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WORLD BANK STRATEGIC PARTNERSHIP FOR NUTRIENT REDUCTION IN THE DANUBE RIVER BASIN AND BLACK SEA

(Prepared by the World Bank)

World Bank

Strategic Partnership for Nutrient Reduction in the Danube River Basin and Black Sea

A Concept Discussion Paper for the GEF Council

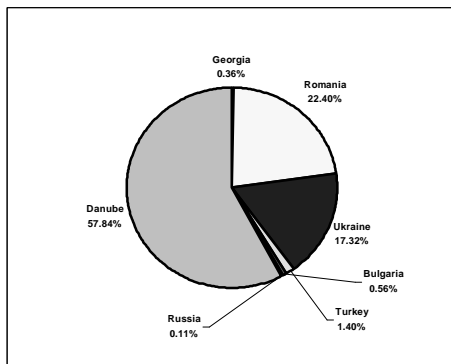
The Challenge

The Black Sea is facing a potential ecological disaster. Its fragile ecosystems, stable until the late 1960s, have gone into a steep decline caused by two events. The first of these was a disruption of the ecological balance due to the eutrophication in large areas of the sea, particularly the northern shallows, caused by increased nutrient loads from agricultural, industrial and municipal sources along the coast and tributary rivers, particularly the Danube. Second, native species have been destroyed by aggressive exotic species introduced through ballast waters of ships, which have thrived as a result of eutrophication. Together these events led to a sharp deterioration in coastal water quality, an acute decline in benthic communities and a rapid decrease in fishery yields.

Between the 1960s and today, Romania and Bulgaria have seen a tenfold drop in the Black Sea fishery catch; moreover, the catch is now skewed toward smaller less valuable species (only 6 of the 26 species previously commercially fished). Extremely valuable algae beds have been reduced from more than 10,000 square km to less than 1,500. Only a small fraction of 15 million potential tourists has been realized (reductions of more than 50% are common) with huge economic and employment losses to the littoral areas. Health impacts associated with environmental degradation and inadequate infrastructure are also evident across the region, with more than 21,000 cases of serious water-borne infections a year in littoral states.

The Black Sea and its main tributary the Danube River, face additional threats from growing international shipping traffic and from potential discharges of polluting substances. The January, 2000 Tisza River cyanide spill, which originated in Romania and wove its way downstream toward neighboring riparian countries, is a prime example of how these shared water resources in Central Europe are vulnerable to the effects of individual incidents and decisions.

While the Black Sea littoral states (Romania, Bulgaria, Turkey, Georgia, Russia, Ukraine) quickly became aware of the economic losses caused by the ecological degradation of the Sea and the pollution originating in the Danube



(Figure 1), it became evident that any possible solution would require a regional approach. The Danube River contributes the highest nitrogen loads to the Black Sea, with Romania being the largest source. Phosphorous loads from the Danube comprise a similarly large share relative to the contribution from littoral states. No state acting alone could rescue either the sea or the

river, because all 22 states of the two wider drainage basins, including the riparian states of the Danube and other rivers such as the Dnieper and Dniester, contribute to the cumulative nutrient and pollution loads. In response, the countries of the region drafted and signed the Bucharest and Sofia Conventions for the protection of the Black Sea and the Danube in the early 1990s and launched two complementary Regional Environmental Programs. The structure of the Conventions and the Programs, although complex, provides a framework for regional cooperation. It also allows the linkage of the many actions and instruments to effectively address the recovery of the ecological balance of the Danube River and the Black Sea.

Current poor economic conditions have resulted in a decline in the discharge of nutrients and other pollutants to the Danube and Black Sea, accompanied by a noticeable improvement in ecosystem conditions. This demonstrates that it is possible to reverse the current degradation of the Black Sea over the medium to long term if nutrient reduction measures are implemented. It also underscores the importance and urgency of taking steps to prevent a return to higher levels of nutrient and pollutant discharges now, before a more accelerated economic recovery and expansion occurs. The severity of ecological degradation could be aggravated to the point of irreversible damage, if the expected increase in economic activity is not accompanied by well planned and effectively implemented preventive environmental measures.

