Nature Conservation in Rural Policy

Emerging Practices in Central and Eastern Europe

THE REGIONAL ENVIRONMENTAL CENTER
for Central and Eastern Europe

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Emerging Practices in Central and Eastern Europe

Edited by
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Project Report
including proceedings of the
CONFERENCE ON NATURE CONSERVATION, RURAL DEVELOPMENT AND AGRICULTURE IN CENTRAL AND EASTERN EUROPE,
Bled, Slovenia February 3-5, 2003

THE REGIONAL ENVIRONMENTAL CENTER
for Central and Eastern Europe

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The Regional Environmental Center for Central and Eastern Europe (REC) is a non-partisan, non-advocacy, not-for-profit organisation with a mission to assist in solving environmental problems in Central and Eastern Europe (CEE). The Center fulfils this mission by encouraging cooperation among non-governmental organisations, governments, businesses and other environmental stakeholders, by supporting the free exchange of information and by promoting public participation in environmental decision-making.

The REC was established in 1990 by the United States, the European Commission and Hungary. Today, the REC is legally based on a Charter signed by the governments of 27 countries and the European Commission, and on an International Agreement with the Government of Hungary. The REC has its headquarters in Szentendre, Hungary, and local offices in each of its 15 beneficiary CEE countries which are: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, FYR Macedonia, Poland, Romania, Serbia and Montenegro, Slovakia and Slovenia.

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Part I:
Detailed Conference Record

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Introduction

The Conference on Nature Conservation, Rural Development and Agriculture in Central and Eastern Europe was held under the umbrella of the Sofia Biodiversity Initiative (SBI). Launched in 1995, SBI is a cooperative arrangement among the countries of Central and Eastern Europe (CEE) to achieve better progress in nature conservation by working together on common priority problems. The SBI is part of the CEE sub-programme of the Environmental Action Programme Task Force. The conference and studies presented therein were funded by the Ministry of the Environment of Norway.

The aim of the conference was to provide a forum for informal discussions among those CEE countries which are candidates for membership to the European Union (EU) and current EU member states, on practical implementation issues of the Special Accession Programme for Agriculture and Rural Development (SAPARD). The focus of the discussions was on integrating biodiversity conservation into rural policy development. Additional aims included giving participants an opportunity to learn about new developments in the field, improving the capacity of candidate country governments for rural policy integration and assisting them in participating actively in EU policy debates on agriculture and rural areas.

Discussions continued at a consultative meeting with the CEE countries held on February 24, 2002 immediately following the Second Pan-European Intergovernmental Conference on Biodiversity in Europe.

The main issues addressed related to:

- integration of biodiversity considerations into the EU accession process; and
- follow-up activities and possible input into the fifth Environment for Europe conference, to be held in Kiev in May 2003.

National experts from 10 candidate countries, also referred to as accession or AC-10 countries, gathered information about the current situation and trends in the CEE region within agriculture, rural development and biodiversity conservation. They also analysed the national programmes for SAPARD from the point of view of biodiversity conservation and sustainable development.

The conference was geared towards facilitating:

- discussions on practical implementation issues of SAPARD from the point of view of integration of biodiversity conservation in order to learn about the interrelationships between EU policy and developments in the field;
- discussions on the status of the development of agri-environmental measures and codes of good farming practices in the various candidate countries; and
- sharing experiences with other countries in CEE.

The Regional Environmental Centre for Central and Eastern Europe (REC) is grateful to the Slovenian Ministry of Environment and Ministry of Agriculture for sharing their experiences and knowledge. Without the valuable contributions from all participants and experts who took part in the preparation of the project, and without the cooperation and active work of the participants during the conference, this event and project would not have been successful. Assistance from the REC Country Office Slovenia, collaboration of the experts from OIKOS — a sustainable development consulting firm based in Slovenia — deserve special recognition as well.

This paper presents the main points raised during the presentations and discussions, and it is structured around the main issues raised during the conference. It is not, however, a formal report of the proceedings. The views expressed here do not necessarily represent the official positions of the relevant countries and organisations.

Conference Programme

Monday, February 3, 2003

9:00 Opening by **Mladen Berginc,** Under-Secretary of State of the Ministry of Environment and Physical Planning of Slovenia.

9:10 EU Accession Challenges; Helping the CEE Region: **Mira Mileva,** Project Manager (Biodiversity), Environmental Policy Programme (EPP), REC

9:30 The Current EU Financial Instruments Related to Agriculture: Processes after 2004. **Giovanna Pisano,** European Commission Directorate General (DG) Agriculture

11:00 Draft discussion paper: An Overview of SAPARD, Nature Conservation and Rural Development in the CEE Region, **Jernej Stritih,** OIKOS, Domzale, Slovenia

12:00 Sample practices of integration of biodiversity into rural development:

- Lithuania: Tatula Programme, **Erikas Jankauskas,** Independent Expert, Lithuania
- Hungary: Developing Organic Farming and Distribution Network for Organic Food, **Matthew Hayes,** Open Garden Foundation, Hungary
- Bulgaria: Protection of the Rich Biodiversity of the Dobrudja Cross-Border Region, **Viara Stefanova**
- Slovenia: Rural Development and Nature Conservation — Opportunities for Co-Existence, **Marko Koscak**

14:00 Key Issues of Sound Environmental Management of Rural/Agricultural Development Plans, Slovenia

14:30 Discussions on rural development plans in CEE

16:30 Structural Funds and Integration of Biodiversity: Examples from a Member State, **Harriet Bennett,** the Institute for European Environmental Policy (IEEP) **Eugen Sauer,** Biosphere Reserve, Rhoen Head Office, Germany

17:30 Short introduction to Tuesday's field trip, **Marija Markes,** Triglav National Park, Slovenia

Tuesday, February 4, 2003

9:00 Field trip to Triglav National Park. Demonstrations of small farm models and alternative activities in the national park territory. Relationships between farming and nature protection — demonstrations of examples of integration of biodiversity into rural areas.

14:00 Social Processes and Trends in Rural Areas of CEE

15:30 Group discussions

16:30 Presentations of findings from group discussions

Wednesday, February 5, 2003

9:00 Summary of the first two days of the conference and presentation of conclusions and recommendations, Jernej Stritih, OIKOS, Slovenia

9:30 Group discussion and finalisation of the conclusions and recommendations from the working group sessions

11:00 Presentations of group discussion findings

11:30 Closing

Detailed record of the Conference on Nature Conservation, Rural Development and Agriculture in Central and Eastern Europe

February 3-5, 2003

Location: Hotel Kompas, Bled, Slovenia

Day I

Opening by **Mladen Berginc,** Under-Secretary of State of the Ministry of the Environment

Greeting by **Milena Marega,** Director of the REC Country Office Slovenia

Introduction to the conference aims and objectives by **Mira Mileva,** Project Manager of the Environmental Policy Programme of the REC

NOTE: All presentations are available upon request from the REC. Please contact Mira Mileva at MMileva@rec.org.

Giovanna Pisano gave a presentation on Changes Ahead for the Common Agricultural Policy, DG Agriculture, EC.

The midterm review of the Common Agricultural Policy (CAP) is ongoing and will have an impact on the current CAP reform. The last review took place in 2000. The Council of Ministers will discuss the proposal and agree on some changes, but the current existing legislation will be in force for the new member states next year as well. Two "pillars" of funding exist in the current CAP: direct payments (semi-coupled payments to specific Common Market organisations) and the fund for rural development activities (11%). Only this pillar can fund environmental measures. Because of the great disparity among member states' percentage of agricultural area, as well as the employment in the sector, current money is distributed within member states in different percentages between direct and rural development payments.

Money coming from Pillar I is at present mostly related to production. The new reform proposes to decouple payments from production and "freedom to farm" from 2007 (single decoupled farm income payment). It will be valid for all arable crops and cattle. Direct payment, however, should get progressively reduced by 20 percent until 2012. Farmers getting up to EUR 5,000 will get no reduction in aid, and above that a scale of reduction will be introduced, including a 12.5-percent reduction for payments above EUR 50,000 and a 19-percent reduction above EUR 500,000.

Entitlement will be transferable with land ownership rights. Specific requirements will be in place to preserve good land-management practices, and land-management prescriptions will be obligatory. Audits and control will be carried out. A farm audit will be conducted for farmers receiving more than EUR 5,000, in environmental terms as well. A "long-term, non-rotational set-aside" measure will be introduced. The review may simplify a complex administration system and administrative costs, remove the direct incentive — with emphasis on the quality of production — and free money for nature conservation.

Activities in the CEE region after accession (from 2004 to 2007) have been addressed. Countries will adopt the same legislation for all crops and administration. Payments will be phased in and the amounts will be set (in percentage of the current EU rates). Countries will be able to supplement, or "top up" the EU aid for farmers, bringing farmers closer in aid to EU farmers, though that can naturally be reached in 2010 and with EU funds only in 2013.

The implication is that there is a national option until 2007 to use rural development money for topping-up direct payments. Distribution will involve flat area payments and calculations according to the number of hectares of arable land per new member state. The EU has agreed to have a higher level of co-financing. There are other schemes such as an option of early retirement.

If the midterm review is not accepted the new countries will have the current CAP. Farmers will have to get the same level of subsidies in CEE, and the bureaucracy will be complicated. In future rural development measures, environment can be introduced in almost every measure. The choice of how to use the money will be entirely up to the national governments to propose and choose.

For SAPARD there were different stages for approval and distribution agencies. National accreditation and granting accreditation, for example, were very complex and time consuming procedures. However, a legislative framework was built up to address how the money could be used. Mini-*acquis* had to be built from scratch.

During the past programming period, very little money was allocated and chosen for environmental measures, and likewise little for agri-environmental schemes was available. Although agri-environment schemes are only on a pilot scale, they are nevertheless an important exercise.

SAPARD is very complex and has been slow so far. It has a highly decentralised management from the Commission's prospective, and responsibilities for national implementation were in the hands of the countries. Work that was done by accession countries was immense, putting procedures in place and establishing the structures. The EC does not consider any return of the programme administration back to the Commission. Small farmers have to get access to the structures of local authorities, who would speak local languages. Administrative structures cannot be created quickly and two years is a short time, though the progress is acknowledged.

Agri-environmental measures that have been given by the Commission in the initial part of the period have

been modified or incompletely used by the countries. The EC is keen to simplify the system for the enlarged Europe. Direct payments do not have much environmental component attached, since no environmental condition was attached.

There is a new article (Art 16 of the RDR in Agenda 2000) prepared on Less Favoured Areas (LFA): money can be used to pay farmers in areas with environmental constraints that qualify for LFA status. LFA payments can be used to compensate the farmer for lost income (refund). It has never been used in the EU, though it has existed since 2000.

Jernej Stritih *presented the Conference Discussion Paper, OIKOS, Domzale, Slovenia*

The objectives of the paper are to provide a short summary assessment of how the programme objectives of sustainable rural development and nature conservation are being implemented. One shortcoming is that preparation for the conference took place early in the SAPARD process. Current SAPARD developments are important in relation to the implementation of the CAP in the countries and in relation to the reform of the CAP. How will countries be able to represent their rural interests?

How are measures implemented in practice? It is important to understand which land structures exist in the EU and the accession countries. If new member states go through the same process of rapid population migration that the EU experienced, i.e. from the countryside with an average shift of 15 percent of the total population, then the next few years will see rural populations moving to cities or other countries. Unemployment might increase to up to 30 percent in the accession countries. Social issues and the development of society will exert heretofore uncalculated pressures on the environment and social infrastructures. Within the cultural landscape of CEE, traditional practices will be affected. Much will be lost, including biodiversity. Pollution will increase, while most member states in the EU are already having problems complying with the nitrates directive.

The best information available concerns the allocation of funds. The largest share of funding goes to improving processing, marketing and rural infrastructure. Measures that directly benefit the environment receive very small allocations.

Investments and their distribution across the region vary greatly. For example, the goal of diversifying economic activities varies across the region as a priority. In countries such as the Czech Republic and Estonia it is a priority, but others do not see it as such. The top priority of many countries is to increase the competitiveness of their large farms and farming practices.

Major issues are the reduction of social shock, assistance to ageing farmers, assistance to young people in the countryside in order to reduce migration, organic food production, transition from agriculture to other services, preservation of traditional landscapes and natural environments, local development programmes, communication about and within SAPARD, and the capacity of the national SAPARD agencies.

The number of people living in the countryside reflects the number of people working not only in agriculture, but also those who can work from home (e.g. via the Internet), use modern transport tools to commute, work in tourism and organic agriculture, etc. These are new influences on population migration and distribution.

In many cases SAPARD-funded areas are the biggest money generators, such as from the grain sector, although the national priorities may have been other sectors, such as milk. When the studies were made, the SAPARD disbursement was very small. One of the conclusions was that the biggest money will go to already established and organised sectors, and that small farmers are less organised. Is there a way for national SAPARD agencies to simplify the application procedure for small farmers? Is there a way to reduce and simplify the procedures? Experience from the Check Republic shows that simplified schemes of up to CZK 100,000 (EUR 3,200) could be one administrative solution.

Erikas Jankauskas *presented Integration of Biodiversity into Rural Area Planning, Independent Expert, Lithuania.*

Two initiatives undertaken in Lithuania, although not under SAPARD, are the Rusne Island Project and the Tatula Programme, two geographical areas sensitive from an environmental point of view in that they host intensive agricultural activities and are important areas for biodiversity conservation. Reductions in agricultural activities negatively influence the biodiversity value of the areas, because the land becomes unsuitable for local species and migrating birds. Projects have been initiated with the objective of preserving biodiversity in the aforementioned areas. The programme was built on the need to restructure the farms and educate farmers to work on nature conservation. It is expected to generate new interest in eco-farming.

Matthew Hayes *presented Organic Food Producer-Consumer Network in Hungary: Nyitott Kert Alapitvany (Open Garden Foundation), Godollo University, Hungary.*

The project started in 1999 with the aim to support sustainable farms and markets and to produce organic food for local consumers. It is an interesting example of how agricultural activity can be connected with community development as well as environmentally friendly endeavours. The project evolved into a not-for-profit

activity/company. The scheme is sustained via grants and income from product sales.

Viara Stefanova *presented Protection of the Rich Biodiversity of Coastal Dobrudja, MAF, Bulgaria*

The location of the project site was chosen because of its unique combination of semi-steppe ecosystems and a coastal area with a rich variety of plants and animals. It is a potential Natura 2000 site, has vast areas of wetlands (including two Ramsar sites), is frequented by wintering geese, and contains habitats of many globally threatened species. It is a highly specialised, mechanised and intensive area of agricultural activity. This is the so-called "wheat barn" of Bulgaria. Some problems of the area are overgrazing, its remote location from human settlements, uncontrolled and unreported pesticide usage, and a lack of education and awareness among farmers about environmentally friendly practices and activities. The long-term biodiversity programme operating on the Bulgarian territory focuses on the elaboration of management plans as well as public awareness and education of local communities. Progress to date includes the establishment of a regional forum consisting of various local stakeholders.

Further activities should include organic farming, preservation of local breeds, rotational grazing, banning fertilisers, stopping receding pastures and a measure to support demonstrating and sharing experience. No results are currently available on this project.

Marko Koscak *presented A Case Study on Water Supply Improvement in the Municipality of Dolenjske Toplice in South-Eastern Slovenia, Dolenjska and Bela Krajina Heritage Trails Association, Slovenia.*

Regional problems in the Municipality of Dolenjske Toplice include a motorway, infrastructure and complex administrative procedures. The region offers tourism and investments opportunities. The Heritage Trails initiative started with efforts such as rural and economic diversification and regional cooperation. Local citizens are willing to stay and improve the situation, because of their attachment to land. The protection of natural resources, rural development and heritage preservation are among the concerns of the local people. The pilot project started because of a lack of water coming to the village. New opportunities were opened with the construction and extension of a water line. Another issue tackled by the project is youth migration.

The project was sponsored by the municipality of the Dolenjke Toplice, the local SAPARD agency and local citizens.

The process is facilitated through various partnerships, participatory activities, and cooperative development among the partners. The main project activities are marketing, product development, infrastructure, training and education.

Jana Kokolj-Prosek *presented the Preparation of the Rural Development Plan of Slovenia, Head of Department for Structural Policy and Rural Development, Ministry of Agriculture, Slovenia*

There is a long tradition of special support for less favourable areas in Slovenia. A special agri-environmental programme is co-financed from the national budget. In Slovenia agri-environmental measures were not included in SAPARD. Rural policy addresses various areas of rural development.

Slovenia has a new agricultural policy. A special strategy of agriculture development was established in 1993, and a new agricultural law was passed in 2002. Special agricultural policy reform, implemented in 1998, contains four pillars. Three of them are in line with the EU rural development policy.

The major difficulties with SAPARD are that the rules are very bureaucratic, beneficiaries must be younger than 40 years old, the minimum land for eligibility is eight hectares, and beneficiaries must have special education in agriculture. Changes which must be introduced are investments in the food processing industry and investment into farm tourism and rural infrastructure.

SAPARD funds are not very important to Slovenia; the programme is viewed as an exercise in development investment. Other aid is co-financed by the Slovenian budget. SAPARD financed around 40 projects, and the national part co-financed more than 600 projects. Besides EU financing, Slovenia received Bavarian aid in the early 1990s via the special German system of funding special programmes for rural areas.

The pillars of the projects are identity, innovation and initiative. The activities funded were recreational tourism, rural infrastructure and village renewal. The main principle used was integrated rural development, of which three phases were defined. Regional rural development projects were started under a support scheme, within which 20 projects have developed.

Slovenia is now in a transition period. A single programming document was prepared where rural development was one of the priorities of the programme. It contains a special programme for agri-environmental measures. SAPARD is only an initial attempt, because the establishment of the agency is mostly for distribution of the Slovenian, rather than EU, part of the co-financing under SAPARD.

The Ministries of Environment and Agriculture are cooperating. The Ministry of Environment is closely involved in the agri-environmental programme, as is the Ministry of Economy. The latter is responsible for regional development and some investments for infrastructure. Rural infrastructure is a part of regional poli-

cy. The ministries try to work together in working groups and the fact that the ministries are small may explain their successes.

How does the state encourage farmers in protected areas or with land of high natural value to introduce the measures? A very strong extension service is helping. It was previously a special department within the Ministry of Agriculture, but now it is within the Chamber of Agriculture and Forestry. It holds winter training courses for farmers. Extension services are involved in all activities and distribute information about training, financing opportunities, investment, and others. Close cooperation with non-governmental organisations (NGOs) is particular to the agri-environmental programme. The programme has 22 agri-environmental measures. Over one-third of Slovenian funding supports agri-environmental and direct support measures.

Extension services help farmers prepare projects and programmes as well as fill out relevant applications. Before SAPARD, Slovenia had built up considerable experience with investment projects. The tricky part is the transfer of funds. The SAPARD process is very difficult for the farmers, because they must first pay their bills and then seek reimbursement. Even in Slovenia the new system is not easy. The average farmer cannot fill out an application without the help of the SAPARD agency in Slovenia. If farmers trust the general system, they do seek the help of the appropriate organisation. In some cases people pay consultants to prepare the necessary documentation. This is a new aspect of the process, because farmers might pay for consulting services, although it is not certain they will receive any assistance in the end.

Particularly for Slovenia, the main problem is filling out the application. Many farms are small. Some 50-60 percent of Slovenian farmers are part-time farmers with holdings of less than 8 hectares, which excludes them from investments into agricultural holdings. Thus, only full-time farmers are supported. Last year the same rules were introduced into the national part of the support scheme. This was a very difficult measure, but it is the only way to prepare for EU accession in 2004. There are some 92,000 farm holdings in Slovenia, and 50-60 percent are ineligible for support. SAPARD is not a social aid, and to understand this required changes in social thinking. Other pillars include support for part-time farmers but not for investments. Other measures such as environmental measures provide support for part-time farmers as well.

There is a special data system developed in Slovenia which registers all farming-related data, including members of the family, area and activity.

Extension services were noted to be a very useful and important tool. There are more than 360 people in Slovenian extension services working on agriculture issues and 300 on forest issues. There is currently some debate about the services, because they are currently funded by the state budget. The state wants to remove them from the state budget and to introduce a consulting fee for farmers.

Harriet Bennet, *Structural Funds and the Integration of Biodiversity – Examples from Present EU Member States, Institute for European Environmental Policy, UK.*

Structural Funds (SF) can be very useful. The first SF planning period for the region covered 2000-2006,. and the cycle is the same as for rural development planning. Environmental concerns were widely welcomed when incorporated into the SF regulations. Environmental monitoring and assessment were made obligatory and the involvement of stakeholders was promoted. SF receive a large percentage of EU money.

The Cohesion Fund accounts for a major part of the total budget and funds only very large projects (over EUR 10 million). These funds address environmental protection and improving transport infrastructure. The Instrument for Structural Policies for Pre-Accession (ISPA) and Phare pre-accession programmes are preparatory programmes for Cohesion funds. The funds within the SF are the:

- European Social Fund (ESF) for environmental training and raising the awareness of education;
- European Agriculture Guidance and Guarantee Fund (EAGGF) via the rural development regulations;
- Financial Instrument for Fisheries Guidance (FIFG); and
- European Regional Development Fund (ERDF) for enhancement of nature conservation.

Other SF are known as Community Initiatives (30% of the EU budget). The LIFE fund is intended to support environmental activities, including protected nature areas and promoting tourism.

EAGGF requires 25 percent national co-financing. In member states it will be changed to 15 percent. The type of activities it supports are writing management plans, compensation payments, site acquisition, monitoring, marketing and labelling.

Case studies presented (more material in the presentation) include:

- National park in Portugal: special areas of conservation (SAC) or a Natura 2000 site. Examples of funded activities: training shepherd dogs, setting up a honey packaging centre;
- National park in the UK: support to develop a local marketing label, agri-environmental payments, etc;

- Organic produce in Sweden: processing of local produce, equipment for processing cheese and food, annual fair;
- Mapping a nature reserve in Spain: mapping nature resorts, providing routes for tourists, explaining its value to local population, etc.;
- Forestry examples: fencing around vegetation to allow regeneration, nesting boxes, visitor centres;
- France: grasslands, base land surveys, writing management plans, information boards, nature trails;
- Spain: fisheries: visitor centre and snorkel trail for tourists, etc.;
- Austria: great bustard project, agri-environmental schemes, compulsory training for farmers, other activities;
- Latvia: eradication of a poisonous plant not indigenous to the country;
- Study of the effects of planning under SAPARD in Hungary and the UK. Recommendations for the European Commission on rural planning.

The case studies were carried out during the past three years.

One major lesson learned is that poor communication with local stakeholders results in projects not necessarily being based on local ideas. Another lesson is that some projects are created without clear relevance to the objective of the fund.

Application procedures for Structural Funds also requires communication with local banks, which may provide loans for the co-financed portions of the projects, and local knowledge of regional plans and their objectives. The creation of stakeholder groups can facilitate this process. It is also recommended to create an administrative body responsible for monitoring, environmental impact assessments, ensuring compliance with the EU bureaucracy, writing programming documents, and reporting and writing proposals for the future.

Lessons may also be derived from a special group created to deal with financing the management of Natura 2000 sites. A similar development is the creation of the Leader Programme observatory group for project monitoring, which was established at the European level for developing measures.

Eugen Sauer *presented Examples of Agri-Environmental Projects/Activities in the Rheon Region, Germany*

German reserves cover large land areas, which creates problems if a reserve covers more than one administrative district. Biosphere reserves have many functions: including conservation and lobbying. The Rheon reserve was created after the reunification of Germany. Part of it had been behind the iron curtain. Rheon is a medium-age mountain area with its highest point at 950 meters and a total territory of 2,000 square kilometres. Some 3 percent of the biosphere reserve is under the highest level of protection. No agricultural activity is allowed, and access is limited to walking on designated paths.

Until 1999 there was only one project, funded by the ESF, on training rural women in marketing, economics and enterprise related to regional products. The region eventually qualified for Leader+ status under the Leader Programme, which is founded upon partnership and undertakes region-specific activities. It also takes a bottom-up approach by investigating what a region wants through much discussion with local citizens. Reaching conclusions can therefore take a long time. A regional development concept has to be worked out to contain sustainable solutions and a local action plan. Nearly 600 projects were started in the region from 1991 to 2000. Not all were successful, but more than 80 percent of the projects are still running and developing.

Projects featured:

- *Promoting the Rheon Apple:* The project supports the promotion of local varieties of apples, including the preservation of source apple trees in area meadows and gardens. Local varieties were previously not available on the market, and only 95 out of 600 varieties remained growing in the region. Local initiatives included founding an interest group, an awareness campaign, apple markets, and crowning an "apple queen." As a result, some restaurants furnished their interiors with a promotional "apple tree" worked by local craftsmen. Local apple juices, wines and more than 100 new apple products were created. Some trees in the public apple orchard were "privatised," and walking trails were created along various stands of trees. All initiatives were privately funded.
- *Rheon Sheep:* Preservation efforts are based on the assumption that the local variety grows well in local conditions. An awareness campaign with the most famous cook in Germany was initiated. The price of Rhone sheep exceeds the normal market price of sheep by 200 percent.
- *High Quality Beef Production:* The project focused on founding farmer associations, nature protection, keeping animals in natural environments, and other activities.
- *Activities Related to Wood Usage:* The project encourages farmers to use more wood for heating and promotes high-quality furniture made out of the regional wood for use in offices, homes and shops.

Some tools used were direct marketing and promotion through tourist shops, confidence-building campaigns between farmers and consumers, and creating a regional identity.

- *Thematic Bicycle Trails:* The project addresses groundwater protection via reduced or eliminated artificial fertilisation and created rest areas, information boards about farmers or local attractions, events involving youth in traditional crafts such as bread-making and baking, woodcarving, and producing dairy and meat products. Tours are priced EUR 3 per child and usually attract several groups per month.
- *Other activities:* During various periods of the implementation of the Leader Programme, support has been provided to activities such as conceptualisation, agriculture, tourism (1992-1996), marketing plans (1996-2000), creating a standardised identity for the region, developing quality standards, Internet presentation development, and creating the Rhone Encyclopaedia (2002-2006). Some 16 percent of farms comply with organic regulations.

Day II

Morning: Trip to Trigalv National Park

Directed by **Maria Markes,** Triglav National Park administrator, and Roman Simec, OIKOS, Slovenia

Some 2,000 inhabitants live in the park, which covers 4.1 percent of the total surface area of Slovenia on the border with Italy and Austria. Development of the park is founded upon the Triglav Park Act and an agricultural development strategy in line with various international conventions. Some general objectives for the park are rural development, wildlife management and founding a consulting body for physical planning, agriculture and national heritage. Many resources are controlled directly by local farmers.

Other initiatives include agriculture development, tourism and supplementary activities, advisory and planning services, food processing, education and training, financial support, and assistance in writing various applications.

Participants visited the park's organic farm centre, met the initiator of the community centre, met with a local organic farmer and another running an eco-tourism business.

Afternoon working groups session

The working group session focused on three topics:

- *Programming for Structural Funds (policy level):* sub-topics covered: how national agencies and countries must develop structures for programming; the variety of funds available: national, international, and EU funds; the new planning cycle to begin after EU accession; objectives after CAP reform;
- *Natura 2000 and rural development (project level):* sub-topics covered: discussions on successful projects in organic agriculture and tourism; there are many projects involving protected areas or the Natura 2000 network; projects aimed at securing sustainable development around and within the protected areas; how to maintain conservation objectives for conservation purposes; combinations with eco-tourism.
- *Community-based initiatives (project level):* sub-topics covered projects aimed at improving: the quality life of people in the area, the quality of agricultural production, helping develop direct marketing; projects not necessarily linked to protected areas; labelling of local organic products.

Group #1 discussed programming issues

Communication was identified as a problem. There is a lack of or insufficient communication between or among partners, and lobbying negatively affects decision-making. There was insufficient communication during the preparation for the new programming period, and it is not clear how much the various partners are able to influence the process. NGOs are more active than the ministries of environment during the period, which brought into question the work capacities of the ministries of environment.

Communication problems may be tackled by creating direct links between institutions, establishing a single, centralised information system, initiating and signing agreements between institutions as well as intensifying communication between farmers and the administration.

Furthermore, the rules for national decision-making were discussed. It was stressed that the directions that governments are inclined to follow when given EC recommendations (because of complicated rules) is a problem. The main solution was to increase training.

Another problematic area in programming is measures. The issue of wide or narrow measures was discussed and how well-targeted measures should be and how many. Narrow measures are easier to manage, and simplify measures can lead to faster absorption of funds. The choice depends on a country's preparation. It was suggested to consider the possibility of using national financing for "complex" measures.

The preparation time allowed for programming documents was perceived as too short and the programming of bilateral projects too rigid. Documents should be simplified and SAPARD experience used. It was recommended to request information from the European Commission as soon as possible and well

in advance. The importance of having a good relationship with the desk officers at the EC was emphasised as well as the usefulness of their training and internships. Bilateral project assistance was noted as an important facilitator in preparing programming documents.

It was emphasised that rural issues are insufficiently represented in the single programming documents (SPDs). It is important to have NGOs represented at the Monitoring Committees. It was suggested that a combination of SPDs and regional development plans (RDPs) would simplify programming for rural matters and further the integration of rural development in operational programmes for Structural Funds. SAPARD was mentioned as the perfect source of experience for preparing SPDs and RDPs and that experience derived there from must be used. It was recommended that payments be handled by a single paying agency.

There was a concern over the issue of *garamond*-mation, complicated procedures, problems with banks and lack of capital. The need to simplify procedures was stressed. It was suggested to create a system giving small farmers access to small funds, creating the expertise within banks and other relevant institutions for the evaluation of small projects, but these sorts of initiatives depend on the inclinations and decisions of the national governments. Further development of agricultural extension services was highlighted as well as creating a special programme for small farmers to increase their absorption capacity.

The last issue discussed was the flexibility of SAPARD. It was suggested that a faster process of amending the programme would increase its flexibility.

Group #2 discussed Natura 2000 and rural development.

The main problems in this area were identified, such as the differing educational backgrounds of the people involved, personal bias, a lack of awareness and information. Institutions have inadequate capacity and did not involve local people from the beginning of the process. Financial/income problems, and a lack of compensation for environmental services and complicated SAPARD procedures have been highlighted. The need for more synergy between pre-accession management plans and other development plans and the lack of cooperation between ministries, particularly ministries of agriculture and environment, were expressed.

At the project level, weak knowledge and experience in project preparation for the LIFE Programme was identified as well as the lack of capacity and time. The programme has unfavourable financial rules for CEE countries.

Group #3 identified sources related to insufficient and deficient communities.

All of SAPARD has overly complex application procedures. SAPARD agencies set criteria too strictly, while funding and reimbursement procedures are complicated. A lack of easily understandable information and knowledge of how to use the information was mentioned. Communities lack the initiative and skills to identify problems and set priorities. They lack programming knowledge, knowledge of fund matching and fund management. Furthermore, communities lack a sense identity/unity and their distrust prevents cooperation among the possible partners. Local authorities lack the skills to in identify priorities regarding fund recipients (groups and individuals) as well as the capacity and skills to hear small players.

