to encourage concerted management by a range of actors in addition to farmers (e.g. grazing units managed by community groups, and sites managed by NGOs) particularly where this may prevent or address both abandonment and inappropriate intensification of areas rich in biodiversity;

8. Identify agricultural habitats of currently low biodiversity value where habitat improvement and restoration would significantly increase biodiversity.

***B. Conservation and sustainable use of genetic resources***

1. Monitor, study and support the *conservation of local in situ*, "on farm" and *ex situ* genetic resources for food and agriculture, in accordance with international standards and priorities, taking into account national, regional and local peculiarities in order to ensure the security of plant genetic resources and biological diversity in general;

2. Strengthen the conservation, characterisation and utilisation of genetic resources in agriculture through research, education of the public and farmers, information sharing and technical co-operation, following common approaches where appropriate.

***C. Technologies and farming practices***

1. Ensure that the transfer, handling and use of living modified organisms resulting from modern biotechnology conforms to the provisions of the Cartagena Protocol on Biosafety to the Convention on Biological Diversity (Montreal, 2000) and relevant European Union and national legislation;

2. Encourage the adoption of technologies which reduce the risks to biological diversity, including the use of an appropriate mix of modern as well as traditional agricultural techniques;

3. Stimulate traditional, extensive and mixed farming practices in order to contribute to the conservation and sustainable use of biodiversity.

***D. Relationship with the Convention on Biological Diversity***

1. Apply the "sustainable use" objective of the CBD and in wetlands the "wise use" principle of the Ramsar Convention as a rationale for the application of agri-environmental programmes in areas not covered by designations such as Natura 2000, the Emerald Network and national systems, and ensure the application of these principles in all agri-environmental programmes with biodiversity objectives";

2. Contribute to the implementation of the programme of work on agricultural biological diversity of the CBD and other biodiversity-related treaties and programmes, giving due attention to all dimensions of agricultural biodiversity including genetic resources, life-support functions (e.g. pollinators, soil biodiversity) and wildlife and habitats, and raise the profile and pay more attention to the "wildlife and habitats" component in the CBD context;

3. Make greater efforts to include the relationship between agriculture and biodiversity in National Biodiversity Strategies and Action Plans where this has not been done, and consider how to deliver improved reporting on all components of agro-biodiversity in National Reports under the Convention on Biological Diversity;

4. Contribute to the implementation of the Programme of work on agricultural biological diversity of the CBD through the European Community Biodiversity Action Plan for Agriculture and national biodiversity strategies and action plans.

## ***II. The integration of biodiversity in agricultural, rural and other policies***

1. Promote general principles of Good Agricultural Practice, which clearly take into account the conservation and sustainable use of biological and landscape diversity and which make full use of the ecosystem goods and services, including the life support functions of biodiversity;

2. Assist in ensuring the application of strategic environmental assessment and, where required, environmental impact assessment to agriculture and to rural development measures as a whole;

3. Integrate biodiversity concerns into appropriate systems of certification of agricultural practices and labelling of products, as appropriate, paying particular attention to cost-effectiveness, transparency and the quality of environmental information provided, national as well as regional (regional labels) environmental characteristics, institutional capacity and the conduct of a participatory design process at all levels;

4. Ensure that there is a balanced dialogue with experts on biological diversity (and between all sectors and stakeholders) regarding policy measures for agricultural activities employed to address the effects of agriculture on climate change and vice versa;

5. Assess selection of sites with regard to biodiversity impact and support the production of guidelines for maintaining and enhancing biodiversity whenever carbon sequestration on agricultural land (afforestation) is being undertaken;

6. Support the conservation of farmland biological diversity by phasing-out environmentally harmful subsidies and moving them towards biodiversity-supportive measures;

7. Further develop the formulation and application of the Polluter Pays Principle.

## ***III. The multiple functions of agriculture, especially with a view to biodiversity***

1. Work towards a clearer understanding at a pan-European level of the multiple functions of agriculture while promoting policy actions and instruments that can contribute to the conservation, sustainable use and enhancement of biological and landscape diversity in relation to this concept;

2. Continue commitment to the objective of sustainable development within the context of international agreements on liberalising world trade taking into account, in particular, the conservation of biological diversity within Non-Trade Concerns in the agricultural negotiations in a manner which is targeted and transparent and considering the needs of developing countries and countries with economies in transition.

## ***IV. Cross-sectoral and international co-operation***

1. Strengthen institutions, frameworks and methodologies for working cross-sectorally at international, national and local level and between global and regional multilateral environmental and agricultural agreements, in order to promote increased mutual supportiveness between them in achieving sustainable development and adapting them as appropriate to address more directly the interface between biological diversity and agriculture;
2. Intensify international co-operation in the pan-European region to share experiences in training and education and in the use of legal instruments, in order to support national administrations in the development and implementation of policies for the conservation and sustainable use of biological diversity on farmland;
3. Provide urgent support to countries with economies in transition, in particular to the Newly Independent States to work on assessment of the status of biodiversity in agricultural areas, identification of problems regarding conservation and sustainable use of biodiversity and the development of policies to integrate biodiversity concerns into agricultural policies;
4. Provide training and exchange experience to support the strategic use of communication as a policy instrument, and use the resulting professional expertise to assist with interactive policy-making amongst stakeholders and programmes and campaigns for raising public awareness;
5. Encourage the use of appropriate global and regional financial instruments to promote biodiversity-friendly agriculture.

#### ***V. Research, monitoring, evaluation and training***

1. Review methods of valuing and monitoring the farm production of biodiversity in a variety of European countries and apply the best approaches in further policy development;
2. Consider the provision of funding specifically for a targeted programme of workshops, seminars and conferences on good farming practice for biodiversity conservation especially where farming is undergoing major transition;
3. Encourage efforts to better understand the relationship between agricultural, rural development and agri-environmental policies and to provide financial resources to appropriate organisations, at national and international level, to improve research, monitoring and evaluation in the whole field of agriculture and biodiversity;
4. Provide financial resources to appropriate organisations, at national and international level, to improve monitoring of the status of biodiversity, especially of extensively used "semi-natural systems", on a harmonised Europe-wide basis;
5. Increase research into alternative farm management systems, including organic, to establish which systems best enhance biological diversity, and target policies to encourage uptake of favourable methods.