Meeting the Challenge: A Strategic Partnership

A Strategic Partnership between the World Bank and the GEF, focused on the recovery of the Black Sea, is proposed as a means for catalyzing an investment response necessary to accelerate urgent action by a wide group of stakeholders. Without a more strategic intervention, a "business as usual" investment scenario would continue to create excessive social costs and may even lead to an irreversible decline in Black Sea conditions. This proposed Partnership would involve a commitment by the GEF to pre-approve an envelope of funds, in the range of US\$70 million, to help jump start and further accelerate key investments from an identified program of investments.

The World Bank's role in the Partnership would be to promote use of the Partnership funds in country-based dialogues with stakeholder governments; to promote inclusion of Black Sea/Danube issues in the ongoing Country Assistance Strategy (CAS) process; to promote policies that address nutrient reduction; and to use the Bank's convening powers to engage other donors and partners in helping meet financing needs. Grant funds provided under the Partnership would help leverage World Bank investment lending with borrower countries and attract additional resources from other international lenders and donors toward the same nutrient reduction objectives.

Three key elements of a Strategic Partnership approach are the up-front approval of funds to establish a *predictable envelope* of grant financing for beneficiary countries and co-financiers to access; the bundling together of critical investments needs to promote *higher political visibility* and interest; and a design framework that takes advantage of on the ground learning to *replicate* and transfer investment experiences throughout the region. These three key elements provide the backbone of the strategy proposed.

Why is a Strategic Partnership Needed?

A decade of analytical work on both bodies of water has laid the groundwork; a legal and policy framework for action exists in the Conventions and Strategic Action Plans (SAPs). Nutrient reduction has been identified as the most critical issue in reversing the ecological damage of the Black Sea. Hot spots identified in the Black Sea and Danube SAPs have been translated into a clear description of the Investment Programme needs to reverse the ecological degradation. The challenge for both the Black Sea and Danube Programs is to pass from planning and prioritization, the phase now completed, to action.

A comparison between nutrient load reduction from i) investment levels today; ii) potential investments under a World Bank/GEF Strategic Partnership Program designed to catalyze the larger Investment Program; and iii) a full Black Sea/Danube Nutrient Reduction Investment Program, indicate that although the investment needs are large (Figure 2), tangible results are attainable and can be significant (Figure 3).

Fig. 2 – Investment Scenarios

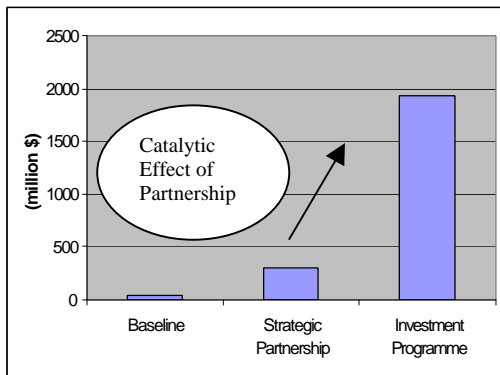
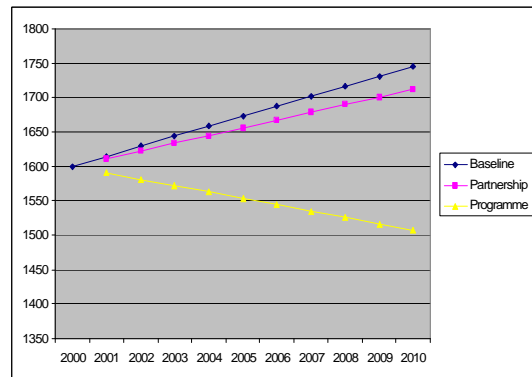


Fig. 3 – Nitrogen Loads Under 3 Investment Scenarios



Unless a very significant effort is undertaken by individual countries in the region, a reduction in nutrient loads to the Black Sea from today's levels will not be achieved. Given the large number of countries contributing nutrient loads, intermediary reductions can be achieved even with varied participation by concerned countries. There is sufficient flexibility in the extent to which individual countries need to participate under the Strategic Partnership investment scenario to achieve the demonstrative catalytic impact intended. Under current conditions, without a strategic intervention, significant opportunities for investments with transboundary impact would be delayed.

Individual investments to date have been effective to varying degrees, but have missed out on the opportunity for greater efficiencies that could be achieved through a wider more strategic approach. A wider regional investment framework would provide a vehicle for focusing individual country investments on regional objectives, would help to transfer knowledge and share best practices, and would promote adoption of policies to achieve common objectives. A strategic approach would also help provide a targeted

timeframe to promote action over a shorter period so that more tangible results could be achieved. The momentum for inter-country cooperation and coherent resource mobilization, developed over the past decade through the regional programs, should be used to promote follow-on investment needs.