Day III

Morning working groups session

The day opened with **Jiri Dusik**, Environmental Assessment Team Leader, REC for CEE, who presented Integration of Environmental Issues into Structural Fund Programming: Lessons Learned in CEE 2000-2002.

Group #1 discussion on Initiative and cooperation problems on local (community) level

It is important to find an initiator within the local community who acts as a moderator and creates partnerships of actors. Environmental NGOs often act as leaders and have an important role in the process. If there is no initiator, top-down or bottom-up approaches can be used. There is a role for the local authority or administration (not just the mayor) as well. Strong leaders must promote the notions of community development.

The following activities need to be funded, and their implementation coordinated:

- Study Circles: public forums/discussions, and rural programmes targeted at local authorities; top-down inspiration to encourage local initiative/community development; critical mass;
- Consultations: project formalisation, preparation, implementation, twinning; local authority funds or fundraising for support; exchange of experience, exchanges between settlements;
- Local authority advisory services, and other free services for rural actors;
- Improve capacity of these services using local advisors; technical assistance funding, SAPARD agencies and regional offices;

Group #2 discussed capacity building, information, and communication

Capacity-building, information and communication are important for ensuring the efficient allocation of resources and for environmental protection, complying with EC requirements and avoiding overproduction. By having proper processes in place, mistakes can be prevented and problems can be solved more cost-effectively. Currently, information is insufficient, not in the right format and does not reach recipients on time. Informed people can make good decisions and plans. Authorities lack capacity (staffing shortages) and expertise.

What should be done?

More information should be available to decision-makers, experts, local communities, farmers and NGOs, and information should be bottom-up as well. Selection of the right information and good timing must be ensured. Systems for sharing information (with respondents) have to be created in understandable language.

Information from the EU goes directly to the national level and should be distributed to regional and local levels.

How?

Information dissemination should involve experts and properly trained people. The training is needed for people who are responsible for sharing information with the community and special groups thereof. Training in planning methods and problem management are important as well.

NGOs should be involved in all process and steps. They have to know how to do it and how to provide information for the media. In order to improve the flow of information, clear responsibilities have to be set at all stages. Facilitation services have to be created to transfer knowledge on project preparation. A willingness to communicate has to be motivated and its benefits demonstrated.

There is a need to educate and coach experts involved, whether local or external, and it is important to involve NGOs for improving information skills. Financial resources should be reallocated for expert training, continuous training, knowledge updates provided by external and local experts.

Group #3 discussed the integration of nature concerns into programming

What should be done?

- National/EU requirements (governments) should be simplified.
- Cooperation and coordination between the ministries of environment and agriculture should become more intensive and less formal (during negotiations, preparations for negotiation positions, capacity-building for negotiations).
- Enforcement should be strengthened.
- Cross-sector work, and integrated planning (for EU and accession countries should be improved.
- Training for the ministries of environment on SAPARD and Structural Funds for the period 2006-2013 should be held, as well as, on the planning process to ensure their influence in the planning process. Training workshops should be conducted on SAPARD as was done for ISPA.
- Project selection guidelines should be more objective and more detailed (e.g. an environmental scor-

Opportunities for action

Action	National	Regional	Local
Information	Dissemination, selection, processing	Dissemination, use in planning, implementation	Dissemination, use at project level
Communication	Media, training	Training, communication experts	Strengthening NGOs
Capacity	Education, training	Education, training	Facilitation, education

ing system for all programmes; regional environmental nature conservation authorities, ministry of environment and ministry of agriculture, at all levels)

- Better interpretation/information of EU requirements is needed, including nature conservation, which is currently lacking (governments and EU information offices).
- Legal background is needed in all accession countries (ministry of environment, ministry of agriculture, etc. NGOs should be able to initiate and comment).
- Timing issues/lack of time need to be addressed.
- Implementation must be monitored (establish nature conservation criteria in accordance with the overall monitoring criteria; having the process defined by research institutions) and environmental monitoring must be integrated into the overall monitoring scheme.
- Ongoing processes of environmental integration into various sectors in the EU has to be followed with appropriate sector representatives requesting participation in other sectors, involvement and information.
- Countries should prepare guidelines (as the Czech Republic did); unofficial "soft" manual (ministry of environment);
- Strategic environmental assessment (SEA) and environmental impact assessment (EIA) should be used for nature conservation by ministries of environment with multiple stakeholder participation.
- The Partnership building approach should be employed.

Group #4 discussion on small farmers

The objective to work with small farmers is to keep people actively working in the countryside through small farming activities, which has positive social effects. The group covered environmental aspects related to small farming, the traditional landscape of rural areas, biodiversity of rural areas, preserving local identity and local knowledge, and the external costs related to moving from small farming. The full costs of the change cannot be calculated, but traditions should be respected.

Opportunities should be made available for small farmers to shift from farming to viable and self-sustaining economic activities. Quick solutions proposed were small grants, availability of infrastructure and schools to keep people in rural areas, creation of extension services, consultations to help small farmers create projects and diversify their activities, and establishing community centres. Long-term solutions proposed were cooperation among the farming population to market products more efficiently and community-building (both of which depend on the farmers themselves) as well as tourism, crafts, wood-processing, regional agricultural products and the creation of local markets.

Ministries of agriculture, ministries of regional development, local and regional municipalities, extension services, NGOs, farmers and their unions are the main actors in the process. There is a definite potential for private businesses to come to rural areas.

Conference closing remarks by Jernej Sritich, OIKOS, Slovenia

The process takes time. It cannot start overnight and much must be invested into programme planning and facilitating processes in the countryside itself. Cooperatives and NGOs can help accelerate the process of sustainable development in rural area and nature conservation. Improvements in communication between ministries of environment and agriculture can be achieved. It is important to invest efforts and funds into building partnerships and encouraging participation. The process of identifying objective crucial. EC/EU requirements were unquestionable when countries were entering the "club". Starting from accession, countries will be more and more involved in decision-making and defining national policy objectives. The process of selecting objectives that are valid for the countries will then start. The CAP review and discussions on the next budget period are also to come. If a country knows what it wants, it will have the opportunity to make its case during the next negotiation cycle.

Recommendations

Summary

Ten Central and East European countries – Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia – are candidates for accession to the EU. The rural areas of the accession countries have extensive potential for production of high-quality, healthy food. In addition, these countries have large, well-preserved, natural and cultural landscapes, which may provide a good basis for sustainable development.

At the same time these areas — especially on their peripheries — face a number of obstacles to development. The main ones are:

- unfavourable demographic trends;
- land abandonment;
- scarce job opportunities;

- a lack of capacity within local populations to initiate and carry out development programmes;
- a lack of capacity in government agencies and institutions; and
- insufficient communication and flow of information among all levels of society.

The farming model the EU has developed over several decades now produces a surplus of food. Thus, one of the main goals of the CAP after the enlargement of the EU should be to keep rural areas in the accession countries settled and to stimulate their sustainable development, rather than support a rapid restructuring of the prevailing farming model.

To achieve this, the CAP, and possibly other subsidies, should aim to:

- build capacities to be able to design and implement development programmes in local communities;
- strengthen institutions on local, regional and national levels;
- improve the quality and provision of information on all levels;
- support initiative and an entrepreneurial spirit among local populations;
- help small farmers to make the transition to non-farming activities;
- promote and implement agri-environment schemes; and
- establish and maintain the Natura 2000 network.

Findings

The discussions at the conference were based on an analysis of the first generation of national projects under SAPARD. An important part of the regulations which established SAPARD, the programme which prepares accession countries for measures under the CAP, concerns projects aimed at sustainable rural development and nature conservation. The studies leading up to the conference were commissioned to provide an independent assessment of how national programmes are implementing these objectives and to make recommendations on how the programmes' performance could be improved.

Judging by trends in the funding allocations of the current national programmes under SAPARD, it seems that the highest priority among the countries is to increase the competitiveness of large farms and the processing industry. The bulk of funds are oriented towards agricultural production, processing, infrastructure and direct investments in farms. National programmes are looking to prepare large farmers and the food industry for competition on the enlarged common market of the EU, to help them to adapt to new legislation and to position the accession countries to benefit from the CAP in its current form. Objectives concerning sustainable rural development, the environment and nature conservation are secondary priorities in most countries.

This approach may be reasonable to enable the entry of at least the most competitive and economically important segment of agricultural businesses into the European market on reasonably equal terms. Sustainable rural development and the integration of environment and nature conservation in agriculture may have also emerged as secondary priorities, because the policies, measures and projects pursuing these objectives require higher levels of complexity and innovation.

If future funding follows these same trends, especially as accession countries become new members of the EU and begin implementing the CAP, major opportunities to preserve the social, environmental and economic advantages of the AC-10 countryside will be lost. Problems such as social disparities, pollution and loss of biodiversity will worsen at faster a faster pace, requiring expensive remedies later on. Furthermore, CAP reform itself could miss important contributions from new member states if they do not implement unconventional agricultural models.

Recommendations

For the EU as a whole — including the future new member states — to see real benefits, SAPARD, followed by the CAP, Structural Funds and national policy instruments should aim to achieve the following objectives:

1. Counteract the upcoming socio-economic shock in the AC-10 countryside.

Since market surpluses of agricultural products will limit an expansion of agricultural production in the enlarged EU, rural areas in the accession countries will undergo a transition from agricultural and industrial production towards service activities. Thus, a large part of the active population will be forced to find other, non-agricultural jobs. In circumstances where the national pension systems are already under strain, middle-aged and older rural citizens with limited abilities to adapt will be especially hard hit, while younger populations may rapidly move away to cities or even other parts of Europe. The collapse of society in the countryside, through severe depopulation and land abandonment, may have significant, negative economic effects and may also contribute to decreases in biodiversity. The most cost-effective solution is to identify and "rediscover" local (human, cultural and natural) resources and use them in a sustainable way by developing innovative business

ideas. This would also contribute to the preservation of social stability as well as biodiversity in the countryside.

2. Support the supply of high-quality, healthy (organic) food to the EU market.

Due to intensive farming and the extensive use of chemical substances in agriculture, food is today far from natural, and natural resources (e.g. the supply of groundwater) are under a severe strain all over Europe. Therefore, food produced with organic, or environmentally-friendly, methods using various agri-environment schemes would be welcome on the EU market. By producing such food, new member states would find the shortest, fastest way to becoming competitive on the agricultural market. New schemes would generate jobs and income for farmers, who would otherwise be forced to abandon their farms, and create additional jobs in marketing and processing. To stimulate farmers to enter agri-environmental schemes and start practising environmentally friendly farming, it is important to help them find markets for their products. SAPARD could invest in educating farmers in the area of sustainable and environmentally friendly farming methods, as well as in projects related to organising producers and marketing. In the area of agricultural production, projects that take into account the preservation of natural resources and production of healthy food should be given priority.

3. Preserve and promote traditional landscapes and the natural environment.

One important characteristic and natural resource of the accession countries is their relatively well-preserved natural and cultural landscapes. They provide several important services in environmental and economic terms. Parts of these areas could be developed for various kinds of tourism and recreation, employing the local population in an array of service industries and providing opportunities for direct marketing of local products. With adequate support these areas should be promoted in the rest of the EU with the long-term goal of being able to provide services comparable in quality to those in the EU countries and to attract visitors from the whole EU.

4. Facilitate the process of socio-economic transition from agricultural to service activities.

With one of the main objectives of the programme being rural development, SAPARD should provide the means for reducing the dependence of the rural population on agriculture and change the way of life in rural areas from rural towards "suburban." This should include support for the establishment and development of small and medium sized businesses in the countryside. Small and part-time farmers, as well as cooperatives and associations, should also be given access to specifically designed SAPARD (or later CAP) funds, especially if their projects are oriented toward specialised products, integration of production chains or diversifying their sources of income.

The following measures should be taken to achieve the objectives above:

a. Build the capacity of the national SAPARD agencies for programming and implementation of measures related to rural development, environment and nature conservation. The existing capacity of these agencies is currently related mainly to agricultural production and processing, but the agencies could benefit from the experience emerging from successful rural development, and environmental and biodiversity initiatives in the AC-10 and the current EU member states. An expanded capacity would also enable these agencies to better communicate and develop synergies between objectives and measures under Structural and Cohesion Funds that will be managed by other government agencies in the countries.

b. Improve communication and transparency. Currently, information about SAPARD reaches only narrow target groups. The awareness and understanding of the programme within rural and urban populations, such as its policy objectives and specific measures, should be increased significantly. Important steps in this process are:

   - preparing projects and establishing approval procedures in individual countries which are transparent and not more complicated than required by the European Commission (EC);
   - presenting information to local communities through on-site public presentations, allowing people to ask questions and to receive direct explanations, and
   - providing training in project preparation, project management, application procedures and tendering.

An important part of communication should be sharing experience and best practices with rural development programmes and nature conservation measures within and among countries. Funds for this should be made available, either within the national programmes or within technical assistance and similar activities undertaken at the initiative of the EC. NGOs should be more actively involved in providing information.

c. Launch and support local development programmes. An important vehicle for achieving the policy objectives of SAPARD, and later CAP, is participatory, local sustainable-development programmes, which have developed under different names in several countries. These programmes make funds available to

rural populations in a prioritised and concentrated manner. The portion of SAPARD dedicated to technical assistance and similar activities undertaken at the initiative of the EC can be used to train local communities in preparing and implementing development plans, to support development of consulting services in the area of rural development and programming, to support building extension service networks and to facilitate the sharing of experience within and among countries.

d. Support more directly the implementation of the Natura 2000 network. Apart from potentially interesting tourist areas, relatively large parts of the accession countries are already protected and still more are slated for inclusion in the Natura 2000 network, which is required by the *acquis communautaire*. Some protected areas in Natura 2000 need to be strictly protected, but in many the objective is to preserve, in cooperation with the owners of the land, traditional agricultural ecosystems which are high in biodiversity. The protected areas provide some employment opportunities, sometimes in connection to tourism and visitor management. The national programmes under SAPARD should establish a direct link with the national Natura 2000 networks, which are to be designated by the governments according to the Birds and Habitats Directives.

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Part II:
Project Background Material

National Studies

Introduction and scope

Within the framework of the project, national studies were conducted in the 10 accession countries in order to collect general information which can facilitate understanding of rural and conservation issues in each country; to analyse national programmes under SAPARD and their implementation methods; and to identify a small number of examples of best practices which demonstrate the integration of nature conservation and rural development under SAPARD.

The national studies were structured as follows:

1. Regional Development Programme: SAPARD

- Institutional structure;
- Implementation measures, etc.

2. Nature conservation

- Biodiversity Conservation — general description of basic strategic documents;
- Natura 2000 — current developments, implementation, institutional structure

3. Summary per evaluation

- Nature conservation aspects within SAPARD and rural development programmes

4. General country statistics (table)

All 10 national studies were conducted early in the implementation process of the projects conducted under SAPARD in the CEE countries. Thus, the material lacks a deep analysis of the programme. Basic trends have been evaluated from the rural development plans being prepared in each respective accession country and activities underway in the field.

The national studies in this report can be found in the following order:

- **Bulgaria**
- **Czech Republic**
- **Estonia**
- **Hungary**
- **Latvia**
- **Lithuania**
- **Poland**
- **Romania**
- **Slovakia**
- **Slovenia**

Implications of Biodiversity Conservation in Rural Development Programmes of **Bulgaria**

National institutional structures related to agriculture and biodiversity conservation

SAPARD

The Ministry of Agriculture and Forestry has the overall responsibility for the preparation of the National Rural Development Plan, as well as for preparation of detailed measures. Implementation and payment functions are dedicated to the SAPARD Agency, which has 28 regional offices in the administrative centres throughout the country and six payment agencies in the six planning regions (NUTS II units).

Regional development

The Ministry of Regional Development and Public Works, and the Ministry of Finance are responsible for the regional development of the country. The Regional Development Plan is under preparation.

Natura 2000

Responsibilities for the protection of biodiversity and natural resources, as well as their management, are shared among the Ministry of Environment and Water, the Ministry of Agriculture and Forestry and the Ministry of Regional Development and Public Works, along with their respective regional authorities. The main responsible body, however, is the National Service for Nature Protection under the Ministry of Environment and Water. Employees of the regional environmental Inspectorates are responsible for controlling the protection of biodiversity in protected areas, as well as for securing the protection of natural parks. They also coordinate the activities of landowners with land inside the protected areas and organise educational programmes. The management of all activities involving the protection of the Rila, Pirin and Central Balkan National Parks is carried out by the relevant park directorates, which are independent juridical entities under the Ministry of Environment and Water. Park directorates and the National Forestry Board (part of the Ministry of Agriculture and Forestry) play an important role in the direct management of natural parks.

Short description of the main national priorities under sectoral policies

Agriculture

Within the government programme, the following priorities have been set:

- efficiently managing the land and forestry resources and developing market structures;
- increasing the competitiveness of the agricultural and food-processing sector, and creating conditions for export-oriented agriculture;
- preparing for the implementation of European Commission and Common Agriculture Policy requirements on the domestic market and for complying with international agreements;
- developing the sustainability of rural areas, including the improvement of living and working conditions of those employed in agriculture and forestry, and those living in rural areas; and
- managing natural resources, forest and game in a nature friendly and sustainable manner.

National Agricultural and Rural Development Plan (2000-2006)

The main objectives of the plan are:

- improving the efficiency of agricultural production and supporting the food-processing sector through

better market and technological infrastructure and strategic investment policies ultimately aimed at reaching EU standards; and

- achieving sustainable rural development in line with the best environmental practices by introducing alternative employment, diversifying economic activity and establishing the necessary infrastructure.

Sustainable Development Programme of Rural Areas

The strategic objective of the agricultural policy through 2005 is the sustainable development of agriculture and rural areas by restructuring the agriculture sector, and by creating competitive and export-oriented agriculture.

Regional development

National Regional Development Plan 2000-2006

The National Regional Development Plan is closely related to the National Plan for Economic Development, prepared within the framework of the Special Preparatory Programme for Structural Funds in Bulgaria. Priorities in the agricultural sector are given to less-developed rural areas. Objectives are:

- preventing the further degradation of farms by using the existing potential of the soil, genetics, labour and infrastructure;
- supporting regional adaptation to market conditions;
- diversifying the economy: development of the agricultural processing industry and handicrafts (wood-processing, pottery, souvenirs), as well as tourism (rural, ecological); and
- limiting the conditions for decreasing the availability of valuable arable lands.

Biodiversity conservation

Government Programme

In the part of the government programme aimed at biodiversity preservation and conservation, which belongs to the sector of environment protection and waters, the main tasks are the following:

- conservation, stabilisation and restoration of key eco-systems, habitats, species and their genetic resources; and
- creation of conditions for sustainable use of biological resources.

National Strategy for the Environment 2000-2006

Among nine general and specific objectives listed in the national environmental strategy, the fifth objective relates to biodiversity conservation:

Protection and preservation of rich biological diversity:

1. conservation, protection and restoration of key ecosystems, species and genetic resources;
2. provision of conditions for sustainable use of biological resources; and
3. improvement of forest quality.

National Strategy for Biodiversity Conservation (1994)

This strategy includes:

- support for research on nature protection;
- support for legislative initiatives;
- enlargement and stabilisation of the network of protected areas;
- ecological education and consulting services;
- support for the protection of the Black Sea; and
- support for biodiversity conservation in Balkan areas.

National Biodiversity Conservation Plan (2000)

- Drafting acts, normative acts and information-management documents;
- Institutional strengthening of the Government Biodiversity Conservation Unit;
- Establishment and maintenance of a national eco-network;
- Expansion and maintenance of the protected area network;
- Restoration and maintenance activities;
- Strengthening of the scientific base for biodiversity conservation; and
- Information, education and training.

National Development Plan through 2006, Sector Programme for the Environment

The main objectives, which are also in line with the Pan-European Biological and Landscape Diversity Conservation Strategy, are preservation, conservation and restoration of key ecosystems, habitats, species and

landscape characteristics. Priorities for achieving the strategic objectives have been identified on the basis of the following criteria:

- degree of vulnerability of biological species and natural sites of importance;
- significance of activities for protecting and maintaining biological diversity;
- obligations resulting from national legislation; and
- obligations resulting from international legal acts.

The National Biological and Landscape Diversity Conservation Strategy is the main document setting priorities for biodiversity conservation in Bulgaria. It was approved by the Council of Ministers in 1998. Approval of the National Action Plan for the Implementation of the Strategy is forthcoming.

National Plan for Economic Development 2000-2006 (draft)

The third axis of development within the National Economic Development Plan is the acceleration of the establishment and development of basic environmental infrastructure. Bulgaria is one of the countries with the greatest biodiversity in Europe. The government is preparing the programme for the protection of the environment, also bearing in mind the effects of the privatisation process.

Bulgaria is currently implementing only three measures. Another group of six measures has been approved by the STAR (Agricultural Structures and Rural Development) Committee, but these are not yet accredited. Funds shown in Table 1 are for the financial year 2000.

So far, 156 projects have been approved — 115 in the category of investment in agricultural holdings, 31 in processing and marketing of agricultural and fishery products, and only 10 in development and diversification of economic activities providing multiple activities and alternative income. The majority of projects support the purchase of agricultural machinery, while some others support the modernisation of processing enterprises. Within the 10 projects for diversification of rural activities, four are for rural tourism, one for agro-industry, one for local crafts and wood-processing, three for apiculture (honey production) and one for the production of mushrooms.

Main threats to biodiversity

According to the National Biological Diversity Conservation Strategy, the most common threats to biodiversity are the loss, destruction and deterioration of habitat in both aquatic and terrestrial ecosystems.

Aquatic ecosystems and their biological diversity are threatened by the:

- draining of wetlands, especially along the banks of the Danube river and on the Danube plain;
- adjustment and channelling of river beds;
- construction of dykes, dams, and strengthening of facilities; and
- pollution of water from various sources and the overloading of water with organic matter

Terrestrial ecosystems are threatened by the:

- construction and development works undertaken without regard for environmental impacts;
- environmentally unsound technologies applied in the main and auxiliary use of forest resources and agricultural land; and
- genetic isolation resulting from habitat disturbance.

Environmental pollution consists of the main sources of pollution:

- household waste;
- agricultural organic waste and chemicals;
- heavy metals and other toxic waste;
- oil and thermal pollution; and
- trans-boundary pollution.

The over-harvesting of economically valuable species has affected several ecosystems, habitats and species. Threats include poaching, and the over-harvesting of economically valuable fish species, plants and animals. The introduction and settlement of invasive species and subspecies have also had negative effects on biodiversity.

Agricultural intensification has had a diminishing effect on Bulgaria's unique genetic resources represented by local plant varieties and primitive domestic animal breeds.

Global climate change, including the thinning and depletion of the ozone layer and other climatic changes, may result in unforeseeable consequences for Bulgaria's ecosystems. The lack of awareness, as well as limited scientific information and knowledge, and the insufficient understanding among the public of biodiversity and the threats affecting it, are impediments to its conservation.

TABLE 1

Key national data related to rural development and biodiversity, Bulgaria

Geographical data	
Total country area (ha)	11,100,190
Population data	
Inhabitants (number)	7,932,984
Share of people employed in agriculture and forestry (%)	26.20
People employed in agriculture and forestry (number)	771,000
People employed in processing of agricultural products (number)	95,000
Enterprises processing agricultural products (number)	6,528
Share of private enterprise within food and wood-processing sector (%)	97
Data on land use	
Agricultural land (total area in ha)	6,518,540
Share of agricultural land within the country area (%)	58.70
Forestland (total area in ha)	3,725,678
Share of urbanised land within the country area (%)	5
Urbanised land (total area in ha)	553,529
Share of forest within the total country area (%)	33
Land use in agriculture	
Arable land (total area in ha)	4,424,000
Share of arable land within agricultural land (%)	89.76
Meadows (total area in ha)	315,000
Share of meadows within agricultural land (%)	4.83
Permanent cropland (total area in ha)	213,000
Share of permanent cropland within agricultural area (%)	3.26
Orchards (total area in ha)	79,791
Share of orchards within agricultural land (%)	1.20
Vineyards (total area in ha)	115,636
Share of vineyards within agricultural land (%)	1.77
Farming and agriculture	
Farms (number)	761,000
Farms producing for the market (number)	42,000
Farms producing for subsistence (number)	720,000
Average size of farms (ha)	4.73
Organic farms (number, not official data)	100
Farms receiving subsidies from SAPARD (number)	156

TABLE 1 continued

Key national data related to rural development and biodiversity, Bulgaria

GDP data	
GDP per capita (USD)	1,459
Share of agriculture and forestry within GDP (%)	14.50
Nature protection	
Protected areas (total area in ha)	492,310
Share of protected areas within total country area (%)	4.50
Share of historical monuments within the country area (%)	2.50
Share of proposed Natura 2000 sites within the country area (maximum in %)	15.00

Note: all data has been provided by national experts preparing country studies

TABLE 2

Bulgarian national set of measures under SAPARD

Measure	Objective
1.1. Investment in agricultural holdings	Improvement of the production, processing and marketing of agricultural products and processing of fishery products in compliance with EU standards.Development of environmentally friendly agricultural practices
1.2. Processing and marketing of agricultural and fishery products	
1.3. Development of environmentally-friendly practices and activities	
1.4. Forestry investment and marketing	
1.5 Setting up producers groups	
1.6. Water resources management, irrigation	
2.1. Development and diversification of economic activities providing for multiple activities and alternative income	Integrated development of rural areas aimed at protecting and strengthening their economies, and communities and helping to reduce the process of rural depopulation
2.2. Renovation and development of villages, protection and conservation of rural heritage and cultural traditions	
2.3. Development and improvement of rural infrastructure	
3.1. Improvement on vocational training	Investment in human resources
4.1. Technical assistance	Technical assistance

Implications of Biodiversity Conservation in Rural Development Programmes of the **Czech Republic**

National institutional structures related to agriculture and biodiversity conservation

SAPARD

The ministries responsible for SAPARD in the Czech Republic are the Ministry of Agriculture, Ministry for Regional Development and Ministry of Finance.

The SAPARD Agency has been established at the Ministry of Agriculture as the leading implementing body. The agency has seven regional departments and is responsible for, among others things, the selection of appropriate projects and the allocation of funds. The conferral of management of the programme to the SAPARD Agency was signed on April 11, 2002. The agency was officially opened and commenced work on April 15, 2002.

Regional development

The Ministry for Regional Development represents the supreme body with its regional departments.

Natura 2000

The Ministry of the Environment <www.env.cz> is the responsible body for Natura 2000. The Agency for Nature Conservation and Landscape Protection of the Czech Republic is the implementing agency and works in cooperation with the Administration of Protected Landscape Areas and administrations of the country's four national parks.

Basic political and strategic documents

- *Concept of the Ministry of Agriculture Sectoral Policy for the Accession Period* (2000)
- *State Environmental Policy* (1995, updated 1999, 2001)
- *State Forestry Policy* (2000)
- *National Programme for the Adoption of the Acquis Communautaire*
- *Agricultural and Rural Development Plan of the Czech Republic 2000-2006* (2000)
- *State Nature Conservation and Landscape Protection Programme of the Czech Republic* (1998)
- *National Programme on Plant Genetic Resources* (1993)
- *National Programme on Preservation and Utilisation of Animal Genetic Resources* (1995)

Cultural and natural heritage, the system of protection

The Czech Republic has 40,000 registered cultural monuments at present, of which 130 have the status of national monuments. Most of these are located in rural areas, and 11 are included on the UNESCO World Heritage List. Exceptionally valuable nature areas are designated as specially protected areas, which are divided in two categories: large-scale specially protected areas (four national parks and 24 protected landscape areas) and small-scale specially protected areas (national nature reserves, national nature monuments, nature reserves, and nature monuments).

The protection of nature and landscapes, as well as the management and development of all specially protected areas is overseen by their respective management plans. These plans include instructions for the regulation of nature development and human activities, particularly in specially protected parts. The state nature conservation authorities, as a rule, approve the management plans for a period of 10 years. These plans are

used as binding documents for all other spatial planning documents, especially for forestry plans and landscape planning documentation.

This system of large-scale and small-scale protected areas has been developing since the 1830s. Nevertheless, the new legislation, based on a holistic or integrated approach, has also tried to deal with unprotected agricultural and forestry areas, using the national concept of the Territorial System of Ecological Stability of Landscapes (TSES) at various levels. The concept of TSES started in the 1970s and represents a pioneering ecological network at national, regional and local levels in Europe. TSES was conceived as an ecological network of biocentres (core areas) and biological corridors. Most of the country (in 1998, some 98% of the whole territory of the Czech Republic) has been classified based on biogeographical, ecological and landscape criteria, and TSES elements of local, regional and supra-regional importance have been identified. In addition, the European Ecological Network (EECONET), consisting of similar elements of at least Central European importance, was proposed for the Czech Republic within the framework of the World Conservation Union (IUCN) European Programme funded by the Dutch government.

The identification and mapping of Natura 2000 sites are the priorities of the Ministry of the Environment. The process includes the participation of selected specialists. Available data on habitats and species has been assessed, but precise data on Natura 2000 is not yet available. It is expected, however, that the total area of proposed sites will not exceed 20 percent of the country's total territory.

To enhance both ecological processes and diversity in a non-protected landscape, special landscape management programmes have been launched in recent years. Under the auspices of the Ministry of the Environment the following programmes have been developed:

- The River System Restoration Programme, which started in 1992, aims at re-establishing a near-natural drainage regime of water streams in the landscape.
- The Landscape Management Programme was adopted to restore the cultural landscape and its ecological stability through measures aimed at protection against erosion, the protection of important biotopes and trees of historical or landscape value, and the conservation of species diversity.
- The Programme for Small Water Management Facilities supports the construction or reconstruction of small sewage systems or water purification plants.
- Under the auspices of the Ministry for Regional Development, the Programme of Rural Areas Renewal was developed with the aim of revitalising local traditions and lifestyle with the active participation of civic society. It supports mainly the economic development of rural communities, their technical infrastructure, but also landscape protection.

The Ministry of Agriculture supports some other activities aimed at conserving the country's biodiversity heritage, such as grassland management, biological control, organic farming, preserving genetic variability of domestic plants and animals, and maintaining agro-biodiversity.

Forestry operations are planned for both short-term and long-term periods based on a detailed system of forest classification (probably one of the most complex world-wide). The owner of a forest is fully responsible for its implementation. Forest owners with more than 500 hectares of land are obliged to prepare a forest plan for a 10-year period, while those with less than 500 hectares should only draw up management guidelines. The latter give the general framework for future activities. Subsidies are given for certain forestry management purposes, including the restoration of forests affected by air pollution, the fertilisation and liming of forests, the afforestation of forestland, environmentally friendly technologies in forestry practices, and extra-production functions of forests, including the maintenance of forest biodiversity.

