

## **REPUBLIC OF MOLDOVA**

### **AGRICULTURAL POLLUTION CONTROL PROJECT (GEF Investment Fund for Nutrient Reduction in the Black Sea/Danube Basin )**

#### **Concept Note**

##### **Objectives**

1. The overall objective of the Agricultural Pollution Control Project (APCP) is to reduce nutrient (N&P) pollution from agricultural sources in Moldova to the Danube River and Black Sea. In support of this objective, the project will assist the Government of Moldova to: (i) promote the adoption of environmentally-friendly practices in crop and livestock production and in rural agro-industries that contribute to nutrient pollution, including wetland and integrated watershed management; (ii) strengthen national policy, regulatory and institutional capacity for agricultural nutrient pollution control; and (iii) promote a broad public awareness campaign and replication strategy. The Project would be a component of a US\$30million IDA-funded Rural Investment and Services Project (RISP) (currently under preparation) and will mainstream environmental concerns into agricultural practices. The proposed project would also assist the Government of Moldova in harmonizing its legislative framework with relevant European Union (EU) directives and in honoring its international commitments to reduce nutrient loads to the Danube River and Black Sea.

##### **Sector Context and Background**

2. The Republic of Moldova is a transition economy, located in southeast Europe, between Ukraine and Romania. The entire territory of Moldova (33,700 sq km) lies in the Black Sea Basin. About 34 % of the country drains into the Prut River, a tributary of the Danube, approximately 60% into the Nistru (Dniester) River and the rest into a series of small rivers that empty directly into the Black Sea (Map 1).

3. For over five decades, Moldova was part of the former Soviet Union, with an economy based on agriculture (75% of the land was devoted to agriculture) and food processing. The land was organized into large collective agricultural enterprises and farms. Unsustainable land use, excessive application of inputs, such as fertilizers, and use of heavy machinery resulted in severe degradation of the land and environment (notably soil, water and biodiversity). Large cattle, pig and poultry farms were established near rivers that lacked efficient manure management practices. The discharge of untreated animal waste and manure is, in fact, one of the major pollutants of Moldova's surface and ground water. Furthermore, most wetlands in the river basins were drained for crop cultivation which soon turned into degraded, uncultivable land.

4. Since independence, Moldova's agricultural sector has undergone significant structural changes. Former collective enterprises and farms have been reorganized into smaller farming associations and private farms. However, the new farmers and owners lack farming experience, technical skills and financial resources for sustainable farm management. The absence of on-farm environmental management is exacerbating the erosion process as well as nutrient runoff into the country's waterbodies. Currently, more than 400,000ha of the private farms and farming associations are moderately or highly degraded. The large cattle, pig and poultry farms have been mostly dismantled, and the majority of livestock is now kept privately in small and medium holdings. However, the continued lack of efficient manure management practices is having

significant implications for groundwater pollution and drinking water supply for rural settlements in Moldova. Samples analysed from about 70% of shallow wells which are the main source of drinking water supply for rural communities revealed nitrogen concentrations in excess of the maximum acceptable levels. (UN/ECE. The Republic of Moldova: Environment Performance Review. Geneva, 1998)

5. Agricultural non-point source nutrient pollution is the most important contributor of water pollution in Moldova. Other sources are inadequately managed municipal and industrial wastewater treatment plants. Nutrient run-off to the rivers stems from: (i) environmentally unsustainable crop and soil management practices; (ii) over-exploitation and illegal cutting of forests, leading to the destruction of forest belts and buffer strips; (iii) inappropriate management, storage and disposal of animal manure and waste; (iv) over-grazing; and (v) mismanagement of wetlands. Soil erosion washes away an estimated 10 million tons of fertile soil annually. From the Prut River basin alone, approximately 12.5 thousand tons of nitrogen and 1.5-2.0 thousand tons of phosphorus are being discharged each year. Annual run-off from manure is estimated at 10.5 thousand tones for nitrogen and 2.5 thousand tones for phosphorus (Nutrient Balancer for Prut River Basin Project, 1994).