A strategic, versus individual project-by-project approach is also a cost-effective vehicle to demonstrate benefits of key interventions, which require the collective action of many parties. The strategic approach would allow country-based investments to be placed in a wider regional framework and thus improve selection of individual priorities. The efficiency of investments to target a common “externality” (in this case nutrient loads) would be increased. A wider approach also provides a better mechanism for cooperation with a multitude of diverse partners. It allows large players to take on significant roles, and provides flexibility for smaller partners to fit in where best they can. For example, the EU has a significant role to play as a political mobilizer for action and cofinancier of investment needs. Stakeholders in individual countries can gain some satisfaction from knowing they are doing their part to contribute to wider regional investment needs. Additionally, there are important synergies, not only from cooperation with other countries of the region, but also with other regional initiatives, like the South Eastern Europe Stability Pact, that could be better exploited under a strategic approach.

Essential Features

Essential features of this Partnership would be:

- ❖ *Simplified and Faster Approval Process*: Implementation would be streamlined by a one-step approval of GEF resources to the Partnership by the GEF Council, together with delegation of authority for approval of specific nutrient reduction projects to the GEF Chief Executive Officer (GEF CEO)—using specified and pre-approved eligibility criteria. This would be complemented by ex-post reviews and release of funds in two tranches. Release of the second tranche would be subject to achievement of overall program benchmarks. This approach is cost effective and carries less risk to the GEF since most projects would be small (under US\$10m) and of a similar nature¹. The two-tranched structure would allow the release of the second tranche to be contingent upon confirmation by the GEF CEO to the Council that Partnership benchmarks have been met.
- ❖ *Adherence to the Principles of the GEF*: The Partnership would aim to achieve Program-based leveraging ratios, and cost-effectiveness ratio targets, to be developed between the first tranche, and would be used as a proxy for the incremental costs. Although cost effectiveness ratios would vary by project types, each individual project would show how it contributes to the overall program. The Partnership would follow the approaches of Water Body-Based Operational Program (OP 8) and Contaminant-Based Operational Program (OP 10), particularly in the selection of projects with crosscutting and demonstration

¹ Two projects, currently under preparation at the draft project concept document stage, are presented in annexes 1 and 2 to the Council as “examples” or “model projects” together with the Partnership: Romania-Black Sea Agricultural Pollution Control Project and Bulgaria Wetlands Restoration Project.

potential and proven implementation capacity. Each project would have design elements to promote replication, and a Partnership-wide effort would also be developed to promote replication at a regional level and encourage inter-regional knowledge sharing.

- ❖ *Leveraging of GEF Funds:* The Partnership would leverage both policy reforms and investments that would not take place if grant funds were not available. Some quantification of benefits from policy actions implemented as part of specific projects would be counted among the agreed baseline costs for the program's leveraging ratio. The Partnership would be executed in two equal tranches of three years each. GEF funds would leverage additional funds covering project baseline costs in at least a 1:2 ratio in the first tranche, with a goal of reaching 1:3 for the whole Program in the second tranche². Baseline costs would be covered by a combination of national financing, loans from the World Bank or other IFIs, and additional grant funds from the EU and bilateral sources.

- ❖ *Role of the World Bank*

In addition to overall management of the Strategic Partnership Program, the World Bank's commitments to the Partnership would involve:

- Promoting the Partnership in Country dialogues.
 - Including the Black Sea and Danube perspectives in relevant World Bank Country Assistance Strategies (CASs) as they are updated.
 - Promoting policies that address nutrient reduction as part of country dialogues.
 - Being a champion for the Partnership in dialogue with countries and the donor community.
-
- ❖ *Establishing Consistency between National Planning and International Commitments:* The Partnership would support the countries of the region to fulfill their international legal obligations under the Danube and Black Sea Conventions with a focus on nutrient reduction, and to improve consistency between the Conventions and national environmental planning objectives. Together with the EU and UNDP, the World Bank would help develop the framework for coordination with other regional environmental activities.