Agriculture and rural development

Agricultural activities have significantly modified landscapes in the territory of the present Czech Republic, the land of which is characteristically more than 70 percent arable. Some historical events such as the first land-tenure reform after World War I, collectivisation during the communist regime, or the privatisation process of the early 1990s had a serious effect on agriculture and farming in the country. Large-scale farming that developed as a result of collectivisation in the 1950s and 1970s made significant impacts, and the political changes of the 1990s brought new trends to agriculture yet again. Currently, the main policy documents on agriculture aim at the implementation of sustainable development principles and the encouraging of natural cycles of substances and energy in ecosystems. Their principal goals are to establish the optimum proportion of arable land, meadows, pastures, forests and waters, to create conditions for multifunctional agriculture, to support principles of good agricultural practice, to ensure the ecological stability of landscapes and forests, to reduce water pollution and to increase safety in food production. Although large-scale farming is still a prevailing form of husbandry, some family farms, eco-farms and other related companies have

started up new activities. Moreover, an increasing public awareness on the importance of biodiversity and a clean environment has stimulated demands for new quality products, and has raised the interest of farmers in growing neglected crops and broadening diversity in farming systems.

As a significant effort of the Czech government to preserve genetic variability in agriculture, the Ministry of Agriculture adopted the National Programme on Plant Genetic Resources in 1993 and the National Programme on Preservation and Utilisation of Animal Genetic Resources in 1995. Important steps were also taken in the field of rural development. Table 1 provides a list of national policies targeting to the development of rural areas.

Forestry

A total area of 2,639,000 ha (2001) is forested in the Czech Republic, representing 33.4 percent of the total territory of the country. Considering current trends, this figure seems appropriate. Forests for economic usage account for 76.3 percent of the total forested area, while protected and special purpose forests account for the remaining 23.7 percent. Taking into account overlaps between forest land for different purposes, 58 percent of the total forested area can be considered to have non-production functions, which are supported through the savings accrued by exemption from real-estate tax. Of this area 25.1 percent of forests are in large-scale protected areas. Afforestation of agricultural land funded under subsidies aimed at restructuring plant production represented a total of 1,091 ha in 2001. The subsidy totalled CZK 53 million.

The species composition of forests began to change substantially from the 18th century onwards as the share of coniferous trees, especially spruce, started increasing. This development resulted in increased profits, but also reduced the stability and biodiversity of forest ecosystems. The health of forests is still not satis-

TABLE 1

Policies of the Czech Republic targeting to the development of rural areas

Ministry*	Programme	% of subsidy
MRD	Rural Renewal Programme – housing and amenities, public grounds and greenery, roads, cycling paths, land-use plans, education and extension, integrated projects of microregions, interest subsidies for infrastructure-related loans	
MRD	Support for the construction of housing to let	40
MRD	Support for the construction of technical infrastructure for housing development	40
MRD	Support for the reconstruction and modernisation of housing	40
MRD	Support for SMEs Region, Village and Regeneration — interest subsidies	20
MoA	Support for water management matters — drinking water supply	
MIT	Support to reduce the use of fuels and increase the use of energy insulation, alternative sources, energy plans	
MEn	Landscape management — anti-erosion measures, condition of landscapes, territorial systems of ecological stability	
MEn + MRD, MF	River systems restoration	
MEn + MRD, MF	Small-scale water management and ecological operations	
MoC + MRD	Care of rural heritage zones	50
MoC + MRD	Conservation of architectural heritage	50
MoC + MRD	Programme for the Regeneration of Protected Urban Heritage Districts	50
MoC	Emergency scheme for roofs	
MRD	Phare for crossborder cooperation, 27 districts	

Abbreviations: MRD = Ministry for Regional Development; MoA = Ministry of Agriculture; MIT = Ministry of Industry and Trade; MEn = Ministry of the Environment; MF = Ministry of Finance; MoC = Ministry of Culture; SMEs = small and medium size enterprises

factory, as is clear from the defoliation of forest trees, caused primarily by industrial emissions and abiotic factors, and to a lesser extent, also by biotic pests. However, there has been a significant drop in calamity felling during the last four years.

Forest ownership has undergone radical changes during the last decade. In 1990, 95.8 percent of forests were in state hands, 0.1 percent were privately owned and 4.1 percent were owned by collective farms. In 2001, state forests accounted for 61.5 percent and municipal forests for 14.6 percent. Some 0.9 percent belonged to forest cooperatives and 22.0 percent were privately owned. The relatively low share of forestry in the country's gross domestic product (0.6 percent) is the result of both natural conditions and the industrial potential of the Czech Republic. In 2001, 34,000 persons were employed in the forestry sector; total felling was 14.37 million square metres.

Short description of the main national priorities under sectoral policies

Strategy for SAPARD and main documents

Adoption of the *acquis communautaire,* not only from a legislative viewpoint, but also in establishing the respective administrative institutions and building the ability to take over existing regulations of the Common Agricultural Policy, structural and rural policies and programmes governing Structural Funds, are all prerequisites for European Union membership.

Key preparations of the Czech Republic for accession are based on the National Programme for the Adoption of the *Acquis Communautaire* (NPAA), including both short and long-term priorities for *acquis* adoption, the Accession Partnership for pre-accession years, the results of the evaluation by the EC made in its regular reports on Czech Republic's progress toward accession, and also on results of the analytical screening of legislation. In 1999, the NPAA was elaborated and incorporated into the implementation strategy.

Strategic objectives of the Development Plan for Agriculture and Rural Areas in the Czech Republic are based on the agricultural, forestry and water supply policies, as well as on environmental policy and rural development planning.

Priorities of the National Programme for the Adoption of the Acquis Communautaire in the fields of agriculture and rural development

- Improve veterinary and phytosanitary control mechanisms — veterinary checks in warehouses; change the existing system of extraordinary veterinary measures allowing imports from specific third countries to be blocked; improve the co-financing of expenditure with regard to serious outbreaks and eradication measures;
- Improve or establish border inspection posts and import checks; establish National Reference Laboratories for the field of aquaculture; improve a substantial part of the plants processing products of animal origin to meet EU hygiene and public health requirements;
- Amend the residue legislation and monitoring to ensure full implementation in the field of zootechnical legislation and animal welfare rules, which are partially in place;
- Adjust the delimitation of Less Favoured Areas to EU criteria and establish multi-annual programmes – national resources;
- Amend the forest law to achieve full compliance with EU legislation; establish support for afforestation and regimes protecting forests from atmospheric pollution; improve legislation on forest reproductive material; forestry improvements – national resources;
- Establish management mechanisms for common market organisations; improve the collection and distribution of data; establish a legal framework for producer organisations, milk quotas or intervention systems;
- Adopt legislation in the field of aquaculture and set up the institutions for implementing the common fisheries policy.

Beside these, many more priorities can be found in the NPAA for environmental, economic and social cohesion, which are related both to agriculture and rural development.

Priorities of the Accession Partnership in Agriculture and Rural Development

Short term:

- Measures required for implementing the CAP and rural development policies;
- Veterinary and phytosanitary sector — continued alignment and upgrading of inspection arrangements;
- Approval of a plan to modernise meat and dairy plants to meet EU hygiene and public health requirements;
- Complete harmonisation of the cattle identification system and extension to cover other species.

TABLE 2

Key national data related to rural development and biodiversity, Czech Republic

Geographical data	
Total country area (km^2)	78,865
Population data	
Inhabitants (number)	10,206,436
People living on farms (number)	24,053
Share of people employed in agriculture and forestry (%)	3.76
Data on land use	
Share of agricultural land within the country area (%)	54.20
Share of forests of the total area (%)	33.40
Share of urbanised land of the total area (%)	7.00
Share of arable land within agricultural land (%)	71.90
Share of meadows and pastures within agricultural land (%)	26.30
Share of orchards within agricultural land (%)	1.10
Share of vineyards within agricultural land (%)	0.60
Farming and agriculture	
Farms (number)	38,210
Average size of farms (in ha of arable land)	65
Share of farms with less than 3 ha of arable land within the total number of farms (%) - less than five ha*	29.00 43.10
Share of farms with more than 3,000 ha of arable land within the total number of farms (%) - more than 2000 ha*	0.20 1.10
Organic farms (number)	564
Farms participating in agro-environment projects (number)	18,075
GDP data	
GDP per capita (in USD)	5,270
Share of GDP from agriculture and forestry (%)	3.76
Share of GDP from processing of agricultural products (in USD)	2,470,468
Nature conservation	
Protected landscape areas (number)	24
National parks (number)	4
Total area of protected areas (in ha)	1,153,485
Agricultural land within protected areas (in ha)	369,000
Share of protected areas in total country area (%)	14,63
Share of cultural landscapes within protected areas (%)	25.70
Share of proposed Natura 2000 sites of the total country area (preliminary data, %)	20

Note: all data has been provided by national experts preparing country studies
* **Data given in the Czech statistics**

TABLE 3

Czech national set of measures under SAPARD

Priorities	Measures
1. Increasing the competitiveness of agriculture and the processing industry	• Investments in agricultural holdings • Improving the processing and marketing of agricultural and fishery products • Improving the structures for quality control, the quality of foodstuffs and for consumer protection • Land improvement and redistribution.
2. Sustainable development of rural areas	• Renovation and development of villages and development of rural infrastructure • Development and diversification of economic activities, providing for multiple activities and alternative income • Agricultural production methods designed to protect the environment and maintain the countryside
3. Conditions for full utilisation of the programme	• Improvement of vocational training • Technical assistance.

Medium term

- Reinforce CAP management mechanisms and administrative structures (monitor agricultural markets and implement structural and rural development measures, set up bodies and control mechanisms) — SAPARD;
- Veterinary and phytosanitary sector — complete the system of animal identification; implement a quality control system (Hazard Analysis Critical Control Point), animal waste treatment, modernisation of meat and dairy plants, residue and zoonosis control programmes – Phare, SAPARD; and
- Implement a plan to modernise meat and dairy plants – SAPARD.

Short-term environmental priorities

- Accelerate transposition and enforcement of framework legislation in the areas of water quality, waste management, integrated pollution prevention and control, nature protection and air quality;
- Develop an environmental investment strategy based on estimates of the costs of alignment and realistic sources of public and private finance year-by-year with emphasis on those directives with substantial investment needs in the water sector, air sector, waste management and industrial pollution control; and
- Complete transposition and enforcement of the Environmental Impact Assessment Directive.

Medium-term environmental priorities

- Complete transposition and implementation of framework and sectoral legislation; continue strengthening administrative, monitoring and enforcement capacity — SAPARD, Instrument for Structural Policies for Pre-Accession (ISPA); and
- Integrate sustainable development practices into the definition and implementation of all other sectoral policies — SAPARD, ISPA.

Medium-term priorities regarding economic and social cohesion

- Develop national policy for economic and social cohesion; improve administrative structures; organise the budgetary system and procedures according to Structural Fund standards, including appraisal and evaluation — Phare, SAPARD.

Priorities of the National Development Plan

The National Development Plan (NDP) was prepared in 1999 with the support of the EU Phare Special Preparatory Programme for the introduction of EU Structural Funds after accession. It was the first major exercise in defining the basis for extensive consultation and focused research, as well as of core priorities to tackle economic and social disparities.

The NDP provides much of the overall strategic context within which the objectives and measures of the SAPARD plan will become operational. The rural development plan contained in the NDP is of necessity more extensive than the present SAPARD Plan. The NDP pri-

marily aims to identify priority areas for action to reduce economic and social disparities, while the SAPARD plan concentrates resources on the preparation of the Czech agricultural and food sectors, as well as rural areas to meet the obligations and challenges of membership. There is, however, clear synergy between the core themes of the NDP and the SAPARD plan.

Main threats to biodiversity include:

- Biotopes deterioration and fragmentation;
- Environmental pollution with xenobiotic substances;
- Negative impact of invasive alien species;
- Inappropriate landscape management (especially with regard to infrastructure development);
- Climate change and its consequences.

Implications of Biodiversity Conservation in Rural Development Programmes of **Estonia**

National institutional structures related to agriculture and biodiversity conservation

SAPARD

The Ministry of Agriculture is the managing authority of SAPARD in Estonia. The body responsible for the actual implementation of the programme is the Agricultural Registers and Information Board (ARIB), which is subordinate to the Ministry of Agriculture. It implements its mission through a network of regional offices in the various counties. On the national level, several ministries are responsible for different aspects of regional development, while the leading authorities on the regional level are the county administrations.

Natura 2000

On the national level, the Ministry of Environment is responsible for the selection of protected and Natura 2000 sites, while these fall within the duties of environmental offices of each county locally. There are also several internationally sponsored projects focused on site selection.

Short description of the main national priorities under sectoral policies

Agricultural Rural Development Plan

The plan intends to prepare the agricultural sector for integration into the EU and the application of the CAP.

Regional development

Although they are quite general, both the Regional Policy and the Regional Development Strategy strive for a balanced development of the whole nation.

Biodiversity conservation

The National Environmental Strategy is a general document, while the National Environmental Action Plan is meant to translate the strategy into specific action. One chapter of the plan is dedicated to conservation of biodiversity and landscapes.

The draft Biodiversity Conservation Strategy and Action Plan aim to provide a detailed set of actions for the integration of biodiversity conservation into various sectors.

The National Natura 2000 programme is meant to steer the preparation of the Natura 2000 network.

SAPARD and Regional Policy Analysis Framework

In the case of Estonia, SAPARD funding is not used for biodiversity conservation and is not included in future plans. The current aim of SAPARD is the harmonisation of the agricultural sector with EU regulations. Rural development, agri-environment and biodiversity are not seen as priorities by those responsible for the implementation of SAPARD.

On the other hand this does not mean that agri-environmental considerations are completely neglected. The Ministry of Agriculture launched the pilot Agri-environmental Programme, which includes the promotion of organic agriculture and support for old breeds, among other initiatives. Another important initiative is the programme for the conservation of meadows run by the Ministry of Environment. In spite of these, the failure to utilise SAPARD resources for nature conservation and rural development purposes is a clear shortcoming.

In the overall SAPARD budget, 3.9 percent is allocated for technical assistance and other measures to secure the efficient implementation of the programme.

Under the second and third SAPARD measures, support has been granted to several projects, but no funds have been disbursed yet.

TABLE 1

Key national data related to rural development and biodiversity, Estonia

Geographical data	
Total country area (km²)	45,227
Population data	
Inhabitants (number)	1,446,000
Share of people living on farms (%)	30.00
Share of people employed in agriculture (%)	5.00
Share of people employed in processing of agricultural products (%)	3.00
Data on land use	
Share of agricultural land within the country area (%)	31.00
Share of forests within the country area (%)	47.00
Share of urbanised land within the country area (%)	< 1
Share of arable land within agricultural land (%)	78.00
Share of meadows and pastures within agricultural land (%)	20.00
Share of orchards within agricultural land (%)	2.00
Farming and agriculture	
Farms (number)	19,000
Average size of farms (arable land in ha)	42
Organic farms (number)	180
Farms participating in agro-environment projects (number)	1,000
Farms with restrictions from nature conservation (number)	1,000
Farms receiving subsidies from SAPARD (number)	115
GDP data	
GDP per capita (in EEK)	100,000
Share of GDP from agriculture (%)	3.60
Share of GDP from processing of agricultural products (%)	3.00
Nature conservation	
Share of protected areas in total area of the country (%)	10.00
Share of cultural landscapes within protected areas (%)	30.00
Surface area of proposed Natura 2000 sites (%)	20.00
Share of cultural landscapes within proposed Natura 2000 sites (%)	30.00

Note: all data has been provided by national experts preparing country studies

The implementation of the last three SAPARD measures has not yet started, and more detailed information is currently not available.

Main threats to biodiversity in the country

The main threats to biodiversity in Estonia are:

- abandonment of the land traditionally used for agriculture, especially semi-natural communities (overgrowth of meadows and pastures), which is a direct threat to many species adapted to various grassland habitats;
- accelerated cutting of old forests and extraction of peat directly threatening various forest and bog species;
- declining use of traditional breeds of domestic animals and plants constituting a direct threat to intraspecies genetic diversity of domestic fauna and flora;
- development of infrastructure, especially on the coastline, which results in a variety of negative effects, most of them related to migration patterns;
- mining of minerals — its negative effects are stronger locally, while they are limited on larger scales; and
- indirect impacts from pollution resulting in a variety of diffuse impacts (currently limited).

Two of the problem areas listed above — the first and the third on the list — are directly related to a decrease in the application of old farming practices. Both are recognised as problems within the currently developed Agri-environmental Programme for Estonia. At present, a specially designed programme within the administrative area of the Ministry of Environment addresses the problem of overgrowing meadows. Although this mostly concerns high-priority meadow per pasture habitats within protected sites or potential Natura 2000 areas, it will most probably expand to all farms with such habitats. No later than at the time of accession, the responsibility is expected to be transferred to the Ministry of Agriculture, which will also be implementing the Agri-environmental Programme. There are several pilot initiatives undertaken within the preliminary implementation of agri-environmental schemes by the Ministry of Agriculture that address the issue of endangered animal breeds. None of these activities is currently financed by SAPARD.

TABLE 2

Estonian national set of measures under SAPARD

Measure	Objective
1.1. Investment in agricultural production	• Harmonisation with EU requirements for agriculture
1.2. Improvement of production on food industry	• Harmonisation with EU requirements for food industry
1.3. Diversification of rural economy	• Promote alternative employment
1.4. Improvement of rural infrastructure	• Improve rural infrastructure
1.5. Rural development	
1.6. Agri-environment	
1.7. Forestry	

Implications of Biodiversity Conservation in Rural Development Programmes of **Hungary**

Institutional structure for implementing SAPARD

At present, the Ministry of Agriculture and Rural Development has the overall responsibility for the implementation of SAPARD, with its Department for Rural Development representing the centre of the institutional structure. The implementing body is the network of regional rural development offices in seven statistical regions (NUTS 2) with three experts working in each office. These offices were established in September 2000, and they are explicitly responsible for the administration of rural development funds, the preparation of sub-programmes under SAPARD, and the promotion of rural development through coordination and education, among others. The National Rural Development Office is another unit that also belongs to the institutional system. It is part of the Scientific Institute for Town Planning (VATI) and it played a major role in preparing the Hungarian National SAPARD Plan.

SAPARD planning groups were created on a voluntary basis by neighbouring settlements forming townships, which cooperated in working out their common SAPARD plans. In this process, NUTS 4 (sub-regions) patterns of the country were not considered. In order to provide effective assistance to the SAPARD townships, the ministry set up a network of rural development managers, engaging 190 managers in the process throughout the country. This network of experts is funded through the Rural Development Fund, which is also the main source of support for rural development projects. The value of the fund was HUF 4 billion in 2002, one-third of the total of SAPARD support per annum.

In Hungary, the implementation of SAPARD has not yet started, since the accreditation of the institutional background is not yet concluded. At the time of writing this report, the first call for projects was expected in autumn 2002. The Department for Rural Development of the Ministry for Agriculture and Rural Development was diligent in supporting rural stakeholders to prepare strategies and plans for several "SAPARD groups," so that these would be ready to receive SAPARD pre-accession funds on time. Although 80 percent of the townships which voluntarily established themselves in order to cooperate under SAPARD had prepared their programmes by the end of 2001, the implementation of strategies and plans could not start due to the unsatisfactory arrangement of the administrative institutional system.

Significant efforts were made to finalise the Natura 2000 programme, which will hopefully soon enter its last stage of development.

National policies and programmes

Apart from plans and strategies in the agricultural, transport and environmental sectors, which influence the development of rural areas in Hungary, the Hungarian National Development Concept and the National Development Plan have a decisive impact in this area. The National Agri-environmental Plan (NAKP) and its measures integrate nature conservation aspects, and can therefore also serve as effective tools for rural development. However, the main document for this sector is the Rural Development Plan, which was prepared based on EU requirements for receiving SAPARD funds.

A significant inconsistency is found when analysing the above documents in depth. Environmental objectives are not integrated into economic development schemes, and environmental problems are often mentioned as unsolved infrastructure problems. Natural values are perceived as undiscovered potential for development, which means the involvement of these resources into business schemes. The concept of sustainable development is frequently referred to in different plans without understanding its integrated nature.

None of the plans defines limits to the use of natural resources, e.g. carrying capacity, or sets indicators to measure biodiversity loss.

Evaluation of the SAPARD Plan

The development of the Hungarian National SAPARD Plan was an important and extensive process, where financial and programme management aspects set a strict timeframe for national authorities. In principle, the programme has significant potential to promote the harmonisation of socio-economic development and nature conservation in rural regions by building on the important pillars, Agenda 21 and Natura 2000. On the other hand, the programme was harshly criticised, especially by NGOs for its weak promotion of sustainable rural development, its minimal focus on public participation, and its neglect of environmental considerations. No sufficient effort was allocated to creative and more time-consuming approaches, such as public involvement, which is currently considered a prerequisite for sustainable development. A more "bottom-up" approach was used in which local, regional and national processes were running almost in parallel, resulting in decentralised inputs and influence on the final plan, as well as the exclusion of civil organisations. Some 10 product councils, 20 agricultural associations, research institutes, the Hungarian Chamber of Agriculture, and rural parliament institutions participated, while civil society was represented by only one NGO, MME/Bird Life International. A positive development is that NGOs were formally invited to monitor SAPARD in future in the form of partnerships and cooperation.

Interministerial cooperation in general was also weak. The role and influence of the Ministry of Environment proved to be limited, while being completely absent at some stages of the planning process, for example, when considering the impact of planned measures. The Ministry of Environment did play a significant role in the part referring to rural development.

The link between general information and the outlined strategic objectives is absent, as well as between the proposed measures and their likely impact on the environment. This makes it difficult to define appropriate indicators, or to monitor and evaluate socio-environmental benefits. Specific information on nature conservation and on the interactions between agriculture and biodiversity is also not included.

The EU Common Agricultural Policy (CAP) and CARPE programmes have been taken into account in the NAKP, which provides a good base for SAPARD initiatives in Hungary. Although pilot projects within the NAKP are included in the plan, the number of planned sites and investments is rather limited — just more than 2.1 percent for 15 sites.

In general, SAPARD should support initiatives related to rural management such as the Bird and Habitat Directives and the establishment of the Natura 2000 network. These are therefore incorporated, to some extent, into the plan. On the other hand, the explicit linkage is restricted to rather small territories of the proposed Natura 2000 network. These also fall under the category of environmentally sensitive areas and are therefore included as pilot areas for agri-environmental support.

SAPARD is seen as one opportunity to promote sustainable activities that contribute to socio-economic development and, at the same time, to the wise use of natural resources, including biodiversity. The goal of the programme is to promote and support integrated agricultural and rural development. But the plan suffers from a narrow definition of sustainable rural development as it focuses on production and infrastructure development and agricultural intensification measures, but provides weak support for turning rural areas towards a path of sustainable development and better resource management. It helps institutions prepare for the management of future EU Structural Funds, but does not provide help for small and medium farms with limited resources in problematic regions. In Hungary, 52 percent of the budget goes to investments in machinery, buildings, and the improvement of processing and marketing. It is also detrimental that financial support for farmers is designed in a way that will benefit large commercial farms over small family farms with low or no capital. This might cause an increase in income disparity, land abandonment and migration from rural areas.

Within the plan, 26 percent of the budget is set for the diversification of activities, producer groups, training, and the conservation of rural heritage, with relatively little attention given to rural diversification.

A reference to environmental impact assessment legislation and procedures has been included in the plan. However, environmental safeguards for measures and their impact are not identified and proper indicators are missing or weak. Strategic environmental assessment as introduced by the EU does not appear in the document. The evaluation of possible effects did not involve ecologists, and is limited to social and economic impacts. Little attention is given to issues such as ecosystem impact and the maintenance of biodiversity.

The Hungarian plan appears to have integrated the SAPARD plan appropriately with existing regional development plans at different spatial levels, and it is clearly in line with Hungarian activities in legal harmonisation. Further improvements are needed, however, in integrating the plan with national or local environmental plans.

The proposed monitoring of the programme is questionable. The general tasks and responsibilities of the planned monitoring committee are described, but the actual monitoring programmes are not defined.

Environmental indicators are missing or lacking, which might cause problems during the monitoring of processes and their results.

Main threats to biodiversity

- Growing transport and road infrastructure development causes habitat segregation and isolation, corridors for pests and weeds, and destructuring of ecological corridors.
- The growing demand for greenfield investment and land taken by agglomeration results in the destruction of ecological corridors, losses in land for ecosystems and genetic drift.
- The intensification of agriculture and introduction of genetic manipulation result in a decrease in genetic biodiversity, while hazardous and toxic substances endanger the health of the population.
- The frequent appearance of alien and invasive species restructures patterns of ecosystems by replacing indigenous species.
- Global climate change causes decreases in biodiversity and reshapes the composition of habitats.

The SAPARD plan and its programmes are just a small part of schemes and actions that will have an impact on biodiversity. It is difficult to identify how a part of a system impacts the whole, and the gap often appearing between planning and implementation is hardly visible. The whole programme is usually not implemented, but only some of the projects, especially those that can make a greater contribution to economic growth. A good example is infrastructure development, one of the most desired development activities because of the general belief that it is the basis of any kind of development. However, this means the continuation of habitat fragmentation and further losses in diversity of species and the coherence of ecological networks. As Hungary has not established sustainable development patterns for rural development or land and resource use, and there are no proper regulations or incentives to mitigate negative external costs or internalise natural resource value, rural development can also endanger biodiversity

Most of the rural regions of CEE have maintained their biodiversity, because a minimal use of resources has resulted in minimal pressures. There is a general optimism, based on a false assessment, that environmental measures, such as the improvement of environmental infrastructure or energy plantations, will contribute to sustainability. It should be noted that these measures require the involvement of new natural resources, merely shifting the problems, thus creating new social burdens.

Summarising the lessons learned when analysing SAPARD projects and measures, one visible potential threat seems to be the intensification of agriculture, where no demand exists. Extensive farming, traditional land-use, organic agriculture, bio-products, and small-scale operations are frequently mentioned in projects, however, indicating a positive trend. Two main negative aspects are that programmes do not apply a holistic approach, where different ways of land-use and their impact on ecosystems or the landscape are integrated, and that few innovative ideas are involved. In spite of these, there is room for optimism as the planned agricultural projects are potentially beneficial.

Infrastructure development schemes usually have a negative impact on biodiversity. These projects mostly involve road development, the construction or reconstruction of buildings, or environmental infrastructure development. Construction and reconstruction mean more intensive use of natural resources. Fortunately, most of the projects are aimed at reconstructing new buildings and inventing new functions, making them fit into the landscape, which is a far better solution than new buildings. Very few projects consider recycling alternatives, or renewable sources derived from residues or waste, while new energy plants seem to be fashionable.

Tourism is a popular form of development, but raises some questions. In the case of many projects aimed at developing tourism, there is no obvious potential available, and protected areas are often targeted for these initiatives. This would not cause problems if limitations were set. Tourism may therefore result in more threats to rural culture and biodiversity than benefits.

Overall recommendations

- Greater consistency among different objectives, with more emphasis on environmental and sustainability aspects.
- Consistency, not only in planning, but also during the selection of projects in considering the extent to which they support one another.
- Consideration of impacts of projects on ecosystems and landscapes.
- Instead of segregated monitoring methods, planning to involve integrated biodiversity, social and other sustainability indicators.
- Priorities defined within SAPARD to be incorporated into the National Development Plan, especially into regional programmes.
- Once implementation has started, a full range of priorities to be addressed instead of only a selection.

TABLE 1

Key national data related to rural development and biodiversity, Hungary

Geographical data	
Total country area (km²)	93,030
Population data	
Inhabitants (number)	10,135,400
Economically active population (number)	4,450,000
Share of rural population within the total population (%)	38.3
Share of people employed in agriculture and forestry (%)	7.9
Share of people employed in processing agricultural products (%)	3.2
Data on land use	
Share of agricultural land within the country area (%)	71.5
Share of forests within the country area (%)	18.0
Share of urbanised land within the country area (%)	5.8
Share of arable land within agricultural land (%)	50.6
Share of meadows and pastures within agricultural land (%)	12.3
Share of orchards within agricultural land (%)	2.2
Share of vineyards within agricultural land (%)	1.4
Farming and agriculture	
Farms (number in 1994)	1,201,015
Average size of farms (ha)	1.1
Share of organic farms within total number of farms (%)	5%
Farms participating in agro-environment projects (number)	0
Farms with restrictions from nature conservation (number)	0
Farms receiving subsidies from SAPARD (number)	0
GDP data	
GDP per capita (in USD, 2000 data)	4,700
Share of GDP from agriculture (%)	5
Nature conservation	
National Parks (number)	10
National Parks (total area in ha)	564,704.30
Share of strictly protected areas within national parks (%)	8.57
Natural Monument (number)	1.00
Landscape protection reserve (number)	36.00
Landscape protection reserve (area in ha)	338,424.90
Share of strictly protected areas within landscape protection reserve (%)	3.07
Nature conservation area (number)	142.00
Nature conservation area (area in ha)	27,243.50
Share of strictly protected areas within nature conservation areas (%)	0.14

Note: all data has been provided by national experts preparing country studies

- Agriculture to be treated as a component of rural development.
- All stakeholders, including individuals, citizens groups and local minorities to have equal access to financial resources and opportunities offered by the programme.
- Sustainability of the programmes after the end of financial support to be considered.
- Funded projects to be monitored long term, e.g. for 10 years after implementation.
- A new approach, sustainability evaluation, to be introduced, which would include project life-cycle analyses, global impact analyses, full range of external costs, carrying capacity measures, social burdens and benefits, etc.
- SAPARD to be reoriented during the mid-term evaluation — in line with the Amsterdam Treaty and Agenda 21 — in order to promote sustainable approaches rather than production-oriented measures with questionable long-term viability and sustainability.
- Greater emphasis on programmes related to agri-environment and organic methods.
- More emphasis on measures and programmes promoting rural economic diversification.
- Eligibility criteria to be set in a way that the non-farming rural population, local NGOs and other non-agricultural stakeholders are not excluded.
- Responsibilities and composition of national and regional monitoring committees to be discussed and decided in a participatory manner and to include an independent "voice" for the environment.

Implications of Biodiversity Conservation in Rural Development Programmes of **Latvia**

National institutional structures related to agriculture and biodiversity conservation

SAPARD in Latvia

From 2000 to 2006, Latvia will be among the countries receiving funds from the EU under SAPARD. To be eligible for this funding, the Ministry of Agriculture has elaborated the SAPARD Programme of Latvia on Agriculture and Rural Development, which was approved by the EC in 2000. However, full implementation of the programme could only begin after the accreditation of the Rural Support Service, which is the designated SAPARD agency.

The Law on Rural Support Service, as the legal foundation, provides regulations for the administration of EU support to rural areas, as well as the sectors of agriculture, forestry and fishery.