6. Agricultural pollution, together with over-fishing, mismanagement of game sources, poaching, draining of wetlands, excessive tree cutting have also led to the degradation of biodiversity, which has reached a severe level in the Lower Prut River Basin. Hydropower stations built upstream have exacerbated the problem by changing the site conditions in the area. Native flora and fauna species are severely threatened and, in some cases, facing extinction.

7. A number of studies have been conducted over the past decade on nutrient run-off and various other aspects of environmental degradation in the Republic of Moldova and particularly in the Prut River Basin which would help in the design of the proposed APCP. These include:

- UNDP/GEF Strengthening Implementation of the Nutrient Reduction Measures and Transboundary Cooperation (1998, Danube Programme);
- Pre-Investment Study of the Prut River Basin Project (1994, Danube River Basin Programme);
- Nutrient Balance for the Prut River Basin Project (1995, Danube River basin Programme);
- Study on the Quality of the Rural Drinking Water (1997, The World Bank, in two pilot areas);
- Alarm Emergency Warning System and Monitoring Laboratory and Information Management Project (1997 Tacis Programme, AEWS - MLIM established in the Prut River Basin);
- Evaluation of Wetland and Floodplain Areas in the Danube River Basin;
- Development of Agricultural Strategy (2000, Tacis Programme);
- First Agricultural Project of the WB in Moldova;
- Prut River Management Project (2000, Tacis CBC Programme, GIS mapping of the quality of surface and underground waters);
- Prut River Tributaries Project (Tacis CBC Programme, on-going, development of action plans for integrated environmental management in the tributaries' catchment areas).

## **Government Commitments**

8. Agricultural pollution control and wetland ecosystem protection are considered priorities by the Government of Moldova as documented in the following: (i) National Program of Strategic Actions for the Environmental Protection for 1995-2020 (1995); (ii) National Environmental Action Plan for 1996-1998 (1996), which included a program of activities to reduce or prevent pollution through better environmental management and sustainable use of natural resources; (iii) Governmental Strategy of Sustainable Development of the Republic of Moldova (2000) which emphasised sound agricultural practices, restoration and rational use of natural resources, elimination of pollution sources, water quality control, and waste management as national priorities, and (iv) Biodiversity Conservation Strategy and Action Plan (2001).

9. Moldova has committed itself internationally to reducing nutrient loads to the Danube River and the Black Sea from its territory. It is a signatory to the Convention on Co-operation for the Protection and Sustainable Use of the Danube River (Sofia, 1994) and a member of the International Commission for the Protection of the Danube River (Danube Commission). Moldova has also signed a number of international conventions on environmental protection and biodiversity conservation, including the Convention on Protection and Use of Transboundary Water Courses and International Lakes (Helsinki, 1992), the Convention on Wetlands of International Importance especially as a habitat of aquatic birds (Ramsar, 1971), the Convention on Biological Diversity (Rio de Janeiro, 1992), the Convention on the Conservation of Migratory Species of Wild Animals (CMS) (Bonn, 1979) and the Convention on Environmental Impact Assessment in Transboundary Context (Espoo, 1991), the Convention on Conservation of European Wildlife and Natural Habitats (Bern, 1997) and the Convention on International Trade in Endangered Species of wild Fauna and Flora (CITES), Washington, March 3, 1973. In terms of regional agreements, Moldova is party to (i) Statement on Lower Danube Green Corridor signed by Bulgaria, Romania, Ukraine and Moldova, on 5 June, 2000, in Bucharest, Romania; (ii) Protocol on the Establishing of the Transboundary Biosphere Reserve of Danube Delta and Scientific Reserve "Prutul de Jos", signed on 27 July, 2000 between Romania and Moldova.