² Projects such as wetland restoration activities that also boast biodiversity conservation benefits might have a higher proportion financed by the GEF. These would be offset by other investments, such as wastewater treatment plants, where the proportion of GEF incremental cost financing would be expected to be significantly lower. At the mid-term and final project evaluations, the Program would have to demonstrate that the overall leveraging ratio targets have been achieved.

A Successful Planning Process

The Global Environment Facility (GEF) has played an important role in supporting the establishment of the Environmental Program for the Danube River Basin (EPDRB) and the Black Sea Environment Program (BSEP) since the inception of these programs in 1991 and 1993. GEF funding, with the support of the United Nations Development Programme (UNDP) and World Bank, has been instrumental in helping establish regional coordination and institutional cooperation, critical to successful implementation of the long-term multi-country strategy supported by the two programs. GEF support has also been crucial in formulating the SAPs for the Danube River Basin and the Black Sea. These efforts have raised awareness of the critical situation in the Black Sea, the pollution in the Danube and its significance in contributing nutrient loads to the Black Sea.

This Partnership would fall under an even broader long term strategy by the GEF and its implementing agencies (UNDP, UNEP, and the World Bank) to support next steps in implementing the Danube and Black Sea SAPs. Under this broader strategy, two regional projects would be implemented to support the two Secretariats of the Black Sea and Danube River Basin Environmental Programs. The proposed Partnership would be closely coordinated with these two programs.

The littoral and riparian states are committed to adopting a joint approach. The Danube River Convention is now in force (October 1998). Its Permanent Secretariat was established in Vienna in 1999, with an operating budget composed entirely of contributions from the Contracting Parties, including the European Union (EU). The Black Sea Commission's Secretariat is scheduled to be fully functioning in 2000 with contributions from its littoral states. The Danube and Black Sea Programs, with support from GEF, have developed strategies and identified priority "hot spots" for investments where interventions are needed to address transboundary concerns, particularly nutrient reduction. With the support of EU Tacis and Phare, regional institutions and regional centers have been established. These have increased the regional implementation capacity for additional interventions. However, to date, there has been limited investment in the priority projects identified by the two SAPs, and those which have been implemented are ad hoc in focus and impact. Black Sea and Danube "hotspots" have not yet figured prominently in national public investment priorities. This is understandable, because key environmental benefits of addressing these hotspots are primarily transboundary, and potential local benefits of the investment have not been highlighted, or fully understood. Also, the economic crisis has limited the availability of national funds. The proposed program would change this situation by publicizing the direct benefits of the environmental change proposed.

Implementing the Partnership

Project proposals from countries in the Danube River Basin and the Black Sea would be eligible for financing under the Partnership. The following key conditions would apply:

- ❖ *Types of Projects:* Three types of projects (or a combination thereof) would be eligible for financing under the Partnership³:
 - ◆ Restoration or creation of wetlands that reduce nutrients discharge or loads.
 - ◆ Reform and improvement of agriculture and land management practices with impact on nutrient use and/or non-point discharges through run-off.
 - ◆ Wastewater treatment in communities and small industries, for reduction of nutrient discharges.
- ❖ *Eligibility Criteria:* Projects would be selected according to the following eligibility criteria developed and agreed to by the Bank and the GEF Secretariat and endorsed by the Black Sea and Danube Commissions. Eligible projects should:
 - ◆ Respond to regional priorities as identified by the respective SAPs adopted by the Danube and Black Sea Commissions, and be selected as a priority investment in the proposing country's Black Sea or Danube National Environmental Program. This will ensure a minimum efficiency ratio for nutrient reduction, as prioritization of investment impact was part of the SAP screening process.
 - ◆ Have secured financing for baseline non-incremental costs.⁴
 - ◆ Demonstrate replicability in measures to reduce the discharge of nutrients from land-based sources and include a component to that effect.
 - ◆ Have a country-expressed commitment to policy, institutional, or legal reforms related to regional nutrient reduction and improved water quality management. Projects would be coordinated with the ongoing work of the Secretariats and individual country efforts on nutrient reduction policies.
 - ◆ Possess the endorsement of the proposing country's GEF focal point.
 - ◆ Ensure that the proposing country is up-to-date on its contributions to the Black Sea and/or Danube Commission(s) and Secretariat(s) to which they belong.

³ Investments in lower parts of the Danube River Basin or near the Black Sea will have priority because of their higher impact on the nutrient load to the sea.