In 2001, progress was made in preparing for the administration of SAPARD. The decision of the EC on the accreditation of the Rural Support Service enabled the start-up of the implementation of the programme. In general, the implementation of SAPARD can be considered successful, characterised by a high number of submitted applications, and also by wide publicity for the programme, provided through close cooperation with farmers' organisations, agricultural advisory centres and the mass media.

Since the beginning of the programme, 444 project applications were submitted, of which 284 were approved. Of these, 105 projects are being evaluated. All approved projects amount in total to support valued at LVL 15 million. A total of 38 projects have been (about EUR 24,000,000) implemented with funds of approximately LVL 1 million (about EUR 1,600,000) allocated. By August 2002, according to contractual agreements, another 15 projects received funding.

Regional development

As a result of the institutional reorganisation carried out by the beginning of 2002, the Board of Regional Policy and Planning was established as a body subordinated to the Ministry of Finance. The board is responsible for the elaboration and implementation of regional policy, the National Development Plan, as well as for parts of the Phare Programme. It is also responsible for the preparation and supervision of the Interreg Programme.

The secretariat of the Ministry of Special Assignments for Affairs of State Reforms is responsible for the implementation of administrative territorial reform and the modernisation of state administration.

Nature protection

Authorities responsible for different aspects of and special activities within nature protection are clearly defined. The Nature Protection Department of the Ministry of Environmental Protection and Rural Development (MEPRD) is responsibility for developing nature conservation policy and strategy, while the Latvian Environmental Agency maintains databases of protected territories, species and habitats. The State Environmental Impact Assessment Bureau organises procedures assessing the impacts of activities on the environment. The establishment of a Nature Protection Board subordinate to the MEPRD is also planned. This body will supervise the implementation of the national programme of biodiversity, and nature conservation plans for protected territories. It will also develop and implement species and habitats protection plans and deal with permits for the use of non-game species. The regional environmental bureaus regulate operations through a permitting regime, while the administrations of protected areas are responsible for managing already existing protected areas through elaborating and implementing management plans, issuing permits and regulating activities within their territory.

The Natura 2000 programme is being carried out in partnership with other governmental and non-governmental bodies — such as the Latvian Ornithological Society, the Latvian Fund For Nature, the Latvian Environmental Agency and the Latvian Forest Service. In general, the Nature Protection Department is the responsible body. Officers of the Ministry of Environmental Protection and Rural Development are responsible for the selection of potential Natura 2000 sites. Upon accession to the EU, Latvia will have to present its list of Natura 2000 territories. To compile this list, a project on the Preparation of Latvia for Establishing a Network of European Significant Protected Territories, with the support of the the Nature Protection Agency of Denmark. It was launched in 2000 and will be completed in 2003. The project team evaluates the current specially protected nature territories and determines whether the protection of species and biotopes within these territories is in line with the relevant directives. Furthermore, proposals for adapting and changing the current borders in order to increase or decrease the territory are being elaborated. A database and a list of potential Natura 2000 sites are to be the final outcomes of the project.

Short description of the main national priorities under sectoral policies

Agriculture

The Law on Agriculture ensures financial support for agriculture amounting to not less than 3 percent of the general expenditure in the state budget. Subsidies, as with the whole agricultural policy, are aimed at helping the sector develop in a way that would enable it to integrate into the common European market and produce goods that could compete on the world market in terms of quality and cost. The state aid policy is liberal, as it relies on the understanding of participants from the private sector, their possibilities and choice of the type of business activities, size and specialisation of companies. However, the target group for such aid is farms that guarantee stable production and improved indicators of production efficiency. The major focus of state aid is the promotion of technological modernisation of manufacturing; improved quality management along the entire manufacturing and sales process; and market development. Areas identified as high priority are dairy-farming, pig-breeding, field crops, fruit-gardening and vegetable-growing.

The long-term agricultural investment credit programme, which was adopted by the Cabinet of Ministers, is aimed at attracting investments for the creation of optimum sized farms and helping to increase the competitiveness of countryside farms. It is expected to ensure the more rapid development of agricultural enterprises.

The main goal of improvements in the agricultural sector is to support efficient methods for the production of high-quality agricultural products that would enable integration into the Common European Market and are in line with EU standards. This would be achieved through the following objectives:

- preserve the population density in rural areas;
- provide the population with high-quality domestic food;
- provide competitive incomes to the population employed in agriculture; and
- preserve rural landscapes and rationally utilise natural resources.

Due to restricted economic potential, some areas have been identified as priority regions that will receive more support from the state, while support for other areas will be maintained, albeit at lower levels.

Apart from the promotion of competitive agriculture, the goals of rural development are creating highly developed, manifold and sustainable rural areas and the adoption of the *acquis communautaire* with regard to agriculture.

Regional development

The Cabinet of Ministers adopted the Concept of Latvian Regional Development Policy in 1996, the year the state support system for less developed areas was established.

One of the most important instruments for the development of less developed areas is the Regional Fund, established with the aim to facilitate entrepreneurship in specially supported territories by financing projects of local governments and entrepreneurs. These should focus on creating new employment opportunities, revamping the technology used in production, and creating and developing alternative production facilities and service providers. Since its establishment, the Regional Fund has invested LVL 2.3 million. By January 2001, 525 contracts have been signed with legal persons, of which 485 are entrepreneurs and 40 are local governments.

Further relevant legislation and programmes are as follows:

- The Regional Development Law, adopted on March 21, 2002, sets the legislative and institutional framework for regional development, provides a hierar-

chy of planning documents, and names institutions involved in regional development both on national and regional levels. The law also contains rules on issues related to the establishment of specially supported territories and grant support from the Regional Fund.

- The Law on Territorial Planning, adopted on May 22, 2002, sets the framework for territorial planning.
- The National Development Plan, elaborated in 2001, defines goals and priorities of state and regional development, and suggests activities for reaching these goals. During 2002, on the basis of the National Development Plan, a more specific development plan is to be elaborated under the guidance of the Ministry of Finance.
- The National Planning Survey on the Usage of State Territory has been completed. The Board of Regional Policy and Planning continues its work on the Development Perspective of the State Territory and the mandatory part of the National Planning Document.
- The Regional Development Strategy has been elaborated for the regions of Latgale, Riga and Zemgale, while a development programme has been adopted for the planning region of Vidzeme.

Nature protection

The Cabinet of Ministers accepted the National Programme on Biological Diversity on February 1, 2000. The National Biodiversity Strategy and Action Plan, consisting of specific projects and proposals, was also approved in 2000. The objectives of the national programme are to ensure the conservation of biodiversity, planning for natural resources management, sustainable development, and the fulfilment of international obligations on nature protection. The action plan covers the period until the year 2010 and determines the work, priorities, executing bodies and financing necessary for implementation.

The strategic objectives of the plan are the following:

- maintain and improve the diversity of ecosystems and their natural elements;
- maintain and improve the diversity of natural species in Latvia;
- maintain the genetic diversity of natural species, as well as crop plants and animal breeds;
- promote the conservation of traditional landscape structures; and
- ensure the sustainable use of natural resources.

Main threats to biodiversity

- Intensive agricultural production;
- Land abandonment, appearance of invasive weed populations, bushes and deciduous trees, forming mosaic-type landscapes affected by human activities;
- Privatisation of land and the more intensive usage of forest resources as an indirect result of changes in the political and economic system;
- Decreases in land-use for extensive agriculture causing a consequent decrease in biodiversity;
- Degradation of natural freshwater ecosystems and wetland habitats caused by the thorough hydrotechnical and melioration work implemented after World War II;
- Bio-organic pollution of water caused by non-treated sewage from populated areas and run-off from agricultural lands — intensification of agricultural production in some regions might cause an increase in the use of pesticides, resulting in high levels of nitrogen and phosphorus in the run-off;
- Due to the changes in economic and land-use conditions, the area of natural meadows, a significant element in the natural value of the country, is decreasing rapidly, creating decreases in characteristic natural species;
- Transformation of lowlands into arable land or perennial grasslands, threatening meadow animals and birds in particular;
- A substantial danger is posed by traditional cutting methods without attempting to protect animals; this will become notably important when agricultural production starts to intensify;
- Dehumidification of small wetlands located in agricultural lands;
- Decrease of crop-farming areas suitable for resting by birds, and habitat fragmentation caused by roadsides and gullies overgrowing with bushes that threaten migrating bird species;
- Agricultural lands in Latvia are a biotope of international value for rangy birds, especially for cranes and geese. So far, 150 important places for migrating birds have been registered within agricultural areas, of which 15 have been included in the List of Places Significant for Birds (Racinskis, Stipniece, 2000). All these territories are essential as rest and feeding areas and have to be protected according to the Convention of Bern, which Latvia ratified in 1999.

TABLE 1

Key national data related to rural development and biodiversity, Latvia

Geographical data	
Total country area (km²)	64,589
North-south length of the country (km)	210
West-east width of the country (km)	450
Population data	
Total population (number)	2,370,000
Population of Riga (number)	784,000
Permanent residents in rural territories (number)	752,916
Employed people (number)	1,040,000
People employed in agriculture (in % of active population)	13.20
People employed in agriculture (in % of active population)	42.30
Data on land use	
Share of forests within the country area (%)	40.00
Share of agricultural land within the country area (%)	38.50
Share of arable land within agricultural land (%)	74.20
Share of orchards within agricultural land (%)	1.80
Share of meadows within agricultural land (%)	9.50
Share of pastures within agricultural land (%)	15.10
Food production	
Share of food production within industrial production (%)	27
Food production enterprises (number)	225
Employees in food production (number)	27,318
Share of people employed in food production within total employment (%)	2.60
Farming and agriculture	
Share of land managed by farms within agricultural land (%)	57.20
Share of land managed by household farms within agricultural land (%)	29.00
Share of land managed by individual auxiliary farms within agricultural land (%)	1.70
Share of land managed by other agricultural enterprises within agricultural land (%)	9.20
Share of land managed by institutions and enterprises of other fields within agricultural land (%)	2.70
Average land size (ha)	24.3
Organic farms (number)	201
Organic farming (total area in ha)	10,167
GDP data	
Average growth rate in 1996-1998 (%)	6.00
Share of agriculture, hunting and forestry in GDP (%)	3.60
Share of forestry and related services in GDP (%)	1.40

TABLE 1 continued

Key national data related to rural development and biodiversity, Latvia

Nature conservation	
Share of protected areas within the country area (%)	8.7
Protected areas (total area in ha)	572,678
Protected areas (number)	246
Protected landscapes (area in ha)	132,053
Share of protected landscapes within the country area (%)	2
Protected landscapes (number)	6
Nature reserves (area in ha)	170,455
Share of nature reserves within the country area (%)	2.6
Nature reserves (number)	211
Natural parks (area in ha)	84,620
Share of natural parks within the country area (%)	1.3
Natural parks (number)	22
Preserved natural sites (area in ha)	24,525
Share of preserved natural sites within the country area (%)	0.4
Preserved natural sites (number)	4
National parks (area in ha)	161,025
Share of national parks within the country area (%)	2.4
National parks (number)	3
Restrictions for forestry	
Forests with forestry restrictions (total area in ha)	176,814.3
Share of forests with forestry restrictions (%)	2.7
Share of forests with prohibited forestry activities (%)	0.2
Forests with prohibited forestry activities (area in ha)	11,245.8
Share of forests where main cutting is prohibited (%)	1.5
Forests where main cutting is prohibited (area in ha)	99,035.7
Share of forests where clear cutting is prohibited (%)	1.0
Forests where clear cutting prohibited (area in ha)	66,532.8

NOTE: all data has been provided by national experts preparing country studies

TABLE 2

Latvian national set of measures under SAPARD

Measures	Objectives
Modernisation of agricultural machinery, equipment and construction of buildings	• To increase the quality of agricultural products, in order to maintain competitiveness in internal and external markets; • To decrease the production costs of agricultural products by implementing modernised and energy-saving production technologies; • To improve farm efficiency, farm labour productivity, working conditions and labour safety; • To increase the value of production; • To improve hygiene and animal welfare conditions; • To preserve the natural environment by reducing of environmental pollution from livestock buildings*; • To improve the effectiveness of agricultural production in order to promote the development of rational farming structures; • To improve the deliveries of domestic raw materials to the processing plants, thus improving the effectiveness of the processing industry and product quality compliant with *acquis communautaire.*
Afforestation of agricultural land	• To improve the amenity and diversity of rural landscape; • To increase the value of abandoned land and the volume of timber production; • To increase rural job opportunities.
Improvement of agricultural and fisheries product processing and marketing	• To restructure and concentration of processing industry, • To improve the efficiency of processing plants; • To improve and monitor hygiene, quality, animal welfare and environmental impact; • To increase the value of sales; • To ensure farmers benefit from processing improvement; • To improve working conditions and stabilise employment on farms level.
Development and diversification of economic activities providing alternative income	• To increase and diversify rural employment; • To increase employment opportunities outside traditional agriculture, thus reducing unemployment; • To increase the income of the rural population; • To increase alternative-income and employment opportunities for young people; • To increase utilisation of energy produced from renewable sources.
Improvement of general rural infrastructure	• To improve road access to farms and other rural enterprises; • To improve the provision of running water to rural enterprises; • To improve information channels available for the rural population; • To preserve rural infrastructure and environment on polders.
Modernisation and capacity-building for food control at national and regional level	• To achieve a high level of safety, hygiene and quality according to the EU norms and regulations; • To harmonise Latvian legislation in the area of food safety; • To improve the efficiency of the Food Control and Supervision system operating under the Ministry of Agriculture and Ministry of Welfare; • To provide investment for upgrading the accredited food control laboratories; • To improve the capacity of the Ministry of Agriculture in the areas of food quality and safety control, implementation of food policy in cooperation with the key partners and the communication system dealing with the Ministry of Agriculture; • To identify imperfections and raise standards in food safety management and establishing a communication system on food safety; • To provide investment and appropriate technical assistance for support to veterinary services in order to improve the capacity of laboratories.

TABLE 2 continued

Latvian national set of measures under SAPARD

Measures	Objectives
Strengthening Latvia's fishery administration to meet the requirements of the Common Fisheries Policy (CFP)	• To increase the quality of agricultural products, in order to maintain competitiveness in internal and external markets; • To decrease the production costs of agricultural products by implementing modernised and energy-saving production technologies; • To improve farm efficiency, farm labour productivity, working conditions and labour safety; • To increase production value, • To assess the current situation of the fisheries sector in a global/regional/European perspective; • To elaborate the Fisheries chapter in the National Development Plan (NDP), review and update of the National Programme for the Integration into the EU (NPIEU); • To review the National Fisheries Development Programme (NFDP) and its subprogrammes to meet the requirements of the CFP; • To assess the administrative structure of fisheries to meet the requirements of the EU, and in particular the CFP; • To review the Latvian fisheries legislation and regulations to harmonise with and meet the requirements of the *aquis communautaire;* • To improve the institutional capacity for practical implementation of the common market organisation principles; • To draft structural programming documents for fisheries; • To review current fisheries information system and elaboration of proposals for the integrated control and information system (ICIS) in fisheries.
Development of the management mechanism of the Latvian agriculture in line with the EU Common Agricultural Policy	• To establish the appropriate structure for an integrated administrative control system that will be capable of operating in full accordance with the *acquis communautaire;* • To strengthen the role of the Rural Support Service (RSS) as paying and implementing agency for SAPARD and Common Agricultural Policy (CAP) as well as of the Ministry of Agriculture to ensure they can meet the requirements of accreditation for implementation of the CAP.
Development of integrated Latvian border management and infrastructure	• To assess of the current situation in Latvian border management and the development of future development models; • To ensure the development of a future integrated border management strategy; • To improve of cooperation between agencies involved in border control; • To promote the necessary cross-institutional cooperation arrangements to ensure effective Latvian border control in accordance with EU regulations and requirements; • To Improve the physical border infrastructure framework by upgrading border facilities at strategically important points.

*Due to the fact that approval of the administration procedures for the supported SAPARD measures was completed in December 2001, according to the annual financing agreements between Latvia and EU, the supported projects received financing which was initially granted for 2000 and 2001. Currently the annual financing agreement for 2002 is under preparation. In the analyses for SAPARD measures the public financing is indicated. The measures were evaluated by the experts involved in the projects.

Implications of Biodiversity Conservation in Rural Development Programmes of **Lithuania**

National institutional structures related to agriculture and biodiversity conservation

SAPARD

The authority ultimately responsible for the implementation of agriculture and rural development programmes is the Ministry of Agriculture, which may delegate the responsibility to implement certain measures (projects or actions) to other bodies. The Ministry of Agriculture is also the managing authority of SAPARD, while the implementing and paying authority is the National Paying Agency with its network of 10 regional offices. The agency was accredited in November 2001 and is supervised by the Ministry of Agriculture. The latter is responsible for the administration, monitoring and control of financial aid provided under SAPARD. The agency is responsible for the administration of public expenditure from both national allocations (the national co-financing part of SAPARD and national support to rural development measures), as well as funds under the European Agriculture Guidance and Guarantee Fund (EAGGF).

There are several other institutions that play specific roles in the programme. The Ministry of Finance is the competent authority to issue the Act of Accreditation. The State Control Office is the certifying body and is designated to carry out the annual audit of the agency's financial accounts. The last (but not the least important) institution is the Monitoring Committee, consisting of representatives from a number of administrative bodies and sectoral ministries, as well as social partners. This body is set up to monitor the progress of SAPARD, its implementation, achievements and impact. Without its approval, no modification to SAPARD may be made. Apart from the Ministry of Environment, the Lithuanian Nature Fund represents the environmental stakeholders committee.

Regional development

In regional development, the Ministry of the Interior plays the main role, being responsible for the elaboration of the regional development strategy and objectives. The National Regional Development Agency was set up to assist the ministry in formulating and implementing regional development policy, but it has never formally pursued that objective. In terms of implementation, regional and local authorities, as well as Regional Development Councils, normally participate.

However, with the future implementation of Structural Funds, changes might be made to the structure described above. As a result in a policy shift to a sectoral approach, the Ministry of the Interior will only maintain its function in elaborating the regional development strategy, while other ministries will be responsible for implementation. The Ministry of Finance will act as the managing and paying authority for the European Regional Development Fund and the European Social Fund. The Ministry of Economy and the joint agency of the Ministry of Social Security and Labour and the Ministry of Education will be the implementing authorities for business development and social issues, respectively. Regional and local authorities will retain project pipeline domains and will work in close cooperation with central bodies in the implementation phase.

Natura 2000

The final institutional set-up for Natura 2000 has not yet been officially adopted. According to draft decisions, the Ministry of Environment is a key player in the initiative. It will be the ultimate coordinating body, whereas regional departments of the Ministry of Environment will perform general control measures together with local environmental protection agencies. The tasks that require more specific technical skills such as biodiversity monitoring or protection measures will

be delegated to administrations of the protected sites, which will also be responsible for preparing and implementing management plans based on the approval of the Ministry of Environment.

An advantage of the proposed scheme is that the process would be decentralised as much as possible. However, significant administrative capacities have to be developed at both national and local levels before the system can begin to function.

Short description of the main national priorities under sectoral policies

Agriculture

Agriculture and rural development policy objectives until 2015 are set in the National Agriculture and Rural Development Strategy, and the Agriculture and Rural Development Programme for SAPARD. The first document outlines general principles, whereas the second addresses the short-to medium-term policy areas. The SAPARD document is also more practical because of its direct link to implementation tasks.

According to SAPARD, the following objectives are to be pursued:

- increased income levels for farmers and rural inhabitants leading to improved living standards and working conditions in rural areas;
- improved competitiveness and efficiency of primary agricultural production;
- improved processing and marketing of agricultural products through increased efficiency and competitiveness;
- improved quality and hygiene standards;
- achievement of sustainable rural development through the promotion of farming and other economic activities in harmony with the environment; and
- creation of employment opportunities in rural areas.

For SAPARD funding, the plan distinguishes several areas of action, such as:

- agricultural production;
- processing and marketing of agricultural products;
- diversification of economic activities in rural areas;
- rural infrastructure;
- forestry;
- environmentally friendly agricultural methods;
- vocational training; and
- technical assistance, information and publicity campaigns.

Generally, the strategy as set out in SAPARD is balanced and consistent. Obviously, the major focus is on restructuring the productive sector and increasing efficiency. Environmental issues are addressed indirectly in project selection criteria, but little attention is given to organic farming.

Regional development

The Guidelines of Regional Policy adopted by the government in July 1998 and the Law on Regional Development adopted by parliament in July 2000 serve as the legal basis for regional development policy.

The national regional development policy can be described as a coherent set of measures aimed primarily at promoting economic restructuring and modernisation in Lithuanian regions, as well as the balanced development of certain regions, a reduction in unemployment, the development of rural localities, and a reduction in social and economic disparities among the various regions, thereby contributing to the sustainable development of the whole country.

The National Development Plan is supposed to serve as a regional policy implementation instrument. The latest version identifies the following priority areas:

- development of industry and business;
- agricultural and rural development;
- human resources;
- economic infrastructure; and
- local and regional development.

Although the document incorporates significant improvements to past versions, it lacks consistency and clarity, especially regarding the response strategy and the identification of realistic priorities and measures. The main weaknesses of the proposed priorities are that not all of them clearly relate to the identified problems and to the strategy. They are often too broad and lack specific targets. None of the measures includes either target groups and clearly described activities or possible indicators for performance evaluation. The "partnership principle" seems to be largely ignored in identifying the content of measures. The strategy fails to identify ways to integrate the environmental dimension into assistance to ensure compliance with relevant local regulations.

Biodiversity conservation

The key document defining the national policy objectives in biodiversity conservation is the Biodiversity

Conservation Strategy and Action Plan prepared by the Ministry of Environment in 1998. The strategy is derived from the thorough analysis of current problems related to biodiversity and biological resources.

A number of priority goals are outlined in the strategy, grouped according to different levels of intervention, such as geosystems, ecosystems, species and genetics, as well as the organisational background for each of these.

The goals have been incorporated into general and special programmes (action plans) that are also set out in the strategy. General programmes include action plans for the creation of the Nature Frame, the protection of forest ecosystems, the protection of coastal and Baltic Sea ecosystems, the protection of inland aquatic ecosystems, the protection of meadow and wetland ecosystems, and the protection of anthropogenic environmental ecosystems. At the same time, special programmes concentrate on the protection of individual species and *ex situ* conservation.

Nature conservation in Lithuania

The network of protected areas was developed in 1993. The system now covers 760,000 hectares (ha), or more than 11.4 percent of the total surface area of the country. The aim and objectives of the system are to ensure the protection of the most important elements of Lithuanian natural and cultural heritage. This is pursued by taking into account new social and economic conditions, by linking the system to the development of educational and recreational tourism and other sustainable economic activities, and by harmonising the activities of protected territories with the main international conventions and programmes (Conventions on the Protection of Biodiversity, Natura 2000, Econet, etc.) as well as relevant EU legislation. In order to meet the development objectives of the protected territories system, the Strategy for the Development of Lithuanian Protected Territories and Strategic Action Plan have been prepared. The network of protected areas consists of four nature and two strict culture reserves, five national and 30 regional parks, as well as 290 reserves and 688 landscape objects.

The preliminary list and map of Natura 2000 sites were developed recently with the technical assistance of a Danish-Lithuanian bilateral project. In total, 318 listed sites cover an area of about 900,000 hectares. Approximately two-thirds of the area is already incorporated into the network of existing protected areas established in accordance with national legislation. The list is not yet exhaustive nor enjoys legal status. The areas of sites already proposed as Natura 2000 may be revised, and entirely new sites might be nominated. According to the preliminary assessment, about 60 percent of the proposed Natura 2000 sites are covered by forest. Agricultural landscapes take up approximately 15 percent, and less than one-third is covered by water habitats. The Ministry of Environment has to prepare the final list for approval by the government, which is planned to take place in the third quarter of 2003.

Main threats to biodiversity

According to the latest report by the Ministry of Environment on the environmental situation in Lithuania, the key factors negatively affecting biodiversity are agriculture, forestry, tourism and recreation, as well as fisheries, industry, energy production and rural development.

During the Soviet period, biodiversity was most adversely affected by land drainage (drainage of natural meadows and wetlands), the regulation of small rivers, damage to river valleys, and cutting of small forests or harvesting in small farmsteads. These activities and impacts resulted from a lack of environmental awareness among the general public, disrespectful approaches towards the environment by national and local governments, and the lack of attention to ecological criteria in landscape management.

Today, the status of biodiversity and biological resources in the natural landscape, forestry and agricultural sectors and in aquatic systems in Lithuania is mainly influenced by the following:

- intensive felling, destruction of small forests that are of particular importance to biological and landscape diversity, all resulting from privatisation;
- essential changes in ecological conditions due to land drainage during the Soviet period;
- damage to forest ecosystems as a result of natural disasters (droughts, pests, etc.) and pollution;
- decrease in diversity of tree species in forests as a result of using a narrow range of species;
- changes in the ecological conditions of meadows due to a decline in economic activities;
- reversion of rivers and rivulets into ponds thus changing thermal regimes and destroying migration routes;
- intensification of illegal fishing in natural inland waters, increases in fisheries, inefficient restocking, and collapse of the fish-breeding system;
- poor control of vessels — tank washing at sea and increased pollution of the Baltic Sea with oil products;
- pollution of the sea with industrial and municipal waste waters;

TABLE 1

Key national data related to rural development and biodiversity, Lithuania

Geographic data	
Total country area (km²)	65,300
Population Data	
Inhabitants (number)	3,491,000
Share of rural population (%)	32
Data on land use	
Agricultural area (ha)	3,489,000
Share of agricultural land within the country area (%)	53.40
Forests (area in ha)	1,998,000
Share of forests within the country area (%)	30.60
Share of urbanised land within the country area (%)	5
Land use within agriculture	
Arable land (area in ha)	2,933,000
Share of arable land within agricultural land (%)	81
Meadows and pastures (area in ha)	497,100
Share of meadows and pastures within agricultural land (%)	14.20
Permanent crops (area in ha)	59,000
Share of permanent croplands within agricultural area (%)	1.70
Farming and agriculture	
Family farms (number)	67,500
Agricultural producers (number)	320,000
Average farm size — companies (ha)	375
Average farm size — family farms (ha)	16
Average farm size — household plots (ha)	2.2
Certified organic farms (number)	290
Organic farms (total area in ha)	6,469
Employment	
Share of people employed in agricultural (%)	19.60
Share of employment of rural labour force in agriculture (%)	54.00
Share of people employed in processing of agricultural products (%)	28.00
Data on GDP	
GDP per capita in 2000 (EUR)	6600
Share of agriculture in GDP (%)	7.00
Share of industry in agriculture (%)	28.40
Share of agro-food processing within industry (%)	27.00
Share of wood processing within industry (%)	6.00

TABLE 1 continued

Key national data related to rural development and biodiversity, Lithuania

Nature protection	
Protected areas (total area in ha)	760,000
Share of protected areas in the total country area (%)	11.40
Nature reserves under strict protection (number)	4
Cultural reserves under strict protection (number)	2
National parks (number)	5
Regional parks (number)	30
Nature reserves (number)	290
Landscape objects (number)	688
Natura 2000 sites (number)	318
Natura 2000 sites (total area)	900,000
Share of Natura 2000 sites in total country area (%)	13

Note: all data has been provided by national experts preparing country studies

- formation of zones with increased pollution surrounding inland water bodies resulting in the intensification of ecological succession;
- increase of recreational activities in natural environments;
- destruction and decrease of natural landscape islands in urban areas;
- development of the road network and increasing number of motor vehicles; and
- use of game resources, ignoring natural breeding processes, increased poaching, and lack of control and monitoring.

Agriculture-related threats to biodiversity

Agrarian ecosystems occupy more than half of the total country area. In terms of biodiversity, they are poor. Nevertheless, these ecosystems remain important for a number of species. The particularly important habitats are wet meadows and pastures, as well as sedge meadows, a type of habitat becoming rare in Lithuania. Out of 68 bird species registered in the *Lithuanian Red Book,* 12 species are fully dependent upon agrarian ecosystems, and 24 partially, either during or out of breeding seasons.

Specific agriculture-related processes which negatively affect biodiversity are the following:

- abandoning grasslands;
- converting grasslands into arable fields due to the intensification of agricultural activities;
- burning of grasslands, threatening forests and even households and settlements;
- grazing in an unbalanced manner, concentrating near villages and other settlements, while other areas are not used because of distances;
- using agricultural chemicals; and
- reclaiming land (drainage), a minor problem in Lithuania at present, but with a rather high potential for causing greater problems.

TABLE 2

Lithuanian national set of measures under SAPARD

Measures	Objectives
1. Investments in agricultural holdings	• To improve the structure of agricultural holdings, increase of family farm size and develop of economically strong agricultural units; • To improve farm efficiency by reducing costs of production and increase the competitiveness of Lithuanian farms and agricultural enterprises; • To increase the level of income and improve living and working conditions of the farming population; • To promote the reorganisation of production in order to implement EU requirements on hygiene, sanitation, animal welfare and environmental protection; • To promote qualitative improvements of agricultural produce according to EU standards and the National Programme for the Adoption of the *Acquis Communautaire* (NPAA).
2. Improving the processing and marketing of agricultural and fishery products	• To reorganise production in order to implement EU requirements on food-safety, hygiene, veterinary, environmental protection and other issues in the agricultural and fishery production processing sectors; • To modernise agricultural and fishery processing companies, including modernisation of processing facilities in fishing vessels which carryout initial preparation and processing, in order to achieve higher efficiency of production; • To improve the quality of agricultural and fishery produce, and of quality management in the whole process of production and subsequent increase of competitiveness of the processing companies; • To restructure the agricultural and fishery processing enterprises, without increasing production volumes and capacities of a given sector; • To establish and improve the marketing chain and improve product pre-sale preparation and introduction to market; • To develop production of higher-valued, biologically valuable, ecologically certified and marketable products; • To improve working conditions, reduce environmental pollution caused by agricultural and fishery processing companies, and the processing of by-products and waste, and to establish a rendering system.
3. Development and diversification of economic activities providing for multiple activities and alternative income	• To increase the level of income of rural inhabitants and farmers; • To maintain present employment and create new or alternative jobs; • To encourage diversification of rural activities and services, cooperation and development of small and medium size businesses; • To provide more tourist accommodation facilities; • To increase the volume of services for rural inhabitants and improve the quality of the services provided.
4. Improvement of rural infrastructure	• To improve rural conditions of life and work; • To improve the state infrastructure; • To create the appropriate conditions for economic and social activities.
5. Afforestation of agricultural lands and improvement of forest infrastructure	• To increase the value of agricultural abandoned land and the income from timber production; • To improve the infrastructure for private forest holdings, such as forest roads, informational signs, and recreational and hunting equipment; • To increase the recreational value of private forests; • To increase rural job opportunities.
6. Environmentally friendly agricultural methods	• To facilitate the implementation of a national agri-environmental programme, the objective of which will be to decrease negative impacts of agriculture on the environment; • To restore the traditional landscape and increase biodiversity; • To prepare measures that ensure normal economic and social conditions for the rural population;

TABLE 2 continued

Lithuanian national set of measures under SAPARD

Measures		Objectives
		• To decrease anthropogenic pressure on the environment in agricultural areas; • To improve the quality of ground and surface water; • To decrease the negative impact of plant protection measures on the environment; • To restore the traditional Lithuanian rural landscape and increase biodiversity in the countryside; • To protect wildlife and endangered plant and animal species; • To produce quality agricultural production, preserving a healthy environment for future generations.
7.	Vocational training	• To prepare farmers for qualitative reorientation of production, the application of production practices compatible with the maintenance and enhancement of the landscape, the protection of the environment, hygiene standards and animal welfare, and acquisition of the skills needed to enable them to manage an economically viable farm; • To prepare forest holders and other persons involved in forestry activities for the application of forest management practices to improve the economic, ecological or social functions of forests.
8.	Technical assistance	• To facilitate the implementation of all other measures of this plan; • To provide potential beneficiaries of SAPARD support with information on the European Community agricultural policy, support rendered under SAPARD, as well as conditions for obtaining said support; • To improve the system of supervision of SAPARD implementation and evaluation of the progress achieved; • To inform the public of the role of the European Community in implementing SAPARD.