10. The Bank has received a formal letter of request from the Government of Moldova requesting GEF assistance for the preparation of the proposed project.

### **Project Scope**

11. The project would be blended with the IDA credit-financed Rural Investment and Services Project (RISP) that is currently at an advanced stage of preparation and scheduled for appraisal in early FY02. RISP is being prepared by the Ministry of Agriculture for a US\$30 million IDA credit. It will provide post privatization support to increase rural incomes and living standards by promoting rural entrepreneurship, agricultural production, economic diversification, and trade in the rural areas. These objectives will be achieved through the provision of technical and financial assistance. The project will have both institutional beneficiaries, e.g. local NGOs of advisory and extension agencies, service providers, etc. and a broad range of private entrepreneurs in rural areas. RISP will give priority to high value commodities, such as fruits and vegetables with export potentials. RISP's four components are: (i) Farmer Organization Development to create viable groups based on common economic activity, to facilitate consolidation of farm operations and to support development of viable rural businesses; (ii) Rural Support Services through rural business development services and marketing support services; and (iii) Rural Finance. The Rural Finance Component will consist of three credit lines, namely (a) **General Credit Line** that will be open to a broad range of rural entrepreneurs at commercial terms and conditions through commercial banks, (b) a **Special Credit Line with a matching grant** targeted for newly formed farmer organizations and cooperatives, to support "new clients"

without past credit history to access commercial credits and to be implemented through commercial banks; and (c) *Micro-finance* to initiate micro-lending to individuals and to be implemented through commercial banks and Rural Finance Corporation (RFC).

12. APCP is proposed to become a GEF-funded environmental component in the RISP with the objective of mainstreaming environmental considerations into agricultural practices. It would focus on supporting activities that would reduce nutrient loads to the Danube River and Black Sea. The APCP would provide partial support to ensure the adoption of environmentally-friendly agricultural practices undertaken under RISP. Those enterprises/entrepreneurs that will be recipients of RISP credits would receive up to 20% grants from APCP to address the incremental cost of nutrient reducing environmental investments. Additionally, APCP would: (i) provide support for the preparation and implementation of integrated wetlands and watershed management in one of the tributaries of the Lower Prut River basin to serve as a filter to reduce nutrient discharge to the river and as a demonstration activity that could be replicated in other similar areas; (ii) strengthen the national policy, regulatory and institutional capacity for agricultural pollution control; and (iii) promote a broad public awareness campaign to disseminate the benefits of project activities for their possible replication.

### **Project Description**

13. The proposed APCP would be an integral part of RISP and the GEF grant would support the following activities:

14. **Component 1. Promotion of environmentally-friendly agricultural practices.** This component would promote the adoption of environmentally-friendly agricultural practices. Activities under this component may include crop rotation, conservation tillage, efficient manure management practices, promotion of organic farming, nutrient management, buffer strips along rivers, and soil and water quality monitoring. Farmers would be offered training in these techniques. Entrepreneurs/enterprises who borrow under RISP (individual farmers, farmers organizations and co-operatives and agricultural processors) and wish to invest in these practices using RISP credit line, could receive a grant (up to 20%) from the GEF fund to offset the incremental cost of nutrient reduction investments. The credit-grant package would be administered by local commercial credit institutions that participate in the RISP and the mechanism for identification of projects and financial support by banks for RISP credit is well developed. The mechanism for APCP support, including screening for eligibility, would be developed during preparation. This component would also prepare and implement a wetland and integrated watershed management plan for one of the tributaries of the Prut River in the Lower Prut Basin with the objective of reducing nutrient loads into the Prut River through nutrient filtration and reduction of the erosion of nutrient containing soil, as well as biodiversity conservation.