Implications of Biodiversity Conservation in Rural Development Programmes of **Poland**

National institutional structures related to agriculture and biodiversity conservation

SAPARD

The authority responsible for the general coordination and implementation of SAPARD is the Ministry of Agriculture and Rural Development. Its functions are to coordinate the programming process, to ensure adequate promotion of and information on the programme, and to accept reports from the SAPARD agency on expenditures and the implementation of projects. Within the ministry, these duties belong to the Department of Pre-Accession Assistance, which hosts the National Steering Committee Secretariat and serves as the Monitoring Committee. The Agency for Restructuring and Modernisation of Agriculture (ARMA) has been appointed as the SAPARD agency in Poland. It is responsible for the implementation of the programme, as well as for accounting and controlling payments. ARMA's headquarters are in Warsaw and it also has regional offices located in 16 cities. The SAPARD agency has separate units, an independent internal audit unit and a technical control unit responsible for tracking commitments and controlling payments.

The implementation functions and part of the financial functions are the domain of ARMA regional offices. Regional offices also have to prepare reports for the Ministry of Agriculture and Rural Development and for the SAPARD agency on the number of applications received and projects approved for payment. The Ministry of Agriculture and Rural Development sets rules for delegating the responsibility for the financial and technical evaluation of projects, as well as tendering functions to specialised agencies. The National Steering Committee and Regional Steering Committees prepare recommendations and rank all submitted project proposals.

The National Steering Committee includes representatives of the ministries responsible for regional development, economics, finance, labour and social Policy, Environment, the head of the European Integration Committee, sectoral organisations, employers' organisations, representatives of province marshals and other experts.

Regional steering committees, created in each of the 16 regions (voivods), are involved in the decision-making process at the regional level. They include representatives of all levels of the regional (self-government) authorities, regional government administration, social and economic partners and NGOs. The main tasks of the regional steering committees, based on the priorities of regional development strategies, and in accordance with SAPARD, are the allocation of resources to schemes or components, and the making of recommendations on project-ranking lists.

The use of SAPARD funds, treated with the same fiscal discipline as public funds, will be controlled by the following services:

- control services of bodies authorising public expenditure (ministers, agencies, etc.);
- Treasury control;
- Regional clearing-houses related to the Convention on Biodiversity;
- Supreme Chamber of Audit (NIK); and
- EU inspection teams and auditors (European Commission, Court of Auditors).

Beneficiaries will be checked during the initial phase, project implementation and after project completion (*ex post evaluation*). The following bodies will be responsible for monitoring beneficiaries:

- services of the SAPARD agency (based on agreement with the beneficiary);

- Treasury control;
- Supreme Chamber of Audit; and
- EU inspectors (EC, Court of Auditors).

Natura 2000

The development of Natura 2000 is currently underway in Poland. So far, the institutional structures have not been set up, but general proposals to establish Natura 2000 have not yet been officially accepted. According to the proposals published in the final report on the Natura 2000 network, its implementation would be the responsibility of the Main Nature Conservation Authority, with related tasks addressed in specific nature conservation measures. The advisory body on the national level would be the National Committee on Nature Protection, while the Voivodship Committee of Nature Protection would act at the regional level.

Regional development

The Council of Ministries, and the Ministry of Regional and Sustainable Development are the managing authorities responsible for the general coordination of the Regional Development Policy, while the Ministry of Economy has overall responsibility for the programme.

The Ministry of Regional Development coordinates all activities related to regional development, managing funds allocated to projects within the National Strategy of Regional Development and specific support programmes. Negotiation of regional contracts, monitoring, assessment and the coordination of the use of financial resources managed by other ministries also fall within the scope of its responsibilities. The ministry sets up the National Monitoring Committee, the body directly involved in the assessment and monitoring of support programmes and regional contracts. Pre-accession funds aimed at regional development in Poland, especially the Phare social and economic cohesion programme, are also monitored and coordinated by the Ministry of Regional Development, while the accredited body responsible for its implementation is the Agency of Restructuring and Modernisation of Agriculture. Other ministers can recommend well-defined tasks that could be completed within the implementation phase of the government support programme. The responsible authority for financial assistance of government support programmes for regional development is the Ministry for Public Finances, while the regional authorities are responsible for transferring funds to the beneficiaries in the regions. The regional authorities, operating on behalf of the national government, also cooperate in contract negotiations.

The parliaments of the regional authorities establish the main courses of action and formulate regional development strategies, while the body responsible for the creation and implementation of regional development policies on the regional level is the local government and the board operating on behalf of the local government.

Nature conservation aspects in rural development and agriculture

Nature conservation in rural areas

The system of nature conservation uses seven different categories to classify protected areas, which cover 32.5 percent of the country's total area (10,163,800 ha). Areas classified as less strictly protected form the largest proportion of this area, while those under strict protection, national parks and nature reserves with almost no agricultural activities, cover only 4.5 percent. The estimated number of farms operating in national and landscape parks is 114,000, of which 7,000 have land in national parks, and 107,000 in landscape parks. In the case of areas of protected landscape, which fall under less strict regulation, cultivated land represents a share of 44.2 percent. The average portion of agricultural land within protected areas is approximately 35.6 percent.

Rapid increases in the size of areas classified for nature conservation were noticeable in the late 1980s. Since 1990, the total surface of protected areas has grown by more than 2,000 ha every five years. However, this expanding phase of the network seems to be ending, with Warta Mouth the last national park expected to be proclaimed.

Natura 2000

Preparations to join the Natura 2000 European Ecological Network started in January 2000 in Poland as part of the activities of the National Programme for Accession to the EU. The preparatory programme for Natura 2000 is the Coordination of Information on the Environment (Corine), which has been operational since the early 1990s and has identified 956 sites of European importance. The total surface area of these sites covers almost 20 percent of the country, while areas proposed to be included into the Natura 2000 network cover 13.4 percent of the country's surface area (418,000 square kilometres). More than 40 percent of these sites are larger than 10,000 hectares, and almost 40.4 percent are legally protected. However, the existing map of Corine biotopes can only be considered an initial proposal. The list of areas proposed for inclusion in the Natura 2000 network is therefore not yet finalised.

The first version of the Natura 2000 map should be available by the end of 2002, and official notification is planned for 2003. It is highly probable that the areas included under Natura 2000 will not exceed 10 percent of the country's surface area.

Agriculture in environmentally sensitive areas

The delineation of environmentally sensitive areas was to be finished by September 2002. A few areas have been appointed for agri-environmental pilot programmes and would have been implemented under SAPARD. But as a result of a delay in SAPARD, these agri-environmental measures will not be implemented.

Agri-environmental projects and organic farming

The financial instruments currently available have proved insufficient for encouraging farmers to use agricultural practices involving aspects of nature conservation and landscape management. Agri-environmental programmes within SAPARD were expected to raise considerable support for activities aimed at preserving biodiversity, protecting the landscape and enlarging afforested land. From 2001-2002, the only agri-environmental (pilot) project financed by EU resources was the Phare 99 project, which aimed to develop the regions of Warmia-Mazury and Podkarpacie. In total, 401 farms participated in the project. Some national resources are also used to support certain agri-environmental measures, such as organic farming or the conservation of traditional breeds.

Currently, there are about 1,790 organic farms (0.1 percent of the total number of farms) covering an area of more than 33,000 hectares. The number of organic farms has tripled since 1999, when a financial support system for organic farming was introduced.

National sectoral polices related to regional development, agriculture, and biodiversity

Regional development

In light of Poland's future EU membership, the basis for planning different areas for structural intervention and integrated long-term operational programmes of a horizontal and regional nature is provided in the National Development Plan, prepared for 2004-2006. Mid-term goals of the regional policy have been defined in the National Strategy for Regional Development for the Years 2001-2006, a component of the national plan. The main objective of the policy is to strengthen regional competitiveness in order to ensure sustainability in the long-term economic development of the country, social and territorial cohesion, as well as integration into the EU. The latter document sets priorities for regional development through 2006. These measures have been developed and updated in light of the results of the Preliminary National Development Plan 2002-2003, the document which describes the major disparities between Poland and EU member states. The Preliminary National Development Plan defines the following objectives:

- improving the competitiveness of the economy through modernisation and structural adjustment of industry and services;
- implementing structural changes in agriculture and fisheries, rural development and specific policy measures;
- integrating the Polish economy through the modernisation and enlargement of the transport network;
- creating conditions for balanced and sustainable development through the modernisation and development of environmental infrastructure;
- developing human resources and employment opportunities; and
- strengthening the development potential of regions and counteracting marginalisation of certain areas.

The Poland *2025: Long-Term Strategy of Sustainable Development* identifies the long-term directions for development and sets the following priority tasks:

- investing in human capital;
- modernising the education system;
- building a network of links between science, the research and development sector and the economy; and
- improving broad-based social security.

Apart from these, there are four medium-term sectoral strategies that are closely related to regional development:

- National Strategy for the Increase of Employment and Human Resource Development;
- Coherent Structural Policy for the Development of Rural Agriculture and Rural Areas;
- Seond Ecological Policy of the State with National Strategy for Environmental Protection, and
- National Strategy for Transport Development.

Agriculture

Essential considerations, assumptions and objectives serving the sustainable transformation of agriculture appear in the Coherent Structural Policy for the Development of Rural Agriculture and Rural Areas, a strategic document that considers production, economic, social and environmental issues. It formulates three interdependent objectives:

- creating adequate working and living conditions in rural areas to allow people to realise their economic, educational, cultural and social potential;
- restructuring the agricultural sector by putting in place conditions for the adaptation of agriculture to the changing economic and social situation; and
- sustainable development of rural areas, and protection of the natural environment and cultural heritage.

Within the agricultural policy, the Polish government has recently adopted the Mid-term Strategy of Agricultural Areas Development, and the Pact for Agriculture and Rural Areas.

In the fisheries sector, the government adopted the Structural Policy of the Sector Fisheries for 2000-2006.

Strategic programmes are transposed into particular objectives and activities in the form of multi-annual or annual programmes as follows:

- Annual Programme of Investment Activities on Agricultural Markets;
- Annual Support Programme for Investment Projects in Agriculture, Agricultural Up and Down-Stream Sector, Rural Areas and Agri-Food Processing;
- Rural Areas Development Programme;
- SAPARD Operational Programme
- Phare programmes; and
- Polish Fine Food Promotion Programme.

Biodiversity conservation

The Second National Environmental Policy adopted in June 2000 specifies that the protection of biological and landscape diversity is one of the most important issues related to national environmental safety. This requires the maintenance of domestic biological and landscape diversity at a proper level, as well as the enlargement of protected areas to a total of one-third of the country. In line with these, the following objectives are to be considered, among others:

- intensifying the reclamation and renaturalisation of degraded land;
- preventing environmental deterioration;
- halting the degradation of cultural monuments;
- improving the effectiveness of conservation exercised in areas already legally protected;
- creating conditions for the implementation of sustainable development strategies for the economic and social development of the country;
- improving the state of the environment;
- conserving, reconstructing and enriching natural resources; and
- establishing wider acceptance for the need to preserve the natural and cultural heritage.

The National Strategy for the Conservation of Biological and Landscape Diversity is a continuation of the Natural Environmental Policy, with the overall aim of preserving domestic natural wealth, as well as assuring continuity and the possibility of development on all levels. This is seen to be achieved through:

- recognising and monitoring the state of biological diversity, including existing and possible threats;
- eliminating and delimiting current and potential threats to biological diversity;
- preserving and/or enriching biodiversity, as well as reversing existing damage; and
- integrating activities of the NGO sector, businesses and state administrations in light of biodiversity conservation.

Apart from the Poland 2025: Long-Term Strategy of Sustainable Development and the National Programme for Environmental Education, the strategy on Public Access to Information and Public Participation in Environmental Decision-Making should also facilitate the conservation of biological diversity in the country.

Main threats to biodiversity

- Effects of climate change, such as droughts;
- Reduction of spring inundations in river valleys as a result of decreased snow-cover in March, which causes a lack of wetland breeding sites for bird populations;
- Fall of the water table in large areas covered by hygrophilous plants, damaging rare habitats;

TABLE 1

Key national data related to rural development and biodiversity, Poland

Geographic data	
Surface area of the country (ha)	30,435,000
Population data	
Inhabitants (number)	38,646,000
Share of people living on farms (%)	38.20
Share of people employed in agriculture and forestry (%)	28.40
Share of people employed in processing of agricultural products (%)	4.20
Data on land use	
Share of agricultural land within the country area (%)	60.80
Share of forest land within the country area (%)	30.00
Share of urbanised land within the country area (%)	6.70
Share of wastelands within the country area (%)	1.60
Share of arable land within agricultural land (%)	76.40
Share of meadows and pastures within agricultural land (%)	22.20
Share of orchards within agricultural land (%)	1.50
Farming and agriculture	
Farms (number)	1,885,704
Average size of farms (ha)	8.4
Average size of individual farms (ha)	8
Average size of agricultural land within individual farms (ha)	7.2
Organic farms (number)	1,790
Farms participating in agro-environment projects (number)	1,530
Farms with restrictions from nature conservation (number)	114,000
Farms within boundaries of national parks (number)	7,000
Farms within boundaries of landscape parks (number)	107,000
Share of protected areas in total surface area (%)	32.50
Share of cultural landscapes within protected areas (%)	35.60
GDP data	
GDP per capita (in PLN)	17,723
Share of GDP from agriculture and forestry (%)	3.30
Share of GDP from processing of agricultural products (%)	10.20

TABLE 1 continued

Key national data related to rural development and biodiversity, Poland

Nature Conservation	
Protected areas (total area in ha)	10,163,800
Share of protected areas within the country area (%)	32.50
National parks (area in ha)	306,500
Share of national parks within the country area (%)	1
Nature reserves (total area in ha)	148,700
Share of nature reserves within the country area (%)	0.50
Landscape parks (total area in ha)	2,446,900
Share of landscape parks within the country area (%)	7,8
Areas of protected landscape (total area in ha)	7,137,700
Share of areas of protected landscape within the country area (%)	22.80
Other protected areas (area in ha)	1,240,000
Share of other protected areas within the country area (%)	0.40
Cultivated land within protected areas	
Total (%)	35.60
National parks (%)	13.40
Landscape parks (%)	35.70
Areas of Protected Landscape (%)	44.20

Note: all data has been provided by national experts preparing country studies

- Limited implementation of nature protection measures in rural areas due to funding shortages;
- Gaps in the implementation of conservation measures on private land within protected areas;
- Poaching in response to poverty and unemployment, also supported by tradition;
- Forestation of open grounds of high natural value — e.g. wetlands — as a result of land abandonment;
- Improper melioration practices damaging groundwater systems;
- Damage to the genetic diversity of domestic species due to weak support systems for traditional breeds;
- Considerable limitation of the number and hectarage of areas included in the network of Natura 2000 sites and protected areas; and
- Disappearance of small habitat mosaics due to the intensification of agriculture and diminishing traditional small-scale farming.

TABLE 2

Polish national set of measures under SAPARD

Measures	Objectives
1. Improving processing and marketing of agricultural and fish products	• To improve the safety and quality of food products; • To increase the number of plants which fulfil EU sanitary and veterinary standards for processing; • To support the rationalisation, restructuring and progress in the sector so as to enhance its viability and to facilitate its adjustment to the single market; • To strengthen producer groups and their associations; • To limit environmental pollution originating from food processing plants.
2. Investments in agricultural holdings	• To improve the quality of agricultural production by upgrading farm equipment and adjusting the conditions for agricultural production to the *acquis communautaire*; • To restructure and diversify agricultural production as a pre-requisite to improved farm efficiency and better market adjustment; • To reorient production in line with natural conditions, minimise the negative impact of agricultural production and protect the landscape.
3. Development and improvement of rural infrastructure	• To increase the attractiveness of rural areas for local and outside investors; • To ensure appropriate living standards for the rural population; • To provide conditions for the implementation of the *acquis communautaire.*
4. Diversification of economic activities in rural areas	• To identify and utilise market niches for products and services outside agriculture; • To encourage economic activities in rural areas outside conventional agriculture by means of investment support.
5. Agri-environmental measures and afforestation (pilot projects)	• To promote, on a pilot scale, practices and agricultural production methods related to landscape conservation and limiting environmental threats resulting from marginalisation or intensification of agricultural production; • To promote, on a pilot scale, activities aiming at afforestation enlargement on private agricultural land taking into consideration optimisation of landscape structure, and the reduction of erosion processes and greenhouse gases; • To develop agri-environmental and afforestation programmes in Poland based on the results of pilot projects (implementing mechanisms, administration, control, agricultural extension services).
6. Vocational training	• To promote structural agricultural and rural development by enhancing human capital in rural areas
7. Technical assistance (TA)	• To direct support under TA towards ensuring the efficiency of programme implementation, monitoring and control at central, regional and local levels and the effective targeting of programme beneficiaries.

Implications of Biodiversity Conservation in Rural Development Programmes of **Romania**

National institutional structures related to agriculture and biodiversity conservation

SAPARD

The SAPARD Agency was established to implement SAPARD. It is a public institution, a legal entity, and subordinated to the Ministry of Agriculture, Food and Forests. Its headquarters are in Bucharest, and it has regional offices in Tirgoviste, Constanta, Iasi, Timisoara, Alba Iulia, Bucuresti, Calarasi and Satu Mare. After the recent accreditation of the agency in 2002, funds for approved projects can now be disbursed. The agency will manage EU financial support totalling EUR 410.8 million during the pre-accession phase.

Natura 2000

To create the conditions for the extension of the Natura 2000 network in Romania — conceived to ensure the conservation of natural habitats, and the preservation of endangered and rare species in the EU — Law 462/2001 on Protected Natural Areas, Natural Habitats, Wild Flora and Fauna was adopted.

The state authority responsible for the Natura 2000 network in Romania is the Ministry of Waters and Protection of the Environment. A national evaluation of the importance of sites in each natural habitat is underway, such as the ones included in Annex 2 of Law 462/2001, and for each species listed in Annex 3 of the same law.

Short description of the main priorities under sectoral policies

Agriculture

The most relevant policy is the Strategy of Agriculture, Food Industry and Silviculture for 2001–2005–2010. Both short and long-term strategies in these areas aim to achieve the sustainable development of a competitive agricultural and food sector by enhancing production on quantitative and qualitative levels, modernising and improving the processing and marketing of agricultural and food products, and ensuring food safety. More detailed objectives are:

- orienting production according to predictable trends in the internal and international market;
- improving considerably the relationship between various components of agricultural production, rapidly increasing the value of production and providing the quantity of raw materials necessary for the food industry;
- improving and controlling the quality of processed goods and food products, complying with the minimum requirements related to food security according to EU standards;
- improving and controlling sanitary conditions;
- establishing and consolidating private processors of agricultural and food products;
- revitalising the investment process based on programmes of internal and international financing, focusing mainly on developing competitive farms;
- ensuring the necessary volumes of water for crops and animals in areas of insufficient humidity to ensure economic efficiency, increasing the utilisation capacity of existing irrigation systems and reducing water wastage in the irrigation network;
- increasing the protective capacity of agricultural land against flooding by developing new canals and other systems, as well as rehabilitating existing ones;
- decreasing production costs;

- preparing farmers for the qualitative reorientation of production and diversification of economic activities;
- promoting production methods that ensure and improve landscape and environment protection related to breeding healthy animals; and
- providing the level of professional training necessary for the management of viable farms, as well as for developing agriculture while protecting the environment.

Agriculture is an important branch of the economy, influencing the national economic complex, as well as consumption in many ways. It is estimated that it will develop at an average annual rate of 4.2 percent between 2001 and 2005 (4.0 percent for the crop sector and 4.4 percent for the animal breeding sector).

Biodiversity conservation

The National Strategy and Action Plan for Biodiversity Conservation and Sustainable Use of Its Components is the main policy for biodiversity conservation and the sustainable use of natural resources.

Its main objectives for the next five to 10 years are as follows:

- conservation of Romanian ecosystems and habitats by creating a national system of protected area networks;
- conservation of threatened endemic, rare wild species and those with a high economic value *in situ* and *ex situ*;
- establishment of the necessary legislative framework and institutional capacity for biodiversity conservation;
- development of department strategies that integrate the objectives of the national strategy on biodiversity;
- conservation and enhancement of biodiversity by reducing negative impacts, as well as the ecological restoration of altered ecosystems and habitats;
- protection, conservation and restoration of biodiversity specific to agro-systems through the implementation of sustainable agriculture technologies;
- training and education of specialists and the general public in biodiversity conservation principles; and
- involvement of non-governmental organisations (NGOs) and local communities in biodiversity conservation programmes.

Main threats to biodiversity

Although Romania is rich in biodiversity (particularly the large size and quality of valuable ecosystems and the quantity of some species), the country has suffered a progressive loss of biodiversity as a result of human activity. In particular, agriculture, industrial development, transportation and the expansion of cities have profoundly affected biodiversity, both generally and locally. Pollution, alterations to river courses and hydrotechnical works, resource extraction and overexploitation of natural resources have been the principal factors threatening biodiversity in the country.

In the last 50 years, according to some estimates, there has been a permanent loss of 250,000 hectares (ha) of forest and grassland ecosystems and an additional 280,000 ha have been temporarily or partially lost. A total of about 400,000 ha of wetland habitats (much of it along the Danube River) have been permanently or partially lost as well. This controllable loss of biodiversity should be stopped and reversed.

Air, water and soil pollution have been and continue to be major threats to biodiversity in Romania. Industrial pollution decreased in the first years of the economic transition process due to significant reductions in industrial output. However, it can be expected that, as the Romanian economy begins to grow, industrial pollution of air, water and soil will begin to rise again unless changes are made by introducing new manufacturing processes or by installing pollution control equipment. Agricultural runoff is also a major pollutant factor in some areas.

Parts of the interior waters, which could sustain rich biodiversity, are polluted, and the Danube brings pollution from upstream countries which negatively impact the river's biodiversity, as well as that of the delta and the Black Sea. The high nutrient load of the Danube River has caused eutrophication in the Danube delta lakes where macrophytes, molluscs, benthic and fish species have consequently been reduced. This is particularly damaging to the fish population, but also to marine mammals.

Alterations to the course of rivers and the building of hydrotechnical works are among the most significant ecological changes that have taken place in Romania. In most instances, these actions have had major negative consequences for aquatic habitats and have caused the loss of natural ecosystems and terrestrial habitats, as well as the loss of the ecological equilibrium of these ecosystems on a large scale. The loss of groundwater as a result of hydrotechnical works, for example, has produced the partial or total drying-out of about 20,000 ha of forests.

The previous government promoted the draining of wetlands in order to create arable land for agriculture. This practice led to the loss of approximately 400,000 ha of floodplains, particularly along the Danube River and

in the Danube delta (80,000 ha). Embanking the Danube and building the Portile de Fier dam (steel gates) have also had a major negative impact on spawning areas and the breeding success of many fish species. Together with pollution, this has led to a reduction of sturgeon harvest (50 times lower than previously reported) and carp (10 times lower than previously reported).

The building of dams in the Danube catchment area have reduced the sediment load to the Black Sea coast and caused the partial habitat loss. Reservoirs associated with dams in other areas have also reduced forest and grassland surfaces by about 140,000 ha.

Since 1989, given the economic difficulties experienced by many Romanians, the tendency has been to exploit the natural resources available as much as possible in order to generate quick income. There has therefore been considerable illegal extraction and gathering of forest resources, including the cutting of small fir trees, mushroom collection, medicinal herbs, and aquatic animals, poaching and others.

Chamois in the Rodna mountains are now threatened with disappearance as a result of poaching, and the impact of poaching on sturgeon species is causing major population declines. In grasslands, continuous deterioration is experienced due to the number of grazing animals without considering carrying capacity or organising grazing cycles and rotations. Similarly, there has been considerable overexploitation of fish resources, as well as peat in some boreal habitats.

Forest management practices in Romania have not always been highly sensitive to protection and the sustainable use of biological resources. The overexploitation of wood in some areas, the selective extraction of economically (and ecologically) important trees, and the introduction of non-native or non-autochthonous species (Douglas fir and Austrian pine) had a negative impact on biodiversity. It is estimated that these practices have reduced the quality of biodiversity on about 1,000,000 ha of land.

Although Romania is well-known for its Black Sea coast and hosts major, sectors of the Danube, it is relatively poor in terms of the availability of useable water resources. Only 5 billion cubic metres can be used of the 37 billion cubic metres water available annually on inland rivers. Of the 8 billion cubic metres of underground waters, only about 4 billion cubic metres can be used. One of the major problems of water use in Romania is the presence of inefficient distribution networks, which leak considerably and reduce the volume of useable water.

Surface mining operations (brown coal in the north of Oltenia, sulphur in the Calimani mountains, and bituminous shale in Banat) have caused the loss of some important forest and grassland habitat. Soil resources have also been diminished historically in Romania as a consequence of erosion from poor farming and agricultural practices.

Estimates are that about 40 percent of the agricultural area is affected by erosion with an average rate of 16.5 tonnes per ha per year. The total agricultural area in Romania is 14,797,500 ha. Forestry utilises 6,680,200 ha, of which 6,245,800 ha are forests. Grassland surfaces total 4,872,100 ha, of which 3,378,400 are pastures and 1,493,700 ha are hay fields. Of major significance for biodiversity richness and useful natural resources is the total surface of water bodies of 888,300 ha. Irrigation of agricultural land (about 3,200,000 ha in 1989) has also brought about increased salinisation in large areas. Overgrazing in some areas is also reducing soil resources (e.g. it contributes to erosion, especially on slopes).

Others threats to biodiversity conservation in Romania are the development of infrastructure/transport networks, lack of knowledge, intensification of tourism, climate change and other natural hazard phenomena such as river diversion and drought.

The main threats to biodiversity in Romania are:

- insufficient/unsatisfactory inventory and monitoring of natural resources (high-value forests, endangered species of flora and fauna), which has allowed uncontrolled harvesting (collecting, hunting, fishing);
- black market export of flora and fauna species showing a downward trend in relation to increased training of customs staff;
- relatively high rate of poverty possibly leading to uncontrolled harvesting;
- abandonment of land used for agricultural purposes;
- natural afforestation of large areas of abandoned pastures;
- illegal cutting and clear-cutting of some privately owned forest areas after the restitution process (forest inspectorates not effective yet);
- reduction in permanent agricultural workforce numbers;
- relatively uncontrolled utilisation of new species and varieties in agriculture, new machines, technologies and methods (e.g. cleaning land after wheat harvesting by burning with open fires is illegal, but still utilised in large areas — environmental inspectorates do not act sufficiently to stop such trends);
- difficulties to control the small-scale use of chemical products in the field;
- increased land-use for urban expansion; and
- continued increases in the migration of the rural population to urban centres.

TABLE 1

Key national data related to rural development and biodiversity, Romania

Geographic data	
Total country area (km²)	238,391
Population data	
Inhabitants (number)	22,435,205
Share of people living on farms (%)	41.00
Share of people employed in agriculture and forestry (%)	16.50
Share of people employed in processing agricultural products (%)	2.50
Data on land use	
Share of agricultural land within the country area (%)	62.30
Share of forest within the total country area (%)	26.70
Share of arable land within agricultural land (%)	63.10
Share of meadows within agricultural land (%)	33.30
Share of orchards within agricultural land (%)	1.80
Share of vineyards within agricultural land (%)	1.80
Farming and agriculture	
Farms (number)	9,769
Average size of farms (ha)	2.4
Structure of farms	
Farms specialised in crop growing (number)	6,346
Farms specialised in animal husbandry (number)	2,071
Fisheries (number)	59
Organic farms (number)	6,300
GDP data	
GDP per capita (million lei)	35.728
Share of GDP of agriculture and forestry (%)	13.80
Share of GDP of processing of agricultural products (%)	4.50
Nature protection	
Protected areas (total area in ha)	1,234,710
Share of protected areas within the total area of the country	5.18

Note: all data has been provided by national experts preparing country studies

TABLE 2

Romanian national set of measures under SAPARD

Measure	Objective
1.1. Improvement in preparing and marketing agricultural and fishing products	• To improve efficiency in processing and marketing of agricultural and fishing products, which will enhance the products' competitiveness and will spur new jobs
1.2. Improvement of structures in order to maintain a high standard of veterinary and phyto-sanitary control for better quality food products and consumer protection	• To implement the *acquis* in the sanitary-veterinary, phytosanitary and product quality sectors, in order to improve the quality of raw materials and secondary (finite) agricultural and food products
2.1 Development and improvement of rural infrastructure	• To improve the current situation in rural areas, working and living conditions and the willingness of people to inhabit rural areas
2.2 Management of water resources	• To provide a durable management of water zones/areas, restoring and preserving the quality of the environment in rural areas
3.1 Investments in agricultural farms	• To improve wages and living and working conditions of agricultural producers, and ensure conditions for the hygiene and well-being of the animals
3.2 Establishing producer associations	• To set up groups of producers to market their products together, according to a set of production rules, in order to increase their income
3.3 Methods of agricultural production designed to protect the environment and maintain the rural landscape	• To develop the practical experience in implementing agro-ambient measures both at local and administrative levels
3.4 Development and diversification of economic activities to generate multiple activities and alternative income	• To diversify agricultural and forestry activities, as well as those closely related to agriculture, to generate more income
3.5 Silviculture	• To maintain and develop the economic, ecological and social functions of the forest in rural areas, increasing the forests' degree of accessibility within the existing forest fund
4.1 Raising staff professionalism	• To improve the knowledge and professional competence/skills of farmers and other workers involved in agricultural, fishing and forestry activities
4.2 Technical assistance	• To implementing SAPARD in an efficient, transparent and strict way

Implications of Biodiversity Conservation in Rural Development Programmes of **Slovakia**

National institutional structures related to agriculture and biodiversity conservation

Responsible authorities at the national, regional or local level include the:

- Ministry of the Environment, Bratislava;
- Head Office of State Nature Protection, Banska Bystrica;
- Ministry of Agriculture, Bratislava;
- SAPARD Agency, Bratislava;
- Ministry of Construction and Regional Development, Bratislava;
- regional Sstate administration Offices — departments of regional development; and
- district state administration offices — departments of regional development

Ministry of Agriculture

According to Act No. 347/1990, as amended by later regulations, the Ministry of Agriculture is the central state administrative body responsible for agriculture, forest management, water management (within a specified scope), fisheries, hunting and the food industry in Slovakia. It carries out state administration and expert oversight of the agricultural sector, as well as expert supervision, direction and inspection of administration that is legally carried out by other bodies and organisations in the agricultural sector and by territorial state administration authorities.

It directs and guides the state's economic policy in agriculture in line with the government's Policy Statement. In order to implement and facilitate activities, it establishes and systematically directs state public benefit enterprises, organisations and agencies, primarily in the fields of science, research, development, inspection, control and supervision, certification, training, consulting and forestry.

SAPARD

In Slovakia, the key body responsible for implementing SAPARD is the SAPARD Agency, which manages and distributes funds of the European Agriculture Guidance and Guarantee Fund (EAGGF). The EAGGF supports manufacturing and other activities contributing to the development of the agricultural sector and rural areas through SAPARD.

Activities of the agency can be summarised as follows:

- facilitating, managing and distributing funds to finance SAPARD activities through the Ministry of Finance National Fund from the EAGGF and from the state budget;
- administering SAPARD, verifying proposals, project contracting and monitoring;
- authorising, managing, clearing and monitoring payments from the EAGGF and the state budget;
- carrying out internal, external and technical audits;
- managing the document archive for Slovak and European Union (EU) authorities; and
- preparing reports and supporting documents on the use of EAGGF financing, setting deadlines and submitting documents to the relevant authorities.

After consulting the steering committee, the SAPARD Agency and other stakeholders, a monitoring committee was created to assess progress in meeting programme goals, monitor projects, approve annual

and final reports before their submission to the European Commission (EC), and to monitor the use of financial resources. The monitoring committee approves and assesses proposals for modifications to the programme that are submitted to the EC.

Regional development

The medium-term programme for the implementation of regional policy in Slovakia is the National Regional Development Plan, issued in April 2000. The strategic objective of the plan is to mitigate the difference in per capita gross domestic product (GDP) against the average of EU member states, so that the level of per capita GDP in purchasing power standard (PPS) in nominal value reaches at least a value of 60 percent, that is, 49 percent of the average of EU states. The document also serves as the basis — and a precondition — for receiving financial support from the Pre-accession Funds and, after accession, from EU Structural Funds.

The plan defines problems, objectives and priorities in the areas of economic and social development, and focuses on the need for support from EU resources, including the results envisaged from administrative and implementation systems and means for financing. Based on negotiations with the EC and the approval of the National Regional Development Plan, the Community Support Framework will be subsequently elaborated, defining the specific financial commitments of the EU and Slovakia to pursue the development objectives defined in the plan.

When developing the National Regional Development Plan, principles of partnership and subsidiarity were taken into account by ensuring a consensual collaboration of all participants in the drafting process, as well as during the implementation of the programme. According to the plan, higher level authorities will only be responsible for the execution of tasks that cannot be effectively undertaken at a lower level.

The National Regional Development Plan ensures the functionality of regional policy in line with the medium-term economic priorities of Slovakia. It takes into account already approved documents such as the *Conception of Employment Policy until 2002,* the *National Plan of Employment,* the *Medium-Term Priorities of Economic Policy of Slovakia* and the *Plan of Rural Development*. The National Regional Development Plan also respects official documents on the environment, such as the *Strategy, Rules and Priorities of State Environmental Policy,* the *National Environmental Action Programme,* the *Programme of Waste Economy* and the *Conception of the Application of Agenda 21,* as well as the *Evaluation of Indicators of Sustainable Development* in Slovakia. It also considered proposals for other documents of crucial importance that are under preparation and that should be adopted in the near future: the National Strategy of Sustainable Development in Slovakia, and the Conception of Territorial Development of Slovakia.

Objectives and priorities of the National Regional Development Plan were defined based on sectoral and regional operational programmes, which contain complex solutions for regional development from the viewpoint of each individual sector. These operational programmes were developed by the relevant ministries in collaboration with regional offices and approved by regional monitoring committees. The Ministry of Construction and Regional Development coordinated the process of preparing the National Regional Development Plan. It is a mid-term planning document that will be reviewed regularly and updated in relation to progress in reforms and developments in the economic and social conditions in Slovakia.

Existing EU support to regional development

Since 1990, Phare has been the first financial assistance provided by the EU for the social and economic development of Slovakia. This assistance constitutes important support for the formulation and implementation of regional policy in Slovakia. Apart from providing financial resources, it also stimulated the responsible authorities in the public administration to adopt methodological procedures used in the EU and to prepare for the utilisation of Structural Funds.

The EC and the Slovak government both supported the Rural Development Fund, a Phare project. It aimed to establish an instrument for the transparent provision of resources and mechanisms to ensure that rural development activities are based on the principles and criteria of the EU.

One of the EU programmes that will provide financial assistance to accession countries during the pre-accession period is SAPARD, which focuses on promoting measures in the areas of agriculture and rural development. To fulfil an EU condition for such funding, the National Plan of Rural Development in Slovakia was developed and approved in November 2000.

In January 1999, the Slovak government ratified the European General Agreement on Cross-Border Cooperation between territorial units or bodies, as well as two protocols to the agreement. The two protocols were ratified and entered into force on May 2, 2000. Apart from approving and signing these instruments, Slovakia also signed intergovernmental agreements on crossborder cooperation with Poland (in 1994), the Czech Republic (in 2000) and Ukraine (in 2000). Agreements with Hungary and Austria are prepared for signature (2000, 2001).

Euroregions is an initiative established to improve crossborder cooperation as required by EU directives. In the case of Slovakia, almost 100 percent of its border areas are covered by recently or newly established Euroregions. It is envisaged that the cross-border activities of regional and local bodies will develop concretely within this framework.

Nature conservation and Natura 2000

With the aim to prepare for the implementation of the Natura 2000 programme, Slovakia is participating in Emerald, a pilot project to assist signatory states of the Bern Convention in creating the Natura 2000 network. The programme uses the same software as Natura 2000 and differs only in the registration of some species. In the course of the Emerald project, 43 areas were selected as important nature protection areas from the national IUCN ecological network (Neconet), Ramsar areas (11 internationally important wetlands) and proposed bird habitats. For the Emerald database, Corine mapping data, habitat mapping, grass areas mapping, wetlands inventory, and existing fauna and flora databases were used.

Planned outputs of Emerald include:

- assessment of existing databases on nature areas, plant and animal species, their accessibility and use, and an analysis of information sources relevant to Natura 2000;
- preparation of a proposed Natura 2000 list based on Species and Habitats of Areas of Community Importance in Slovakia;
- preparation of pilot management plans for Natura 2000 areas (Polana and Ramsar sites by the Morava River);
- methodology for selection of Natura 2000 areas using EU methodology, Birds Directive 79/409/EC and Habitats Directive 92/43/EC;
- raising public awareness through information campaigns and participation by various social groups;
- preparation and participation in the EU LIFE programme for protection of nature areas;
- software development, Natura 2000 meta database, creation of two databases (for habitats and species) with a user-friendly structure that will be linked to the Geographic Information System (GIS); and
- preparation of guidelines for habitats that are listed in Annex I of the Habitats Directive.

The parliament of Slovakia approved the Act on Nature Protection that will come into force on January 1, 2003.

Natura 2000 project results include:

- A proposal of criteria and regulations for the identification of Natura sites of community interest (SCI) has been prepared.
- A manual on habitats has been prepared, used and updated with non-Natura 2000 information to be applied during the preparation of management plans in all nature areas in Slovakia.
- Questionnaires are processed focusing on 43 plant species, seven moss species, 143 animal species, 110 bird species and 80 habitats.
- A Natura 2000 Centre has been set up within the national nature protection authority.
- A Natura 2000 database is being prepared as part of a complex information system on taxons and habitats by national nature protection authorities.

Important areas for biodiversity conservation were selected based on information from the National Ecological Network, Protected Areas Network, Ramsar sites, Important Birds Areas (IBAs), the Grassland Inventory, the Wetland Shadow List, and the Carpathian Eco-region Initiative. A total area of 15,542 square kilometres (31.7 percent of the country) was identified as a potential site for the Natura 2000 network, to be investigated with high priority.

In April 1997, the Slovak government adopted the National Biodiversity Strategy with the main objectives of protecting biodiversity and genetic reserves, as well as managing these resources in a sustainable manner. The strategy is meant to prevent the destruction of and damage to ecosystems, ecological destabilisation, decreasing productivity and over-use. Activities such as biodiversity protection, the rational use of natural resources, and the protection and management of landscapes all derive from sustainable development principles, especially from sustainable forest management, which is one of the most important elements in the stabilisation of ecosystems, and soil and water management.

In 1998, the Ministry of Environment published the *First National Report on Biodiversity,* which summarises the status of biodiversity, identifies processes that influenced it, describes adopted *in situ* and *ex situ* protection measures and states the main principles and strategic goals for biodiversity protection in Slovakia. The *Action Plan for Biodiversity Protection* documents the enforcement of the biodiversity strategy.

The main national priorities under sectoral polices

Concept of Agricultural and Food Policy

- Creating efficient, modern and competitive agriculture and food management;
- Providing high-quality and safe food from domestic production to satisfy domestic demands, and to take advantage of international trade;
- Ensuring sufficient income levels in agriculture and the food-processing industry, as well as appropriate levels of personal income for people whose livelihoods depend on agricultural activity;
- Adjusting agriculture to environmental requirements for the conservation of soil, water, air, the natural environment, biodiversity and traditional gene pools;
- Supporting the development of rural regions by stimulating alternative economic activities and creating additional resources to maintain employment and agricultural use of resources;
- Adjusting institutions gradually and creating technical and organisational conditions for the transition to regulatory and control mechanisms applied in the EU.

Government Policy Programme — Agriculture and Rural Policy

- Creating conditions for the proper use of agricultural land to increase the effectiveness and competitiveness of agriculture;
- Creating preconditions to ensure adequate retirement, the structural stability of business entities, raise the productive potential of the land and improve the use of capacities in the finishing industry;
- Encouraging the financing of storage of certain agriculture and food products, providing long-term loans for modernisation and technical renewal;
- Supporting mountain and sub-mountain areas and other disadvantaged regions;
- Guaranteeing acceptable price levels for producers and consumers;
- Consolidating ownership relations in agriculture;
- Creating conditions for market development;
- Incorporating long-term strategic goals for forestry development in Slovakia within the state forestry policy;
- Passing legislative norms to fix the position of state forestry property, its administration and use, as well as the operation of non-economic or insufficiently economic non-state forestry property;
- Operating and maintaining water sources and other water enterprising property systematically;
- Joining the new political scheme for rural development in Europe and the European Charter for rural areas.

Strategy for ecological agriculture until 2005

- Stimulating the introduction and use of agricultural practices to protect the environment, its elements, the soil and genetic diversity.

Policy on the use of biological materials in agriculture and foodstuff production

- Decreasing energy consumption by using technology with low energy demands and supporting programmes for sustainable resource use.

Main threats to biodiversity in Slovakia

- Reduction of biodiversity and extinction of several threatened plant and animal species.

Activities with a strong negative impact on species, habitats and landscapes are agriculture, forest management, mining, transport and industry.

Set of Slovak measures for SAPARD

Measure No 1 – Investments in agricultural enterprises,

Measure No 2 – Improvement of processing and marketing of agricultural and fish products

Measure No 4a –Diversification activities in rural are as not involving infrastructure investments

Measure No 5 – Forestry

Measure No 7 – Land consolidation

TABLE 1

Key national data related to rural development and biodiversity, Slovakia

Geographic data	
Total country area (km²)	49,035.81
Population data	
Inhabitants (total number)	5,400,679
Population density (number of inhabitants/km²)	110
Number of people employed in agriculture	115,300
People employed in cooperative farms (number)	55,773
Share of people employed in cooperative farms (%)	70.4
People employed in state farms (number)	222
Share of people employed in state farms (%)	0.3
People employed in trading partnerships (number)	21,663
Share of people employed in trading partnerships (%)	27.3
People employed in subsidy organisations (number)	1,563
Share of people employed in subsidy organisations (%)	2
People employed in forestry (number)	22,000
Share of employees in administrative positions in forestry (%)	26
Share of workers in forestry (%)	74
Share of people employed by state enterprises in forestry (%)	63
People employed in processing of agricultural products (number)	46,523
People employed in wood processing (number)	10,364
Data on land use	
Agriculture land (total area in ha)	2,440,667
Arable land (total area in ha)	1,450,491
Grassland (total area in ha)	865,222
Hop-gardens (total area in ha)	808
Vineyards (total area in ha)	27,706
Gardens (total area in ha)	77,621
Orchards (total area in ha)	18,819
Forest (total area in ha)	1,997,901
Share of timber wood forests (%)	66.00
Share of protected forests (%)	16.00
Share of forests under special protection regulations (%)	42.50
Farming and agriculture	
State farms (number)	2
Share of state farms within agricultural land (%)	0.04
Cooperative farms (number)	739
Share of cooperative farms within agricultural land (%)	47.74

TABLE 1 Continued

Key national data related to rural development and biodiversity, Slovakia

Farming and agriculture	
Trading partnerships (number)	700
Share of trading partnerships within agricultural land (%)	29.5
Other organisations (number)	67
Share of other organisations within agricultural land (%)	77.28
Individual farmers (number)	20,355
Share of farms of individual farmers within agricultural land (%)	8.88
Share of farms of individual farmers over 100 ha within agricultural land (%)	4.86
Agricultural enterprises (number)	21,863
Organic farms (number)	89
Total area of organic farms (ha)	60,000
Farms participating in agri-environment projects (number)	0
Protected areas within agricultural land (area in ha)	137,751
Farms receiving subsidies from SAPARD (number)	0
GDP data	
Growth of GDP in 2000 (%)	2.2
Share of GDP from agriculture in 2000 (%)	4.34
Share of GDP from processing of agricultural products in 2000 (%)	2.92
Share of forestry from total GDP in 2000 (%)	0.56
Nature protection	
National parks (number)	9
National parks (total area in ha)	317,821
Protected landscape areas (number)	14
Protected landscape areas (area in ha)	525,547
Nature reserves (number)	376
Nature reserves (area in ha)	11,767
National nature reserves (number)	231
National nature reserves (area in ha)	85,906
Nature monuments (number)	230
Nature monuments (area in ha)	1,532
National nature monuments (number)	60
National nature monuments (area in ha)	59
Other preserved localities (number)	189
Other preserved localities (area in ha)	7,001
Protected areas (number)	1,086
Protected areas (area in ha)	106,264
Share of protected areas within the country area (%)	23.30

Note: all data has been provided by national experts preparing country studies

Implications of Biodiversity Conservation in Rural Development Programmes of **Slovenia**

National institutional structures related to agriculture and biodiversity conservation

SAPARD

In Slovenia, the Agency for Agricultural Markets and Rural Development is being established as the appropriate paying agency through which Slovenian agriculture and the agri-food industry may receive European Union (EU) funds. Through this agency, the country aims to adapt its implementation of market organisation, foreign trade policy, market interventions, the system of payments and structural measures, and SAPARD to the Common Agricultural Policy (CAP). In preparation for the implementation of SAPARD, the agency should be fully operational by the end of 2002. For other purposes, such as the exploitation of funds from the European Agriculture Guidance and Guarantee Fund (EAGGF) and Financial Instrument for Fisheries Guidance (FIFG), the agency will have to be fully operational by the date of Slovenia's accession to the EU.

The agency will adopt all tasks related to the implementation of the CAP and to the implementation of SAPARD pre-accession assistance. In the pre-accession period, it will also gradually implement most measures of the national agricultural policy (subsidies and other measures).

The agency will be responsible for the functions that are required, such as the authorisation of and accounting for payments, but the execution of payments will be undertaken by the government payment office (in the Ministry of Finance). Apart from financial obligations, the agency will implement:

- tasks related to organising the common market;
- tasks in the area of agricultural structural policy and rural development policy;
- financial procedures for the preparation of contracts and payment orders, accounting, recording payments in special ledgers for EU expenditures, data-processing and preparation of periodic reviews of expenditure, including monthly and annual reports to the European Commission (EC);
- cooperation with the Ministry of Finance, which will carry out the payment of funds to approved beneficiaries;
- internal control: *ex ante, ex post* and ongoing control over the conformity of approval procedures; and
- internal audits.

Regional development

The National Agency for Regional Development (NARD) was established in January 2000 with the aim to coordinate, promote and implement the regional structural policy for balanced and sustainable regional development in Slovenia as well as other regional development issues that appear as national needs or requirements directly linked to EU accession. It is structured as a network of the Regional Development Agencies of the 12 statistical regions.

Natura 2000

On the national level, the body responsible for the implementation of requirements related to Natura 2000 is the Ministry of Environment, Spatial Planning and Energy. While the responsibility for implementing scientific analysis in the field of environment has been delegated to the Agency for Environment, Natura 2000 will be included into legislation on ecologically important areas which are not yet defined. The work on Natura 2000 issues is also in progress and involves professional institutions and individual experts.

Short description of the main national priorities under sectoral policies

The main goal of the Agriculture Policy in Slovenia is the restructuring of agriculture and rural development.

Policy documents

- National Development Plan, Ministry of Economy, Ljubljana, December 2001, (proposal);
- Rural Development Programme, Ministry of Agriculture, Ljubljana, August 2000.

The long-term objectives for restructuring agriculture and rural development are:

- ensuring competitiveness;
- sustainable use of natural resources;
- preservation of population density in rural areas; and
- harmonisation with the *acquis*.

Development priority programmes

Strategic objectives will be implemented within the following programmes:

- Restructuring of Agriculture;
- Restructuring of the Food-Processing Industry;
- Rural Development;
- Forestry Development;
- Fishery Development; and
- Education

The goal of regional development is to promote balanced regional development. The policy document is the National Development Plan of the Ministry of Agriculture, Ljubljana, December 2001, (proposal).

Objectives

The strategic objective is to achieve a high standard of living for the population in all Slovene regions by promoting an environmentally friendly economy, strengthening the economy, establishing high-quality transport connections between regional centres of the second category, elevating the category of the most important centres in Slovenia, and attracting and intersecting major European transport routes.

In this area, Slovenia aims to achieve the following general objectives:

- sustainable, harmonious and balanced spatial development that can stop further disparities in the level of economic, social, environmental, cultural, health development and development opportunities;
- polycentric development of settlements, forming quality relations between urban and rural areas;
- prevention of new areas with evident development problems; and
- proportional availability of resources of special public interest and of knowledge with an emphasis on efficiency and intermodality of modern infrastructure.

Development priority programmes and activities

- Comprehensive rural and urban development;
- Development of culture and preservation of the natural and cultural heritage as a factor in developing employment at the regional level;
- Regional infrastructure development;
- Promotion of economic development of national minorities and ethnic groups.

Biodiversity conservation

Policy document

- Biodiversity Conservation Strategy of Slovenia, Ministry of Environment, Spatial Planning and Energy, Ljubljana, 2002

Objective

- To conserve ecosystems through the maintenance of habitat types at a favourable status.

Directions

- To protect areas vital for the maintenance of habitat types at a favourable status;
- To establish a network of protected areas, while taking into account the Natura 2000 network, and to provide mechanisms for conservation and sustainable use, including financial mechanisms;
- To establish and manage efficiently the ecological network to improve the status of endangered and key species and their habitats and ecosystems;

- To encourage and promote the conservation of characteristic structures and functions of threatened ecosystems;
- To improve the social and economic serviceability of biodiversity conservation mechanisms and to withdraw support from activities that diminish biodiversity and promote the unsustainable use of its components;
- To establish appropriate coordination between various incentives to stop climate change and the depletion of the ozone layer in order to achieve synergy between these incentives within the context of the United Nations Framework Convention on Climate Change (UNFCCC);
- To coordinate the activities and incentives of various international environmental protection and nature conservation agreements and the subject matter of the UNFCCC convention in order to achieve their maximum efficiency.

Analysis of the SAPARD programme

Strategic objectives

Agricultural policy in Slovenia follows long-term strategic objectives that are similar to the objectives of the CAP. They refer to the areas of food security, the preservation of population density in the countryside and of sustainable production potential, increases in agricultural competitiveness and guaranteed parity income for the agricultural population. According to article 1 of Council Regulation (EC) 1268/99, EC support is provided to sustainable agriculture and rural development measures during the pre-accession period in Slovenia in compliance with the conditions laid down in the framework of the accession partnership. It relates to the following general objectives:

- contribution to the creation of a competitive agricultural sector;
- maintenance of the rural population; and
- implementation of the *acquis*.

Specific programme objectives

According to the analysis of rural development prospects (sections 1.3 to 1.5), and in compliance with Council Regulation 1268/99, the following objectives of the Rural Development Plan have been identified:

- increased competitiveness of the farming and food-processing sectors;
- improvement of farm incomes;
- compliance with EU standards; and
- creation of additional employment on farms and the improvement of the quality of life in rural areas.

Priorities

As a result of an extensive analysis of development disparities, strengths and weaknesses, the corresponding national policy action, and the potential scope of EU assistance, the following two priorities, addressed by SAPARD, have been recognised:

- improvement of production and marketing structures in agriculture and the food-processing industry; and
- economic diversification and improvement of rural infrastructure.

Improvements to the production structure of agriculture and the food-processing industry

In support of the structural adjustment in the Slovenian agricultural sector, emphasis will be placed on increased competitiveness in production and higher quality products. This constitutes a considerable endeavour in development and organisation and, at the same time, makes high investment demands. The priority to improve production structures in agriculture and the food-processing industry is divided into two measures: investment support for agricultural holdings and investment support for the dairy, fish and meat-processing industries.

Economic diversification of farms and improvements to rural infrastructure

This priority consists of two measures: one aimed at stimulating economic diversification of farms and the other one at the construction and improvement of rural infrastructure. Support will therefore be provided to projects for auxiliary and alternative on-farm activities exhibiting innovative approaches that will ensure the greatest possible integration between sectoral measures and the specific needs of rural areas. The plan anticipates the implementation of a measure that is specifically designed to promote the diversification of economic activities on farms, and that provides for supplementary or alternative income for farm households. In areas lacking basic infrastructure — a prerequisite for economic development — support will be directed towards infrastructure related to agricultural development. In this respect, the plan anticipates implementing a specific measure, designed to construct and improve rural infrastructure.

Main threats to biodiversity

- Unregulated management of genetic material, increasing uncontrolled introduction of alien and genetically modified organisms;
- Uncontrolled trade in non-indigenous or exotic animal species;
- Over-construction of the seacoast;
- Only 25 percent of large rivers are partially or entirely regulated, with the upper courses of water flows the only sources that remain unpolluted;
- Many marshy meadows drained;
- Chemical substance residues accumulated in agricultural areas and numerous communication facilities cross animal migration routes;
- Land abandonment, especially in karst hayfields and pastures and highland pastures;
- Intensification of agricultural production;
- Unorganised spatial and urban planning;
- Changes in farming and reorientation from farming to other industries (e.g. tourism);
- Large-scale spatial projects leading to landscape degradation and habitat fragmentation.

TABLE 1

Key national data related to rural development and biodiversity, Slovenia

Geographic data	
Total Country area (km²)	20,273
Population data	
Inhabitants (number)	1,987,755
Population density (number of inhabitants/km²)	98
Employed population (number)	945,766
Share of employed population (%)	48,10
People living on farms (number)	145,422
Share of people living on farms (%)	7.60
People Employed in agriculture and forestry (number)	109,139
Share of people employed in agriculture (%)	11.50
People employed in processing of agricultural products (number)	18,399
Share of people employed in processing agricultural products (%)	3.20
Data on land use	
Agricultural land (area in hectares (ha))	485,879
Arable land (area in ha)	170,804
Share of arable land within agricultural land (%)	35.15
Meadows and pastures (area in ha)	28,541
Share of pastures within agricultural land (%)	58.74
Orchards (area in ha)	13,062
Share of orchards within agricultural land (%)	2.69
Vineyards (area in ha)	16,603
Share of vineyards within agricultural land (%)	3.42
Abandoned agricultural land (area in ha)	51.37
Barren land (area in ha)	18.32
Forests (area in ha)	394,701
Share of urbanised land within the country area (%)	2.68
Farming and agriculture	
Average size of farms (ha)	5.6
Organic farms (number)	7,206
Farms participating in agro-environmental projects (number)	1.4
Farms receiving subsidies from SAPARD (number)	28
Share of grasslands (%)	61.60
Share of arable land (%)	32.90
Share of vineyards (%)	3.00
Share of orchards (%)	2.50

TABLE 1 continued

Key national data related to rural development and biodiversity, Slovenia

GDP data	
GDP per capita (purchasing power standard)	12,165
GDP per capita (% of EU 15 average)	72
Share of agriculture, forestry, hunting and fishery in GDP (%)	3.4
Share of agriculture in GDP (%)	3.9
Share of processing of agricultural products in GDP (%)	3.20
Share of industry in GDP (%)	27.3
Share of construction in GDP (%)	5.3
Share of services in GDP (%)	50.8
Unemployment rate	12.2

Nature protection	
National parks (number)	1
National parks (territory in ha)	83,807
Regional parks (number)	2
Regional parks (territory in ha)	20,862
Landscape park (number)	40
Landscape parks (territory in ha)	47,374
Nature reserves (number)	59
Natural monuments (number)	623
World heritage sites (number in 1986)	1
World heritage sites (territory in ha)	413
Ramsar sites (number in 1993)	2
Ramsar sites (territory in ha)	650

Note: all data has been provided by national experts preparing country studies

TABLE 2

Slovenian national set of measures under SAPARD

Measures	Objectives
1. Investments in agricultural holdings	The adoption of modern farming techniques, from systems of cultivation to methods of plant and animal care will require technical support, grant aid for investments as well as access to credit. The technical support will be for the preparation of development plans for individual farm businesses and this will be provided by the agricultural extension service. SAPARD funds will be used to co-finance capital investments included in the plan that are specific to main types of production, milk and beef. The support will be targeted at those farms that can assemble sufficient land and other productive resources to justify the introduction of modern technology and to produce a parity level income for one person. Rates of grant aid will be available to young farmers who are in the process of establishing a farm business and higher rates of financial assistance will also be available to farmers in less favoured areas as currently defined by the national legislation and eventually adapted to the CAP criteria (planned by the end of 2000).
2. Support for capital investments in processing and marketing of agricultural and fishery products	SAPARD funds will be focused on providing technical support and financial assistance to firms in the dairy, meat and fish sectors. Priority will be given to investments that make an overall improvement in a sector and allow farmers to share in the economic benefits. Projects involving cooperation between firms will be favoured.
3. Economic diversification of farms	The main goal of the measure is to develop and diversify economic activities in the countryside and to provide alternative sources of income in agriculture in order to improve the economic, social and environmental status of the countryside. The measure will be restricted geographically to wine tourist roads and other regional rural development projects. Funds will be allocated to legal and natural persons meeting the eligibility criteria of the tender.
4. Support for improvement of rural infrastructure	In the area of integral rural development, SAPARD funds will be used for the implementation of two measures: improvement of rural infrastructure and economic diversification of farms. Financial assistance for the establishment of infrastructure will be provided for areas which have incorporated this measure in their development programmes. Planning from bottom up is used in the drafting of rural development projects. In the National Programme of Agricultural Policy Reform 2000-2002 priorities and needs for the implementation of integrated rural development projects have been identified. Owing to limited SAPARD resources, funds will be available for selected villages/areas on the basis of appropriate criteria. Development programmes for these areas will be drafted. Municipal authorities will be invited to apply for funds on behalf of village communities and, if successful, they will also manage project implementation. This partnership therefore harnesses the knowledge of the local community, the legal and technical capacity of the local authority, the EU funds and national funds with the integrated development of rural areas at the local level.

Emerging Models from Central and Eastern European Countries

Promoting Nature Conservation, and Environmental and Social Values in Central and Eastern Europe

Introduction

The purpose of providing examples of best practice cases is to demonstrate how the SAPARD programme can be used to promote nature conservation, as well as environmental and social values through rural development activities. Several cases were collected from Central and Eastern Europe (CEE) in a project funded by a different source, as SAPARD has not yet been implemented in some of the countries in the region. Five case studies were selected from Latvia, Lithuania (2) and Poland (2) and are presented below. The studies focus on:

- a demonstration farm of good agricultural practice (Latvia);
- piloting agri-environmental measures on Rusne Island (Nemunas Delta, Lithuania);
- Tatula Programme: Development of Sustainable Agriculture in the Karst Region (Lithuania);
- Podkarpacie and Warmia-Mazury Agri-environmental Programmes (Poland); and
- conservation of old fruit tree varieties and traditional processing methods by local communities (Poland)

The models presented here were developed and implemented with a particular focus on biodiversity conservation. The selected projects can be used as examples of how to approach agriculture with the aim of biodiversity conservation. Activities that are reported focus on issues facing rural areas rather than on practical farming techniques. These examples can be used by decision-makers to provide opportunities for multiplication and by experts as examples in the preparation of policy frameworks.

Demonstration Farm of Good Agricultural Practice, **Latvia**

From August 1999 to December 2001, a project on the establishment of a demonstration farm of good agricultural practice was implemented in Latvia. The project was financed by the Danish Ministry of Food, Agriculture and Fisheries, with funding from the East Assistance Office. The co-executors of the project were the Latvian Agricultural Advisory Service (LAAS) and Holstein Consult, a Danish company.

Description of the project

The objectives of the project were to:

- demonstrate ways of developing profitable, as well as environmentally friendly, farming;
- demonstrate the implementation of the Code of Good Agricultural Practice; and
- disseminate information about the experience to farmers in Latvia.

In order to implement the project, a farm showing good agricultural practices had to be identified and a competition was used for this purpose. The following criteria were applied to choose a farm suitable for the project: it had to be a private family farm with development potential, situated in a typical environment in Latvia. This was required to enable other farms in similar circumstances to apply the acquired experience.

A farm called Bruzilas, located in the Saldus region of Kursisi parish, was selected during the competition as the demonstration farm.

There were two immediate objectives the creation of the demonstration farm.

First of all, the development of a farm in the short-term had to be carried out successfully. The developments had to be both efficient and environmentally friendly. In this regard, a thorough economic analysis was carried out focusing on making the farm profitable through the use of local funding resources as much as possible.