15. **Component 2. Strengthening National Policy, Regulatory and Institutional Capacity.** This component would focus on strengthening the national legislative, regulatory and institutional capacity of the government of Moldova for meeting European Union standards in agricultural pollution control. It would include assistance to the Moldovan Government, notably the Ministries of Agriculture and Environment, in harmonising local and national legislation with EU's directives on environmental pollution control, including the Nitrates Directive (91/676/EEC) and Dangerous Substances Directive (76/464/EEC). A Code of Good Agricultural Practices would be developed based on codes developed for Europe and elsewhere. Activities under this component would increase capacity of the government for addressing agricultural

pollution control measures and honouring its international commitments to reduce pollution to the Danube River and Black Sea.

16. **Component 3. Public Awareness Activities and Replication Strategy.** A broad local and nationwide public information campaign will be undertaken to disseminate the benefits of proposed project activities and achieve replicability of the same. At the local level, the main audience will be the direct stakeholders of the project (local and county officials, farmers, community groups and NGOs). The objective of the activity will be to familiarize the population and help induce the behavioral changes necessary to the success of the project (soil erosion prevention, use of manure management practices, respecting the Code of Good Agricultural Practices, etc.). Leveraging RISP project funds would improve the replicability of these practices among agricultural enterprises nation-wide. The efforts at national level would concentrate on institutions and groups (Government agencies, national environmental or professional associations, academia, NGOs, etc.) and the population at large that may develop and build a general good-will for the project and its benefits, and raise the interest of potential future clients.

17. **Component 4. Project Management Unit.** A Project Management Unit is being established under RISP. The GEF component would provide support for hiring relevant staff to implement APCP activities under the overall umbrella of the RISP PIU.

#### **Global Environmental Benefits**

18. The proposed project's objective of reducing non-point sources of pollution from agriculture is consistent with GEF Operational Program Number 8, "Waterbody Based Operational Program", which focuses mainly on seriously threatened water-bodies and the most important trans-boundary threats to their eco-systems. Under the Program, priority is accorded to projects that are aimed at "changing sectoral policies and activities responsible for the most serious root causes or needed to solve the top priority trans-boundary environmental concerns".

19. The proposed project would help reduce barriers to farmers' adoption of environmentally-friendly agricultural practices and would also help restore the wetland ecosystem and its biological diversity in the "Lower Prut Lakes", a Ramsar Site. The project would provide an opportunity for the GEF to be a catalyst for actions to bring about the successful integration of land and water resource management practices. Without GEF assistance, Moldova might undertake a series of small ad hoc activities in different parts of the country to address the pollution problem and in response to EU requirements for environmental concerns in agriculture. However, this approach would lack a comprehensive inter-sectoral mechanism to coordinate the financing, program efforts and geographical targeting of activities. GEF funding would provide essential resources to accelerate the program, to demonstrate the need for a holistic approach to control nutrient loads into the Black Sea and to undertake a public outreach program for the project's success. The APCP would strive to build synergies between this project, RISP as well as other projects with similar objectives.

## **Project Costs**

20. The estimated cost of RISP is US\$30.0million; the GEF funded component, APCP, is estimated at US\$5.0million which would cover the incremental cost of nutrient reduction interventions. Baseline project financing would be provided by the IDA-funded RISP. Additional co-financing of up to US\$ 1.5 million would be provided by the Government of Moldova and local beneficiaries in cash and in-kind terms.

## **Implementation Arrangements**

21. APCP and RISP would be managed jointly by a Project Implementation Unit (PIU) based in Chishinau. The Ministry of Environment, Construction and Territorial Development along with the Ministry of Agriculture, Ministry of Finance and other relevant agencies, would be represented in the Project Supervisory Board to provide guidance and assistance to the PIU. The GEF component will provide support for hiring relevant staff and other related expenses for the implementation of APCP activities under the overall umbrella of the RISP PIU.

## **Time Frame**

Submission of the Concept Paper to GEFSEC pipeline entry:	-	June 2001
Submission of PDF - B Grant Proposal:	-	July/August 2001
If approved, start preparation work in:	-	FY02



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