Second, the results and the experiences gained had to be summarised and disseminated to farmers in Latvia though the network of the Latvian Agricultural Advisory Centre. These activities would aim to improve the knowledge and use of total farm management strategies among farmers and consultants. It would also contribute to the capacity of the advisory centre in Saldus to provide qualified advice and more appropriate services to farmers in the region.

The demonstration farm has been owned by the Stencelis family for more than six generations and was cultivated as an individual, family-owned farm until the Soviet occupation in 1939. During Soviet rule, the family still lived on the farm, but the land was cultivated by the neighbouring cooperative where the family also worked. In 1991, all the farm buildings and 71 hectares (ha) of land and 13 ha of forest were returned to the family. The only exception was a building for the storage of grain, which is jointly owned with a neighbouring farm.

From 1991 to 1999, Mr. Stencelis cultivated about 60 ha of the land and built up a dairy herd of 11 cows. During this time, the farm was mainly cultivated with second-hand equipment and machinery dating from the Soviet era, except for a new 60 horsepower Ursus tractor and a new Kverneland plough purchased on credit. In 1999, Stencelis gained access to an additional 60 ha of arable land for cultivation.

The project results which were achieved included:

- Sound agricultural practices were established on the demonstration farm, and analyses and a summary of the economic activities of the farm were produced.
- A demonstration was given of ecologically and economically viable farm development.

- Steps were taken on the farm to harmonise its activities with the principles of the Code of Good Agricultural Practice, elaborated according to the European Union Nitrate Directive.

Economic impact

The long-term goals of the farm were to:

- increase crop production by cultivating approximately 300 ha of land; and
- build a new cow stable for the expansion of milk production by utilising about 100 cows.

The project goals to be achieved on the farm included:

- establishing a 122-ha, well-managed crop production demonstration farm that produces at a level of 6.5 tonnes per ha of winter wheat and comparable yields in other crops;
- further developing dairy activities with a growing herd aimed at a target of 40 milk cows plus followers, housed and milked under improved conditions (in comparison to the existing facilities), which would include a better milking system and cooling facilities, as well as improved conditions for handling manure, storage and field application;
- dairy cows yielding approximately 5,500 kilograms (kg) of milk per cow per year based on an average of a minimum of 4 percent fat content; and
- a farm accounting system covering ecological impact balance, as well as financial accounting and profit margin analyses with built-in facilities for simulation and analyses on the basis of alternative assumptions and conditions.

Crop production

The first year's results in crop production were better than planned at 5.1 tonnes of wheat per hectare. This raised the expectation of further increases in production for 2001. However, the crop production in 2001 was disappointing, and it has been impossible to find a clear explanation. Already in spring, it was clear that the wheat was not developing as desired and the crop was infected with many diseases during the growing season.

The area for crop production was increased and 60 percent was on fallow land with generally low pH, phosphorous and potash levels. Lime was applied to about 100 ha, but it will still take some years before the condition of the soil has improved significantly.

Land resources

Several wheat breeds were tested on the farm, including breeds widely used in Denmark. The yields obtained from these breeds were not better, but some of them have a shorter culm, which makes it possible to avoid applying retardants, thus decreasing the use of plant protection — an important factor in growing food grain.

At the time of harvesting in 2000, about 60 percent of the cultivated land had laid fallow until 1999. Stencelis has achieved an acceptable yield for crop production, but under these conditions, the aim of the project to produce an average yield of 6.5 tonnes per ha for wheat is unrealistic. It is estimated that climate conditions and the general soil texture provide the potential to reach an average yield of around seven tonnes per ha in the long term. However, it will take several years to improve fallow land to reach conditions ideal to produce such a yield.

Milk production

To improve milk production, Stencelis started years ago to cross his dairy herd with black and white breeds. The crossing has started to have the desirable effects. Together with improved management of the grassland and silage, the milk yield has increased considerably.

The average yield in 2001 was around 6,100 kg of milk per cow, which is 600 kg more than hoped.

The number of milk cows has nearly doubled during the project period from 10.8 milking cows in 1999 to 19.5 in 2001. The average yield has increased by 25 percent per year each year from 4,135 kg in 1999 to 6,113 kg in 2001. The average yield in Latvia was 4,108 kg per cow in 1999 and 4,215 kg per cow in 2000.

In 2001, a new low-cost stable was built for milk cows and heifers, with space for around 40 cows and manure storage matching this production. The new stable is a considerable improvement for animal welfare and provides good potential to increase milk production with regard to the number of cows, as well as in yield per cow.

Milk production has established itself as a stable and important financial factor in the farm's total production, with a total income from the sale of milk of LVL 11,754 in 2001.

Impact on biodiversity and landscape values

One of the project goals was to demonstrate how the Code of Good Agricultural Practice has to be carried out in practice. The Code of Good Agricultural Practice was elaborated in Latvia in 1998 in a collaborative project that involved specialists from Latvia, Denmark and Sweden. The code covers the main spheres of agricultural activity that may cause the pollution of water, air or soil, and provides advice that, if correctly applied,

can avoid or at least lessen pollution. The successful implementation of the code should be based on three balanced, basic principles: economically viable, environmentally friendly and socially acceptable. The activities within the demonstration farm project clearly showed that if sound agricultural practices are observed good production results can also be obtained.

The table below provides a summary of the activities carried out on the farm, showing compliance with the principles of the code by the end of the project in 2001. The focus on farm activities that comply with requirements of good agricultural practice (GAP) is clear in this table.

TABLE 1

Farm activities in compliance with good agricultural practice

GAP points	Crop farming, soil and fertilisation
1.	Internal land reparceling has been carried out on the farm; land parcels have been delimited in nature; a land survey has been carried out; the suitability of land parcels for various uses has been determined.
4.	Agronomically justified crop rotation was instituted, allowing the more natural use of soil fertility, a reduction in the application of pesticides, and a reduction in losses of plant nutrients. Oilseed rape was sown for the first time in 2001.
5.	Grasslands cover 62% of the total land area.
7.	In 2000, soil liming was carried out on 100 ha. To avoid and reduce soil compression by heavy machinery, double tyres were used on tractors during sowing and spray fertilisation. To avoid soil pollution as part of the project, dust was samped before liming was subjected to laboratory testing by electrical filter. Heavy metals, such as cadmium and nickel, were detected in the sample. However, rules are neither in place in Latvia nor in Denmark to regulate these metals in liming material. This was discussed with environmental experts in Denmark and Latvia, and no objections were raised.
9.	Fertilisers are applied in each field, taking account of specific level of productivity.
10.	There are *soddy podzolic* and *soddy gley* soils on the farm, mainly sandy clay (85%) and a small quantity of clay sand (15%) soils. At the beginning of the project in autumn 1999, agri-chemical mapping of the soil was carried out. The content of organic substance varied from 1.4-3%. The content of phosphorous in the soil varied from low to medium (17-149 mg/kg), potash from medium to high (in small areas the content is below 44, but also very high at 455 mg/kg), and magnesium from medium to high (101). The presence of minerals was detected — the soil lacks sulphur, which plays an important role in many processes. This was considered during fertilisation. One hundred ha were limed where the level of acidity was high. Straw was worked into the soil on 72.9 ha to raise its organic matter content.
11.	Soil fertility was improved by planting papilionaceous plants (clover and alfalfa for fodder and grazing lands), and succeeded by winter crops immediately in autumn after ploughing to avoid washing nitrogen out of the soil during mineralisation.
12.	To avoid compression of lower layers of soil, movement by tractor is limited during soil cultivation. A combined sowing machine was chosen and acquired that sows directly on ploughed land. Application of such technology makes additional cultivation unnecessary and movement is reduced. Quality of ploughing plays an important role (soil is turned over completely, covering weeds); this can be achieved by properly adjusting the plough and using an optimal ploughing depth.

TABLE 1 continued

Farm activities in compliance with Good Agricultural Practice

GAP points	Crop farming, soil and fertilisation
13.	Combined soil tillage machinery is used, saving labour needed for cultivation. Ploughing direction is matched with crop sowing direction. Ploughing depth is chosen depending on the type of soil.
14.	The farm chose a complex soil tillage system for cereals — ploughing and sowing with a combined sowing machine.
15.	Soil is tilled at an optimal time, to preserve the moisture in the soil. In spring, fields are dragged.
19., 20., 26., 27., 28., 29.	Each field has an individual fertilising plan. Quantities used ensure planned yields and protect the environment from pollution. Only packed fertilisers are transported.
21., 22.	Manure is tested.
23.	After manure is spread, the fields are ploughed as soon as possible.
30., 31.	When crops are fertilised according to plan, crops have optimal levels of nutrients in proper proportion resulting in a quality harvest. By applying nitrogen fertilisers, the farm plans not to exceed 170 kg/ha during a season (nitrogen in manure taken into account).
32.	The farm collects data to calculate the balance of nutrients. To assess the overall situation, the balance is calculated for one year. The farm calculated the nitrogen balance by sampling soil and testing the content of nitrogen after harvesting. The nitrogen balance of 128% was within acceptable limits.
33.	Shortly before sowing winter crops, fertilisers and manure were ploughed into the soil. To avoid the washing out of nutrients, complex artificial fertilisers were sprayed only in spring, even for winter crops.
36.	Artificial fertilisers are applied. The sprayer is computerised, and if properly calibrated, it controls the volume of fertiliser spread. The sprayer is recalibrated whenever the type of fertiliser changes.
37.	The farm draws up fertilisation plans yearly and field history is regularly recorded. Fertilisation is planned and compared with actual actions (artificial fertilisers used, plant protection means, as well as output planned and obtained).
Animal husbandry	
40.	The total number of animal units (AU) on the farm is 41.5. The area of agricultural land is 235.3 ha. The density is 0.176 AU/ha. The farm can increase the number of animals.
41.	In 2001, a new shed was built for cows and calves to keep animals untethered, ensuring a higher level of comfort, thus increasing their productivity. In 1999, tests on water from wells and ditches showed that the manure collector had no direct impact on the quality of water, with quality indices complying to standards of a good water.
42.	Barnyard manure is removed daily; the slurry collector is under the cow shed. Young animals are kept on deep litter, regularly restored. In 2001, the new cow shed and manure collectors were built; it is possible to keep manure there for six months.
43.	The farm analysed all fodder types. The feeding ration depends on lactation stage and fodder test results. Animals are fed with nutrients in precisely calculated volumes, thus avoiding inefficient use of animal feed that may cause effusion of excessive ammonium.
46.	Animals fed according to feeding rations are calculated on the basis of test results of fodder available on farm. If animals are fed properly, their health and welfare are ensured. A system of untethered keeping is applied to young animals. A new shed for dairy cows also allows untethered keeping.

TABLE 1 continued

Farm activities in compliance with Good Agricultural Practice

GAP points	Collection and storage of barnyard manure
47. 48. 49. 50. 52. 55.	The design of a new shed and manure collector were carried out according to LLP recommendations.
Plant Protection	
58.	Field inspections are carried out regularly and harmlessness limits are assessed. Plant protection means used the following instructions: • To protect sensitive neighbouring crops, the farm takes wind direction into account when applying plant protection means. • Plant protection means are sprayed out in windless conditions, usually early morning, and the optimal time of day. Thus it is possible to reduce the volume of plant protection used and achieve maximum efficiency. • Only treated seeds are sown. In sowing cereals, technological tracks are made.
59.	The application of plant protection means and other measures are recorded in the field history.
60.	The plant protection means are stored in locked premises away from contact with foodstuffs, animal feed and children. Empty containers are stored in a warehouse.
61.	The sprayer is checked before use with clean water. The operation of all units and adjustment capabilities are checked, and consumption of the solution is calculated per area unit. After use, the sprayer is rinsed with 10 times more water than the remaining plant protection solution in the tank. The water used for rinsing is sprayed on the same field.
62.	Grain storage areas are thoroughly cleaned before the new harvest. Soil tillage and other agri-technical activities create good conditions for crops, ensuring the ability to compete with weeds and be resistant to pests and diseases. The aim is to reduce the volumes of pesticides applied, the number of applications, and hazards to the environment, and human and animal health as much as possible.
63.	All information on the plant protection product applied and volumes used is recorded in the register and field history
Water resources	
64.	A permit is needed to use the drilled well on the farm.
74.	Potable water on the farm is tested.
Agricultural systems	
78. 79. 80.	According to agricultural norms, the farm represents a sustainable agricultural system.

Social impact of the project

At the beginning of the project, only the family worked on the farm. After the project activities were carried out, production levels increased, thus making it necessary to employ additional workers. In 2002, three workers were employed on the farm. If the farm develops further, it will be fully capable of adapting to EU requirements and provide a stable income for the Stencelis family and their employees.

Cooperation among various stakeholders

The main productive branches of the farm are grain and milk production. In both of these, the goals of the project are to increase productivity and thus improve the profitability of the farm. To reach this goal, specialists from both Latvia and Denmark were involved.

Specialists from Latvia had to implement the development of the farm in consultation with specialists from the division of Agriculture, Economics and Accounting of the Latvian Agricultural Advisory Centre (LAAC). Cooperation was also established with the State Plant Protection Service with regard to plant protection products.

In the planning and implementation of environmental measures, specialists from the Ministry of Nature Protection and Regional Development and the Centre of Environmental Studies of the Latvian University were involved. The execution of the project was assessed by the Ministry of Agriculture and the Latvian Agricultural University.

During the implementation of the project, some staff movements were monitored in the Saldus Advisory Office, and it is now making a great effort to develop services appropriate to its clients' needs. Apart from efforts to share the experiences from the demonstration farm with other farmers, the Saldus Advisory Office is also actively sharing this experience with advisors and specialists in other regions by holding seminars and interest group discussions.

The Saldus Advisory Office has started to test a computer programme on two other farms. The programme has been used on the demonstration farm for budgeting and budget monitoring.

LAAS in Ozolnieki has also acknowledged the need for a simple system to use for budgeting and budget monitoring, and has shown interest in the programme used by the project for financial planning and monitoring on the demonstration farm. The programme and ideas for improving planning and monitoring of farm production have been introduced to other local advisors at seminars. However, the same levels of interest have not been shown here as at the Saldus Advisory Office.

Farmers in the region have shown interest in planning and monitoring production at seminars. LAAS already has a system for planning and monitoring of farm production, but the Saldus Advisory Office was informed that they were not using the system because it was too complicated. As a result of this project, the Saldus Advisory Office and LAAS gained access to a less complicated and tested computer programme for planning and monitoring farm production. Some adjustments have already been made to tailor the programme to Latvian conditions, but further adjustments are probably needed. With an appropriate tool for the planning and monitoring of farm production, the Saldus Advisory Office will have greater potential to reach more clients in the area.

Better cooperation between the owner of the demonstration farm and the Saldus Advisory Office would have been desirable. At the project's start, Stencelis did not seem convinced about the importance of planning and management. However, the less favourable economic results achieved in 2001 indicated the importance of continued planning and monitoring and the importance of following plans. Stencelis showed far greater interest and improved his skills in planning and farm management considerably during the project. He now clearly understands the value of planning and monitoring production on his farm.

Cooperation between the demonstration farm and the Saldus Advisory Office improved towards the end of the project period. It was recommended that the demonstration farm and the Saldus Advisory Office continue with close cooperation after the project ended. It is foreseen that Stencelis will continue the development of the farm, and for this reason the Saldus Advisory Office can continue to share in the experience and adapt its service to meet the real needs in practice. Similarly, Stencelis can benefit from the service offered by the Saldus Advisory Office.

Impact of education, awareness-raising and research activities associated with the project

Even though production levels have increased considerably on the demonstration farm during the project period, current production levels are not extraordinary. Other Latvian farmers have achieved the same or even higher yields. The question remains how to develop relatively small farm production levels with few resources into an intensive, modern and profitable farming enterprise.

The development of farm production requires particularly good planning and management, but few farmers have the experience, interest and skills to carry out appropriate financial and production planning.

One of the aims of the project was to disseminate the results of this project to as many farmers as possible in the region. This has been done in several ways:

- seminars on the demonstration farm to demonstrate visible results and introduce methods and techniques used to reach these results;
- the introduction of methods and techniques used on the demonstration farm to the Saldus Advisory Office to prepare staff for the further dissemination of the results of the experience from the demonstration farm;
- study tours to Denmark for farmers and advisors; and
- the establishment of interest groups.

A number of seminars and field days conducted by Latvian and Danish specialists were held to demonstrate production methods, as well as to introduce the Code of Good Agriculture Practise. Among others, seminars were held on seed-bed preparation and sowing techniques, weed control and plant protection, grass and whole crop silage, and planning and monitoring of milk production. An average of about 10 farmers participated in each seminar.

The Saldus Advisory Office has exceeded the targets for services focused on milk production, and financial planning and monitoring. For services to crop production it has not reached its target due to the appointment of a new crop production specialist in 2001.

It is difficult to measure the effect of the results of the demonstration farm on other farmers in the region. The farmers in the Saldus region, in general, have shown an active interest in the project, and in total 288 farmers and advisors participated in seminars and field days related to the project.

Effect of SAPARD funding and conditions

The performance of the farm at the time of the completion of the project reached the desired results — funding from the project was received and a bank loan was also used.

In the project planning, some improvements on the demonstration farm were based on the assumption of financial support from national or SAPARD funds, such as the construction of farmyard manure storage facilities and the purchase of some new farm equipment (tractor and milk cooling tank). The delay in the start of SAPARD in Latvia meant that it was impossible to get any financial support from the programme.

At the end of 2001, the liabilities of Stencelis totalled LVL 23,375 in long-term loans (5-year period) at an interest rate of 14.5 percent For the repayment of this loan, a profit of LVL 6,890 was needed. The farm profit before taxes for 2001 was projected at LVL 7,343.

Together with short-term interest, Stencelis had to pay LVL 4,500 in interest on the loan. From the anticipated annual turnover of LVL 50,000, interest rate payments were 9 percent of this amount.

If the farm did not receive funding from the project, a loan of LVL 45,000 should have been taken to obtain the required performance. The interest rate payments on such a loan would total LVL 8,100 alone (LVL 6,600 for the long-term loan, plus LVL 1,500 for the short-term loan), which is within the profit of the respective year. At the current production capacity of the farm, this would not have been possible.

To reach this performance level, using income only derived from the farm itself would mean a much longer period of time would have been necessary. It would have been impossible to achieve the desired changes in the same time (2.5 years) it took to complete the project.

At the end of 2001, in the balance of Vilnis Stencelis farm, the share of external capital was 30 percent.

Main lessons learned

- Many of the requirements of good agricultural practice are aimed at increasing production efficiency and, in the majority of cases, do not require great effort.
- The biggest investments necessary are for the construction of manure collection facilities, which can become a major problem for other farmers, as investments are also necessary for the modernisation of the rest of the production process. Therefore, it is quite clear that without additional aid in the form of environmental investments, the prevention of pollution cannot be achieved.
- A significant production increase can be achieved only by following and analysing the development of the farm.
- The dissemination of information on positive experiences and support for the implementation of environmental measures have an important role in the adherence to environmental requirements in agriculture.

Piloting Agri-environmental Measures in Rusne Island, Nemunas Delta, **Lithuania**

Description of the project

The project area is situated on the eastern coast of the Baltic Sea. Rusne Island is the biggest island in the Nemunas River delta in the western part of Lithuania. Rusne Island is a part of the Nemunas Delta Regional Park established in 1992. The purpose of the regional park is to preserve the landscape of the lower Nemunas, its ecosystem and cultural heritage, and to manage the area in a rational way. According to national laws, the whole area of the regional park should be managed as set out in the planning scheme of the park approved by the government. Besides the regional park regime, Nemunas delta was proclaimed an "important bird area" in 1983, and was designated a Ramsar site in 1993.

The entire Nemunas Delta Regional Park is of high national and international importance for birds. Bogs, the Curonian Lagoon, the Nemunas branches, oxbows, fish ponds and Kroke Lanka Lake provide for high concentrations of breeding and migrating waterfowl. In the park's territory, 294 bird species are found, representing 90 percent of all avian species observed in Lithuania. Approximately 60 percent of the European population of the white-fronted goose, 46 percent of the pintail, 15 percent of the white-tailed eagle, 11 percent of the ruff and 50-60 percent of the whooper swan populations wintering in Western Europe stop here when migrating. Rusne Island is situated on the East-Atlantic Flyway, making it of great importance for migrating birds. Four important bird areas have been identified on the island.

The total area of Rusne Island measures 4,691 hectares (ha). Six settlements are located on the island with a total population of 2,230 inhabitants. Roads and settlements are administered by a municipality. In total, the built-up area covers about 68 ha. In addition to the municipality, there are 1,102 private land users. The size of the average farm is 9.5 ha, which is below the national average.

The island has a complicated hydrographical network, comprising numerous branches of the Nemunas river and many lakes, which were formerly delta branches blocked by sediments, and oxbows and bays separated from the Curonian Lagoon. Soil on the island is more homogenous than in other areas. Alluvial, shallow, non-carbonate gley soils and alluvial, shallow, non-carbonate gley clay loam soils prevail on the island. Floods leave behind plenty of silt that improves the quality of the soil, and the economic index of the land on Rusne Island is 58.2 and therefore higher than the average in Lithuania.

Because of intense agricultural exploitation in the majority of polder territories (including a controlled hydrologic regime, fertilising, periodical ploughing and resowing with fodder grass, mowing four times a year, and intense grazing from the first week in May), their vegetation shows a low variety of species. Since a major part of the island is impacted by human activities, undesirable and expansive species are spreading in artificial meadow and pasture plant communities. Natural plant communities are only found in wet meadows and water bodies.

The entire region has long traditions of agriculture and wetland drainage. Agricultural production is a major activity and the main source of income for the island's population. Agricultural activities include cattle and horse-breeding, production of grass forage and other agricultural products. Potatoes, crops and vegetables are grown on arable land that has increased considerably during recent years. The utilised agricultural area covers 2,606 ha. Arable land covers 495 ha (19 percent of the total), whereas pastures and meadows cover 880 and 1,231 ha, respectively. As agriculture is a traditional activity, the farmers are primarily interested in functioning polders and good quality meadows. Several farmers still use reed resources as roof material. Rusne Island attracts numerous tourists every year with its unique landscape and good recreational facilities for

fishing, camping or boating. Because of very diverse and numerous avian fauna, the island also attracts people interested in bird-watching.

Because of the collapse of the Soviet agricultural system and the considerable decline in production as a consequence, most of the meadows have been abandoned in the last decade. This process has a double effect. For rural communities, areas become unsuitable for any economic activities. In addition, it leads to a loss in biodiversity, as abandoned meadows overgrow with reeds and bushes. Moreover, pollution with heavy metals is also a constraint that limits the development of clean agriculture in the entire delta area. Heavy metals are brought into summer polders by floods.

The multi-project initiative discussed in the study consists of several short-term projects (duration of up to 24 months). It started in 1994, and is still ongoing. The first project was financed by private Dutch funds. Its successful implementation encouraged other Dutch sponsors and the national implementation organisation to continue activities in this area.

The main goals of the initiative may be described as follows:

- manage abandoned grasslands on Rusne Island in order to make them more suitable for breeding and migratory birds;
- manage breeding habitats of the aquatic warbler on Rusne Island and neighbouring areas;
- encourage environmentally sound and sustainable agriculture;
- promote environmental/ecological education within the local population; and
- develop ecotourism.

In practice, management activities started in 1998. These are similar to European Union agri-environmental measures: farmers are paid to provide environmental services (mostly the management of meadows, cutting trees and bushes).

Among the main results delivered by the project was the formulation of the management plan for Rusne Island. Each year approximately 50 ha of abandoned grasslands are mowed and bushes are cut down. A museum/information centre was established on an ethnographic farm-stead. A bird observation tower and information signs were built, and a plan for the protection of the aquatic warbler was drawn up and is being implemented in a few breeding sites. The initiative has paid significant attention to the provision of information. A brochure entitled Rusne Island: Its Nature and People (1999), leaflets on Let Us Preserve Grasslands — Homeland for Birds (2001), and Farming and Nature Protection on Rusne Island (1999) were published.

A newsletter about sustainable farming practices and activities of the Rusne Fund for Nature has been produced and distributed locally. One of the most important achievements, a pilot agri-environmental scheme for Rusne Island, was prepared as a short-term project. The scheme was included in the national SAPARD programme, and Rusne Island was the first pilot area officially utilising SAPARD agri-environmental measures.

The key coordinator and manager of the initiative is the Lithuanian Fund for Nature — one of the most influential national, non-governmental organisations working in the area of biodiversity conservation. A local NGO — the Rusne Fund for Nature — has been extensively involved. This local NGO, with the aim of promoting sustainable farming in Rusne, was established during the first year of the project and is a strong local actor in undertaking different project activities. Project supporters and partners are the European Union for Coastal Conservation (EUCC), the European Ecological Network (EECONET) Action Fund, and the Avalon Foundation.

Economic impact of the project

Because of the small amount of funds available for practical activities (mowing meadows, etc.), the economic impact is not considered substantial. On the other hand, the primary goal of the initiative has not been to achieve major economic results. A major economic impact is expected when SAPARD funds become available in 2003.

The main economic impact of the project is related to silage production. The Rusne Fund for Nature has received some agricultural machinery for project purposes. The farmers who agree to comply with environmentally friendly farming practices can use this machinery and technology. Grass mowed from abandoned meadows and from places with environmental restrictions (late mowing dates because of breeding birds) is low-quality fodder. However, the initiative offers to make this grass into high-quality fodder (silage) for participating farmers. In 1996, two silage clamps were produced, in 1997 one clamp, in 1998 seven clamps, in 1999 four, and since 2000, three clamps each year. The new technology leads to higher production: milk production has increased by 2,000-3,000 litres per cow. At the same time, the quality of milk has also increased, providing a good basis for farmers to compete in the single market. However, the economic effects have not been considerable, since milk prices have dropped by some 30 percent.

Payments within the framework of the agri-environmental scheme have become a source of additional income: participating farmers were paid to provide environmental services such as the mowing of abandoned meadows. The amounts paid to farmers per year differ based on the size of the area mowed. Normally, farmers received several thousand litas in additional income.

Impact on biodiversity and landscape values

In the areas managed by farmers participating in the project, biodiversity and landscape values increased. The main results are the restoration of meadow habitats and increases in plant diversity in meadows. Later mowing dates allow for the successful hatching of meadow-breeding birds. Since 2002, monitoring of meadow plant species and birds has been carried out by the members of the Rusne Fund for Nature and staff of the regional park. In the short term, monitoring data will enable the drawing of justified conclusions and the evaluation of the actual environmental effects of this project. Unfortunately, the areas that are managed on the basis of environmentally sound farming are very small comparing to the total area of the project territory.

To some extent, the initiative also contributed to the protection of the 12 bird species dependent upon agricultural landscapes registered in the *Lithuanian Red Book*. Out of the 12 species, the populations of five species have reportedly been increasing in the past years, while others have remained stable. Only one species appears to be declining.

Social impact of the project

The actual social impact is difficult to evaluate. This impact might be found in the creation of new job opportunities, increased opportunities for the local population, or even in a change in the way of thinking.

In addition to farmers who receive additional income for mowing abandoned meadows (five to eight farmers per year), the same number of people is employed by a local company contracted by the project. The farms that make silage are bigger and stronger. They are still able to sustain themselves, although others have been decreasing their animal stocks. A milk cooperative was established that is about to start buying milk from its member farmers. Three more people are employed in this cooperative. Two persons have submitted applications to begin farming organically.

As the number of tourists to the regional park increases, new opportunities for farm diversification arise. In 2002, two more families entered the rural tourism business (altogether, there are six rural tourism farms on Rusne). At the same time, some fishermen started to rent their ships to tourists and thus extended recreational services.

The membership of the Rusne Fund for Nature has increased form 17 to 33. However, the general opinion is still that young people have few opportunities in the area. Hopes are focused on expanding rural tourism activities, which may create additional opportunities for young families. The elderly population will likely stay in agriculture, since the diversification of farming activities is also related to a change in lifestyle.

Cooperation among various stakeholders

From the outset of the initiative, cooperation was established with all local stakeholders, including the administration of the local district (seniunija), the regional park administration, a Rusne primary school, local teachers and schoolchildren, and the farming community. The early establishment of cooperation with local partners is a key success factor in the initiative, as without local support the demonstration activities would fail.

The most active partners are the Rusne primary school and farming community. The school has provided office space for a rural tourism consultation centre. Schoolchildren participate in educational activities, while teachers help with the newsletter. State institutions have shown their appreciation for project activities, although their practical support is marginal.

Impact of education, awareness-raising and research activities associated with the project

The project includes a variety of educational activities, ranging from meetings with farmers and schoolchildren, public actions and publications, to the establishment of a museum/information centre. Since 1997, 31 issues of the newsletter of the Rusne Fund for Nature have been published and distributed to local people (80 copies per issue). In 2001, a scientific conference on farming on Rusne was organised. An information stand about the Rusne Fund for Nature was set up in the office of rural administration. Information is also provided on the internet.

The impact of these activities can be measured by increases in the membership of the Rusne Fund for Nature, by the number of local projects generated or submitted by the school and local NGOs, and by increased knowledge among local people and visitors about the area, its values and environmentally friendly farming activities. According to a survey undertaken by another project in 2001, 90 percent of tourists coming to Rusne indicate the museum as the official information centre on the island, although the regional park has a modern information centre. The latter is closed most of time, while the farmstead museum is always open for visitors, thanks to its owner and guide — an active member of the Rusne Fund for Nature.

Main lessons learned

The initiative is a good example of how the balance between farming and nature protection can be promoted and achieved. The initiative also provides valuable experience on how to stimulate local populations and rural communities for action. A major lesson is that, for action to be successful at the local level, a strong local partner should be found and close cooperation estab-

lished with all stakeholders. It is obvious that the farming community alone is not enough — for the action to be sustainable, local schools, teachers and schoolchildren, as well as local NGOs have to be involved. Similar initiatives led by NGOs in neighbouring communities are justification for the initiative on Rusne Island to be considered a best practise case.

The initiative also constitutes a valuable lesson for SAPARD and the implementation of future agri-environmental schemes. First, SAPARD has based its agri-environmental scheme on calculations prepared by the above project. Second, the project demonstrated that large farms are more likely to benefit from SAPARD by grant support for silage production. Small farms or farms run by the elderly population have fewer opportunities to develop, and the only chance for success is cooperation. As it is difficult to set up a new farm due to existing land ownership structures, support both in terms of technical assistance and investment grants should be aimed at bigger farms. Agri-environmental measures under SAPARD planned for 2003 would contribute to the ecological, economic and social sustainability of the region.

Tatula Programme: Development of Sustainable Agriculture in the Karst Region, **Lithuania**

Another Lithuanian case provides an overview of a different initiative that can also be considered an example of best practice. Similar to the case of Rusne Island, this initiative also relates to environmental issues and has links to SAPARD. However, the primary goals of the initiative and the way it has been implemented differ in scope and size of actions.

Description of the project

The Tatula Programme was initiated in the Karst region by a group of scientists who later established a non-governmental organisation to run the programme. The Karst region is located in the northern part of Lithuania. The area covers around 200,000 hectares (ha). The region is known for geological processes of active karst and is one of the most environmentally sensitive areas in the country. At the same time, the region is also known for its traditionally intensive agricultural sector. Therefore, finding a balance between agriculture and the environment has been very important.

As mentioned, the area is one of the most intensive agricultural and densely populated rural areas. Thus, pressure on the environment has been very high, especially in terms of water pollution. For example, the Nevezis and Tatula rivers (flowing in the central part of Lithuania) contain the highest levels of nitrate pollution. The biggest concentration of nitrates in these rivers occurred in 1992-1995. In this period, the lowest quantity of nitrogen from nitrates in Nevezis was 4,327-6,300 tonnes per year, and in Tatula, 290-300 tonnes per year. The Tatula River is also the river most polluted with phosphates: in some years, the phosphate content in Tatula was 10 times higher than the limit for eutrophication. Coincidentally, due to declines in industry and agricultural production, the use of fertilisers also started to decrease, which has resulted in lower water pollution.

The programme started in 1987, when the need arose for an initiative to find a balance between agriculture and the environment. The whole programme concept was elaborated at a later stage. The idea of the programme was initially put forward by a group of scientists working in or for the agricultural sector. They later led the way and proceeded to elaborate a complex action plan. The idea was derived from the need to restructure farming in environmentally sensitive areas. Due to its unique characteristics, the Karst region was selected for a pilot project. The elaboration of the complex programme plan took about six years: first, the scientists made a thorough analysis of the region (geographic, economic, social and environmental aspects); then specific measures and actions were developed. Finally, the Lithuanian government approved the pilot Tatula Programme for restructuring farms into eco-farming and allocated financial resources in 1993.

The aim of the programme has been to test schemes for the promotion of eco-farming in environmentally sensitive areas. Generally, it was built on two major pillars. One is the restructuring of farms, and relates to, or is driven by the economy, surplus agricultural produce and developments in global markets for agricultural products. The other is farming in environmentally sensitive areas, driven by a need to restructure intensive farming that results in dangerous pollution, especially of groundwater, and thus harming the living conditions of the farming community.

However, the ultimate goal of the programme has been to motivate farmers in other regions to join a "club of eco-farming." According to programme authors, the eco-product market is also the only real niche for Lithuanian agriculture to play in. An example used by the programme authors refers to the period between World War I and II when Lithuania exported its agricultural products to Great Britain. Now British farmers are able to satisfy their market needs, but are unable to supply enough eco-products, with around 70 percent of these being imported.

The difference between the two Lithuanian cases reported here is the drive for action. The Rusne Island case is purely driven by needs to preserve biodiversity, whereas the Tatula Programme is primarily driven by economic reasons, i.e. finding a new market niche for Lithuanian farming and solving problems in relation to surplus agricultural produce.

The Tatula Programme is the first eco-farming scheme in Lithuania approved at the government level. However, the implementation of the scheme is based on self-governance and cooperation principles. It is managed by a not-for-profit NGO called Tatulos Programa. The NGO was set up by the authors of the scheme. At the beginning of 2002, the NGO had a total of 185 members: 164 farmers, 14 enterprises, three agricultural companies and two cooperatives. The general members meeting is the highest decision-making level. It elects a board of five directors and assigns administrative tasks to manage daily operations.

When the Lithuanian government approved the programme, LTL 11 million (about EUR 3.2 million) were allocated to the NGO. It has to manage the available funds transparently. In practice, this means that the general members meeting approves the annual budget proposed by the board. One part of budget relates to operational expenses (normally financed from membership fees, interest earned and subsidies or grants). Another part sets out amounts for financing investments and training measures. At the same time, this part of the budget has to be agreed upon by the Ministry of Agriculture and the municipalities of Birzai and Pasvalys. The expenditure must be fully in line with the budget adopted. Moreover, tender procedures are followed as often as possible. Strict financial controls and sound management have proven to be among the key factors that ensured the sustainability and continuity of the programme.

The programme has been financing the following activities:

- Education, training and consultations for farmers: at the beginning of the programme, training concentrated on general issues related to, among others, eco-farming, environment, food safety and quality. Later, more specific issues were covered, for example, characteristics of phytosanitary protection measures; how to stop the use of mineral fertilisers and pesticides, but at the same time to achieve competitive yields per hectare.
- Scientific research: the activities mainly concentrated on preparing recommendations to farmers on how to take up eco-farming.
- Investments in environmental infrastructure: the programme has been financing wastewater facilities in rural settlements, enterprises and farms, as well as manure storage and handling facilities on farms for demonstration purposes.
- Support for eco-farming: in the framework of this measure, the programme has been granting soft or interest-free loans to farmers (LTL 20,000-250,000) and to processing enterprises (up to LTL 500,000). The purpose of the loans has been to finance long-term investments of farms and enterprises. Moreover, the loans have been granted only on the basis of official tenders. Processing enterprises have been able to gain loans only if they made a commitment to purchase and process eco-products. From 2001 onwards, the programme started to work with short-term loans as working capital. Besides loans, the programme has been granting support in the form of subsidies. The aim has been to co-finance certification expenses and costs associated with the preparation of business development plans. Another direction has been the setting up of distribution system for eco-products . The programme opened its own shop in the Vilnius residential area, and managed to establish contact with supermarkets based in the biggest Lithuanian cities. In addition, the programme lobbied strongly for and achieved the introduction of the direct payment to eco-farms scheme by the Ministry of Agriculture introduced in 1997. This stimulated farmers to set up eco-farms throughout the country.
- Environmental monitoring: a team of experts carried out monitoring in 1993-2000. The study, however, focused mainly on monitoring geological processes in the Karst region.
- Sustainable agriculture: the measure started in 2001. It has aimed to work with farmers, and in particular, owners of large commercial farms, who still hesitate to take up eco-farming. The measure is based on the Code of Good Agricultural Practice, food safety and quality.

In terms of financial allocations, the largest amounts were channelled to investments in environmental infrastructure and support to eco-farming. These measures have utilised more than 80 percent of the available resources. They were inspired by a desire to create an actual example — a functioning network of farms and processing enterprises — ready to be shown to consumers, scientists, agriculture specialists and politicians, and thus to influence their opinion on restructuring the whole agricultural sector to be sustainable and environmentally friendly.

Economic impact of the programme

When analysing the programme results and impact, it is rather difficult to state unambiguously that it has had a considerable impact or failed to succeed economically. On one hand, the programme has contributed significantly to creating a new domestic eco-products market, even though it does not guarantee a constant supply of products.

On the other hand, it has not succeeded in building a network of economically strong farms. Normally, the transition from traditional agriculture to eco-farming is associated with considerable losses in the first years of transition. Therefore, direct payments and subsidies are necessary to compensate for such losses. However, farms still depend on subsidies, of which the amounts decrease in consecutive years. This trend might be characterised by a number of factors. One is the incapacity of local scientific and research institutions to assist and consult with farmers in selecting appropriate seeds and breeds, and on other issues. As a result, productivity in the transition period decreases nearly by a half, while it should ideally not decrease by more than 20 percent. Furthermore, if the whole eco-products chain is to be profitable and viable, a "critical mass" of utilised agricultural area must be achieved. This amount of eco-farmed land is usually at least 1 percent of total (utilised) agricultural land, but the current share for Lithuania is only 0.2 percent.

From the perspective of individual sub-sectors, the programme has succeeded in crop production, especially grain and vegetables. Thanks to cooperation and strong processors, a viable from-field-to-table chain has been established.

Despite the fact that considerable economic impact is not clear, the most important achievement is an evident increase in public awareness among consumers, the scientific community, public officials and farmers.

Impact on biodiversity and landscape values

Successful eco-farming and biodiversity are closely bound: one issue depends on the other, and each influences the other. Similar to economic impact, it is difficult to judge the extent to which the programme has contributed to biodiversity protection.

The environmental monitoring report prepared within the framework of the programme does not discuss biodiversity issues. However, the most recent data demonstrates that water pollution resulting from intensive farming activities has decreased in the area. However, the reasons for this may derive from other issues. First, agricultural production declined after the collapse of the planned economy. This decline affected the use of mineral fertilisers and pesticides. Despite this, it may also be that the implementation of the programme stopped a new upturn in their use, although production has been recovering for some years. It is too early to judge on the issue.

Keeping in mind the direct links between pollution and biodiversity, it is normal to assume that environmental conditions will certainly improve.

Social impact of the programme

The social impact of the programme is clear in new opportunities created for the rural population in the Karst region, among others. Due to restrictions related to the protection of environmentally sensitive areas and the relatively low productivity in some locations, traditional agriculture has less potential, and its further large-scale development is limited. No sound alternatives to replace it would consequently mean a hard blow to rural communities — many farmers would have to abandon agriculture. Yet, the Tatula Programme has created an alternative and, in this sense, contributed to preserve the sustainability of rural communities. The existence of such alternatives is proven by a few successful examples. The bakery that started anew now employs more than 120 people and is the biggest employer in the area.

Cooperation among various stakeholders

As previously mentioned, the implementation of the Tatula Programme was based on the principles of cooperation and transparency. The decision-making process (described above) clearly illustrates these principles. Apparently, the major focus is on internal cooperation among members of the NGO. The motivation for this is justified by economic reasons: farmers want to negotiate higher prices and sell their produce, and it is clearly more profitable to do so cooperatively than individually.

In terms of cooperation with other external stakeholders, the programme also made efforts to maintain close links with research institutions, and local as well as national administrative institutions. However, these partners are not particularly active in the implementation of farm restructuring.

With regard to the way in which cooperation takes place among stakeholders, this case differs from the initiative on Rusne Island. First of all, the Rusne Island community has cooperated on a participatory basis and was driven by social motives. As a result, the entire community (farmers, local authorities, schools) took part in activities. In comparison, cooperation in the Tatula Programme has been inspired by economic reasons. As a consequence, close cooperation has been limited to economic partners — farmers, processing enterprises, and others.

Impact of education, awareness-raising and research activities associated with the programme

The authors and leaders of the programme indicated that all the activities in the programme taken up so far — whether seminars or financial support to farmers — are aimed at raising awareness at all levels of society: among farmers, consumers, scientists and the research community, as well as politicians.

Indeed, the programme utilises a wide range of tools and measures for educational purposes and to raise awareness. At the beginning of the programme, information seminars and conferences were arranged in order to inform farmers. These activities are repeated from time to time. Information seminars were supported by leaflets, posters and publications.

Scientists and researchers became involved at a later stage. The purpose was both to develop an understanding of organic farming and its potential in Lithuania, and to prepare detailed recommendations to farmers on how to run an organic farm.

To raise consumer awareness of eco-products, the programme has been running aggressive public relations and promotional campaigns. These include the provision of information to radio and television programs, and in national and local newspapers. The key action in these campaigns is regular fairs in big cities. These activities all served to build a new market niche in the Lithuanian consumer market.

The Tatula Programme NGO is also active in lobbying for organic farming. The Ministry of Agriculture usually consults the NGO when preparing decisions on support measures for organic farming.

Indirectly, the effectiveness of promotion campaigns can be measured (and at the same time proved) by an increase in the number of certified organic farms in Lithuania and their growth.

Main lessons learned

The most important lesson learned by the Tatula Programme NGO is related to the scope of the initiative in terms of the area covered and the type of actions planned. Such a programme should be implemented in a smaller community rather than in a large area. In such a case, more social partners (in addition to economic partners) would presumably take part in an action. The demonstration effects would most likely be achieved in a shorter time. In comparison, the case of Rusne Island has focused on a smaller community and demonstration results were achieved with less funding.

Another important lesson is that the research and scientific community should cooperate with the farming community (organic farms) and assist each other. The programme demonstrated a gap between farmers and researchers that, to a larger extent, limited a more rapid move to organic farming and smoother transitional periods.

However, the programme has proven that the viability of actions depends on cooperation and transparency in decision-making. These principles provide the foundation for confidence in partners and in the organisation of a programme or project.

The Tatula Programme is a good example of how public relations and promotional campaigns can be run. The whole propaganda machine run by the programme was focused on encouraging farmers to take up organic farming. Moreover, activities were not only directed at farmers, but also at consumers and the general public.

Podkarpacie and Warmia-Mazury Agri-environmental Programmes, **Poland**

Originally, the Podkarpacie and Warmia-Mazury agri-environmental programmes were planned as a pilot project for programmes to be funded by SAPARD, under measure 5.1, intended for individual farmers who own farms bigger than 3 hectares. The pilot project was implemented in two regions with different agrarian structures and development problems: in southern Poland in the mountainous areas of Podkarpacie, and in Warmia-Mazury, an area covered by lakes in the north of the country. The pilot project was financed with Phare99 funds. The total financial support available for farmers amounted to EUR 400,000. In this quota, the financial share of SAPARD equalled EUR 300,000. The remaining part of the total amount was the Polish government's contribution.

In the Podkarpacie region, small farms dominate. An average farm in the region consists of 3.8 ha. Environmental problems in the region are connected to the abandonment of agricultural land. The income of rural households in the Podkarpacie region is usually generated from off-farm work. The region is also characterised by the highest unemployment levels in Poland, further limiting opportunities for off-farm work.

Almost 80 percent of the participants in the pilot project own farms of between 3 and 20 ha (3 ha was the minimum for which a proposal could be submitted to the programme), and about one-third of this proportion owned farms smaller than 10 ha.

In the Podkarpacie region, 22 farms were incorporated into the project:

- Besko, Zarszyn, Bukowsko, Komancza, Zagorz, Tyrawa Woloska and Sanok in the administrative district Sanocki;
- Ustrzyki Dolne, Czarna and Lutowiska in the administrative district Bieszczadzki;
- Cisna, Baligrod, Olszanica, Solina and Lesko in the administrative district Leski;
- Bircza, Krasiczyn and Fredropol in the administrative district Przemyski; and
- Tyczyn, Chmielnik, Hyzne and Bazowa in the administrative district Rzeszowski.

The Warmia-Mazury region has diversified landscape features, and soil with good production potential. The main environmental problem in this area is erosion. There are diametrically different sized farms than in the Podkarpacie region. An average farm covers 16.5 ha. Also, for the sake of landscape features, croplands dominate in the structure of land-use.

As many as 88.7 percent of farmers in the region own farms bigger than 20 ha, and no farm covering less than 5 ha has applied to the project.

In the Warmia-Mazury region, farms in two administrative districts took part in the project:

- Dzwierzuty, Pasym, Szczytno, Swietajno, Jedwabno, Wielbark and Rozogi in the administrative district Szczytno; and
- Nidzica, Janowo, Janowiec Koscielny and Kozlowo in the administrative district Nidzica.

The objectives of the project have been the following:

- the promotion, on a pilot scale, of practices and methods of agricultural production related to the protection of the natural environment and landscape conservation, as well as to the reduction of environmental threats resulting from the marginalisation or intensification of agricultural production;
- the development of agri-environmental programmes on selected farms; and
- the promotion of chosen practices that comply with the Code of Good Agricultural Practice.

The farmers who participated in the project, implemented individual agri-environmental programmes from September 2001 until August 2002, on the following levels:

- Level 1: common good agricultural practices in line with the legislation in force — a basic obligatory package, not involving any payment;
- Level 1a: bookkeeping — an obligatory salaried package;
- Level 2: environmentally sustainable agricultural management — voluntary, salaried package; and
- Level 3: environmental package — voluntary, and salaried.

The initial condition for participation within the framework of the programme provided contracting measures for the lower levels. Activities on levels 1, 1a and 2 were implemented by all 131 farmers in the Warmia-Mazury region, and by 271 in the Podkarpacie region. Activities on level 3 were undertaken by 122 farmers in the Warmia-Mazury region and by 227 farmers in the Podkarpacie region.

On levels 1 and 2, a full list of measures had to be implemented. On level 3, only chosen measures could be contracted. The list was prepared by farmers in cooperation with agricultural advisors. The salary for contracted agri-environmental services could not exceed EUR 6,000 (minimum EUR 400). The implementation of agri-environmental measures was priced as shown in the table.

The salary for bookkeeping (level 1a) was paid every month, while other salaries were based on 1 hectare of land taken over the implementation of the given measure.

No final report of the programme has been produced, and it is difficult to indicate advantages derived from its implementation. A full assessment of the degree of success will be possible after analysing the indicators described in the guide for SAPARD prepared for pilot agri-environmental projects (SAPARD Operational Programme for Poland, version as of February 2002, Ministry for Agriculture and Rural Development). In this regard, the indicators for the maintenance of meadows and pastures with high natural values (biodiversity) include:

- the number of farmers introducing package I and II;
- the number of farmers introducing each measure from package III;

TABLE 1

Salary for agri-environmental services within the pilot project

Description of measure	Unit	Quota in EUR (based on farm position above sea-level)		
		below 300 masl	300-600 masl	above 600 masl
Level 1 agri-environmental minimum				
Level 1a bookkeeping	per month	24.00	24.00	24.00
Level 2 environmentally sustainable agriculture	per ha	53.00	53.00	53.00
1 green manure on arable lands	per ha	168.00	201.60	235.20
2a elimination of alien plants on stable grasslands — hand-scything of wet meadows	per ha	223.00	267.60	312.20
2b removing undesirable plants from grasslands — elimination of bushes and reed from stable grasslands	per ha	105.00	126.00	147.00
3 conservation of drainage ditch	per 100 m	38.00	46.50	53.20
4a renovation of neglected grasslands	per ha	116.00	139.20	162.40
4b renovation of neglected arable lands	per ha	124.00	148.80	173.60

Source: Wytyczne dla Wnioskodawcow w ramach lokalnego zaproszenia do skladania wnioskow o dotacje *Pilotazowy projekt rozwoju obszarow wiejskich – Programy rolnosrodowiskowe* – Polska Agencja Rozwoju Przedsiebiorczosci (Polish Agency for Enterprise Development)

masl — metres above sea level

- the number of hectares included into package I and II, respectively;
- the use of measures from package III (ha, units of measurement);
- the number of livestock units subsidised for local breeds protection; and
- the number of endangered bird species (e.g. corncrakes) in regions covered by the pilot programme.

Conservation of Old Varieties of Fruit Trees and Traditional Methods of Processing by Local Communities, **Poland**

General information

This project was carried out in the landscape park of the Lower Vistula Valley, located on 60,000 hectares (ha) of the Kujawy-Pomerania region.

After cataloguing and identifying more than 30 apple varieties, a nursery was established. From the nursery, plants were delivered to the orchards of farmers', who had decided to cultivate traditional varieties. The collection of local plum varieties also commenced in 2000. The reconstruction of drying-houses and fruit storage facilities has been undertaken at Chrystkow, the headquarters of the park board.

Agriculture in areas of the landscape park is relatively balanced in terms of economic, environmental and social conditions. Farms in the region are primarily medium-sized. The average size of arable land of individual farm holdings in the Kujawy-Pomerania region is 11.7 ha. (Rocznik Statystyczny Rolnictwa 2001, GUS, Warszawa 2002.)

The particular nature and landscape values of this area provided it with recognition as one of 10 most precious objects in the river category of the Pan-European Strategy of Biological and Landscape Diversity Conservation for 1996-2000. It is mostly valued for its unusually diverse surface (geomorphological), soil, and microclimatic and hydrological characteristics reflected in the abundance of flora and fauna. More than 1,000 species of vascular plants, including many rare, disappearing species, and more than 1,000 species of cockchafers were confirmed. This is evidence of a wide variety of habitats.

Within this variety, some old fruit trees and orchards remained, unfortunately seriously threatened with extinction. They represent a wealth of interesting trees, some almost 100 years old, which survive in only limited areas of Poland. These are gradually being destroyed because of their age and health status.

The project planners identified over 500 orchards in the area of the park, including 200 that were in bad condition. Unfortunately, species of crop plants are highly threatened by extinction, due to cultural changes taking place in villages, and common access to modern local and foreign varieties. According to an evaluation of the National Centre for Plant Genetic Resources of the Plant Breeding and Acclimatisation Institute, land races of crop plants disappeared almost completely during the last 10 years.

Project objectives

The main aim of the project was the protection from extinction of old varieties of fruit trees, mainly apple and plum trees, which occur in small numbers in orchards, often 80-100 years old, in the Lower Vistula Valley. Apple trees occur in a small number of varieties, for example, cytrynowka, koksa pomaranczowa, maslak and sierpniowka.

The project aimed at protection through conservation of genetic resources and the preservation of the natural and cultural values of the region. It aims to achieve the following:

- conservation of biodiversity in agricultural ecosystems through maintaining old varieties of fruit trees *in situ*;
- conservation and maintenance of traditional practices of local communities through the propagation of old varieties for homestead gardens, agrotourism and hobby purposes, reflecting a traditional attitude towards biodiversity and the dissemination of this knowledge;
- restoration and renovation of devastated ecosystems through the establishment and conservation of orchards attached to a homestead;

- maintenance of old varieties of fruit trees *in situ* as a genetic reserve for breeding; and
- establishment of centres that will maintain and reproduce old varieties, disseminate the most precious genotypes and save them in places where they occur, thus reducing the risk of extinction.

Economic effects and raising the level of public awareness were other objectives of the project which involved:

- engaging the community in activities focused on genetic resources and enabling them to participate directly in activities to protect these plant crops; and
- creating employment opportunities, obtaining qualifications and developing the interests of members of local societies.

Scope of project

The project started with activities to conserve old varieties of fruit trees, a concept initiated in the park management plan. In cooperation with several scientific institutions, the following tasks were accomplished:

- establishing the nursery and orchard projects, and scheduling nursery staff's work;
- cataloguing especially valuable varieties assigned to *in situ* conservation;
- undertaking an analysis of orchards occurring in the park's territory using an orthophotomap;
- collecting old varieties during missions organised by specialists from relevant institutions;
- choosing the most endangered varieties from national collections;
- purchasing fruit tree stocks;
- purchasing special nursery and fruit cultivation equipment;
- establishing the nursery of old varieties of fruit-trees in Chrystkowo, the regional headquarters of the park authority;
- establishing orchards attached to homesteads on farms and making plants of old fruit tree varieties accessible to interested farmers;
- establishing a demonstration orchard of old varieties of fruittrees;
- Training farmers and park employees in running a nursery and fruit-tree plantation;
- Registering all planting undertaken within the framework of project;
- Creating a database of the fruit-tree genetic reserve; and
- disseminating information through, among other means, seminars and a booklet.

Funding structure

The funding required to implement the project was mainly for the purchase and collection of fruit-tree stocks and equipment for the nursery. The project was supported by the regional Fund for Environmental Protection and Water Management in Bydgoszcz, the Global Environmental Facility (GEF) Small Grants Programme, local government in the area, the R.A. Zagalscy Enterprise of Wood and Cane Production, the Pomerania-Kujawy Regional Bank, as well as by funds from the Conservation of Plant Genetic Resources of the Ministry of Agriculture and Rural Development. Some funding was also received from Public Works Funds to hire three or four unemployed people to work in the nursery and assist with the pruning of fruit trees.

Profits from the sale of young trees and from activities of the centre in Chrystkowo, as well as donations were managed by the Society of Friends of the Lower Vistula Valley.

Some of the income from the project was used to finance the project on In Situ Protection of Old Fruit Varieties and of the Traditional Methods of Processing.

Main indicators of success

As a result of the project, a nursery of fruit trees and a production orchard were established close to the local headquarters of the landscape park in Chrystkow. In 2000, eight small orchards were restored, with 30 trees in each. It was also planned to restore 50-80 orchards (each with at least 30 trees of five varieties). The measurable effect of the project was the propagation of endangered varieties of fruit trees and the creation of conditions for their spread, as well as the creation of a database of disseminated plant material.

The outcomes of the project are shown in evaluations of:

- public interest in old varieties of crop plants;
- economic effects and the necessity for financial support;
- possibilities to create a market for manufactured products; and
- limitations and barriers in the development of programmes for biodiversity protection on farms.

Economic impact of the project

The farmers in the park area did not gain increased financial profits. Their expectations of the project were rather focused on planting material with specific, recognised flavour and qualities, that does not demand much work during vegetation. The material had to be genetically diverse, in order to provide a uniform supply of fruit during a growth season and for winter storage.

At present, farmers can buy young trees at low prices and obtain free advice on the maintenance of orchards and the rejuvenation of old trees. In time, profits may be gained from agro-tourism, orchard production and the traditional manufacture of fruit products.

Impact on biodiversity and landscape values

In the majority of old orchards and in roadside plantings there are trees which are also found in contemporary Europe, such as Landsberska, Grafsztynek, Sztetyna, Ribston, Grochowka, Cesarz Wilhelm, Piekna z Boskoop and others. Rescue attempts of single specimens of fruit trees can bring enormous benefits for biodiversity.

Fruit-tree varieties grown in traditional ways form high crowns, and are excellent nesting places for many bird species and home to various insects. The old orchards, frequently including trees with hollow trunks, enable the development of a much higher number of organisms than young orchards. The maintenance of the traditional way of land-use is prevention of landscape degradation. High fruit trees can also serve as protection against erosion caused by air and water.

Standard orchards and roadside plantings are characteristic features of the landscape and increase its diversity. Old tree varieties also have many useful features, such as resistance against diseases and frost hardiness. Very often, their fruit has an interesting or unusual flavour.

Social impact of the project

Making old fruit-tree varieties available promotes the idea of biodiversity protection and stimulates the direct participation of the public in implementing an idea in practice. Establishing orchards of local ecotypes of plum trees and old varieties of apple trees at Chrystkow has stimulated the conservation of traditional processing methods of fruits, especially "swieckie powidla" (plum jam) and dried fruits. By World War II, these were known and popular even in Gdansk. After the war, traditionally prepared food products lost the competition against industrially produced food.

For many people from this region, a return to their roots appears to have deep spiritual value. Besides "sentimental" value, the production of fruit products from traditional tree varieties and through the use of traditional processing methods results in attractive market products, which can bring considerable income in the future.

The possibility of increased employment in the area was of primary importance for local government institutions, which considered the positive influence of economic development in the region as a result of increased tourism and improved landscape values.

Cooperation among various stakeholders

The project has been the result of cooperation among several non-governmental organisations working on its implementation, employees of the landscape park, local governments, international organisations and scientific institutes (see table below).

All parties gained from participation in the project. Farmers obtained plant materials, that are genetically diverse with specific, recognised taste qualities and do not demand tillage activities.

For scientific institutions, the conservation of genetic resources with a wider reach is crucially important. Scientific institutions gained access to excellent material for research and breeding.

The headquarters of the landscape park aimed to prevent landscape degradation by maintaining the traditional land-use. Local government institutions considered the positive influence of economic development in the region as a result of increased tourism and improved landscape values.

Impact of education, awareness-raising and research activities associated with the project

Until this project was initiated, old varieties of crop plants in Poland were gathered into national collections financed by Ministry of Agriculture and Rural Development, and coordinated by the National Centre for Plant Genetic Resources. National collections store a limited number of specimens of particular varieties. They are mainly kept for research and cultivation purposes, and the dissemination of old varieties and knowledge about them is limited.

During the project, a database of disseminated materials was created. It will enable the future monitoring of research and breeding.

Apart from the scientific impact of the project, its educational impact is also very important. The implementation of the project was accompanied by advertising and educational activities. The income from the sale of young trees and the activities of the centre located in Chrystkowo, as well as donations, were spent on organising meetings, educational programmes and publications. In 2000, a publication on the *Tradition of Fruit Growing in the Lower Vistula Valley* was produced and a folder to promote the project was planned. A website has also been prepared for the purpose of promoting and coordinating organisations participating in the project.

Cooperation among various stakeholders

Name of institution	Status	Tasks
Association of Friends	NGO	Promotion of natural, historical and cultural values of the Lower Vistula Valley. Promotion of the concept of sustainable development. Conservation of the biological, landscape and cultural diversity of the Lower Vistula Valley. Support for governmental activity in this area, including nature and environmental protection and cultural values. Intensification of local and regional identification
Landscape Park of the Lower Vistula Valley	Government institution	Conservation of unique natural environment, specific landscape features and cultural values characteristic of the Lower Vistula Valley region
Nowe, Warlubie, Dragacz, Jezewo, Swiecie, Pruszcz Pomorski, Dobrcz, Osielsko, Bydgoszcz, Dabrowa Chelminska, Unislaw, Kijewo Krolewskie, Chelmno (city), Chelmno (parish), Stolno, Grudziadz.	16 local government authorities	Regional development
Global Environmental Facility Small Grants Programme	International organisation	Aid for NGOs to support activities assistin environmental protection
National Centre for Plant Genetic Resources, Plant Breeding and Acclimatisation Institute	Scientific institute	Plant genetic resources protection
Institute of Pomology and Floriculture	Scientific institute	Plant genetic resources protection
Botanical Garden, Centre of Conservation of Biological Diversity, Polish Academy of Sciences, Powsin	Scientific institute	Plant genetic resources protection

Source: Podyma W. et al., Conservation of the old varieties of fruit trees and traditional methods of processing by local communities.

Main lessons learned

If the old, domestic varieties of crop and ornamental plants and fruit trees are suppressed by new varieties and doomed to extinction, the loss would not only be significant for biodiversity, but also for Polish culture.

However, there are no effective measures in Polish law to protect fruit trees or old orchards as is the case with wildlife "monuments of nature." With regard to financial instruments, donations for farmers growing traditional tree varieties are not acknowledged. The only measure that succeeded in stopping the deterioration of old orchards was a widespread information campaign focused on the value of orchards and the establishment of nurseries of fruit trees with appropriate varieties.

According to the project leaders, the following possibilities could be evaluated in judging the project's success:

- public interest in old varieties of crop plants;
- economic effects and the necessity for financial support;
- possibilities to create a market for manufactured fruit products; and
- limitations and barriers in the development of programmes for biodiversity protection on farms.

THE REGIONAL ENVIRONMENTAL CENTER FOR CENTRAL AND EASTERN EUROPE (REC) is a non-partisan, non-advocacy, not-for-profit organisation with a mission to assist in solving environmental problems in Central and Eastern Europe (CEE). The Center fulfils this mission by encouraging cooperation among non-governmental organisations, governments, businesses and other environmental stakeholders, by supporting the free exchange of information and by promoting public participation in environmental decision-making.

The REC was established in 1990 by the United States, the European Commission and Hungary. Today, the REC is legally based on a Charter signed by the governments of 27 countries and the European Commission, and on an International Agreement with the Government of Hungary. The REC has its headquarters in Szentendre, Hungary, and local offices in each of its 15 beneficiary CEE countries, which are: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, FYR Macedonia, Poland, Romania, Serbia and Montenegro, Slovakia and Slovenia.

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Switzerland, the United Kingdom and the United States, as well as other inter-governmental and private institutions.

Nature Conservation in Rural Policy