⁴ Self-standing GEF-financed projects without a corresponding World Bank loan or bilateral financing could also be considered, in exceptional cases, if important policy reforms were accomplished by the GEF grant and if national funding, in cash and in-kind, were at least as large as GEF funding (i.e., 1:1 ratio).

- ❖ *Projects with Additional Global Benefits:* Whenever a project has potential for additional global environmental benefits, such as conservation of biodiversity (for example, through management and/or rehabilitation of a site designated as of international significance under the Ramsar Convention) or reduction of greenhouse gas emissions, the existence of such additional benefits would be a positive factor, but not constitute *per se* an eligibility condition (even though it could lead to additional incremental GEF resources). In all cases, nutrient removal is the essential eligibility condition for projects.
- ❖ *Project Identification and Processing:* Projects would be identified by the proposing country, with assistance from the World Bank and/or other eligible financiers and either the Danube or Black Sea Commissions. Eligible projects would be prepared and appraised under standard World Bank procedures before being submitted to the GEF Secretariat for CEO approval. The World Bank would submit to the GEF Secretariat a project document with sufficient details to enable the GEF Secretariat to judge whether the proposed project is designed to meet agreed eligibility criteria, in addition to the normal review criteria for admitting project proposals to the GEF Work Program. If found satisfactory, the GEF CEO would approve individual projects up to the funding limit of each tranche.
- ❖ *Project Implementation.* Projects would be approved and implemented following standard World Bank procedures. The financial management, procurement and disbursement procedures of the World Bank would be used.
- ❖ *Monitoring Indicators:* Each individual project would have its own monitoring indicators, benchmarks and monitoring plan to measure nutrient reduction. In addition, the overall program would have monitoring indicators to ensure that the objectives and framework set out in the Strategic Partnership agreement are met.
- ❖ *Overall Implementation Arrangements:* Overall program management and oversight responsibility would rest with the World Bank. On completion of the first tranche, the Bank would report to the GEF Council on achievement of the indicators prior to initiating the second tranche. A Program Manager, in coordination with the Danube and Black Sea Commissions, would report on progress to World Bank management and would be responsible for submitting regular reports on overall program performance to the GEF Secretariat. The Program Manager would work closely with the Secretariats of the two Commissions on the selection/preparation process, to ensure that the projects address priority hot spots and actions, and during implementation, to keep them informed on the project's progress and impact. Funds for management for the Partnership would be provided by the GEF.
- ❖ *Regional Cooperation:* Close cooperation between the Danube and Black Sea Programs is already in place and would be extended to the GEF Dnieper Project. Coordination with relevant GEF biodiversity and other donor-supported projects in the basin, such as the EBRD-GEF Private Sector Nutrient Reduction Initiative,

with overlapping aims, would ensure broad awareness of and support for the basin-wide approach. GEF's IW:LEARN project, would be used to facilitate inter- and intra-project knowledge sharing where projects share similar concerns regarding nutrient issues (for example, Baltic, Yellow Sea, Caribbean Bays, etc.). Additionally, close coordination would continue with the EU, which would be expected to play a large political leadership role for the Partnership.

Partnership Benefits

The Partnership is expected to leverage additional resources to address urgent investments to challenge countries into action and to play a catalytic role for setting in motion the support needed to fully implement the Danube and Black Sea SAP Investment Programme. The full benefits of the Partnership are thus expected to be much larger than those obtained directly from investments.

A cost-benefit analysis was prepared for the overall Black Sea and Danube Investment Program of Investments. The analysis evaluated the capital and operations and maintenance costs over a twenty-year period associated with the nutrient reduction portion of the Black Sea and Danube SAP Investment Program (approximately US\$1.93 billion, with a PV of US\$0.95 billion). The benefit analysis relied on economic studies prepared as part of the Black Sea Danube Regional Programs, focused on tourism, fisheries, and health impacts averted by improvements in pollution loads to the Black Sea. The present value of total benefits in the analysis ranged between US\$1.2 billion in the low estimate scenario and US\$1.7 billion in the high estimate scenario. The corresponding benefit cost ratios estimated were 1.23 and 1.76, respectively⁵.

Even the low estimate benefit cost ratio of 1.23 is satisfactory especially considering that it was obtained using conservative assumptions, and that a number of benefits due to nutrient reduction were not included in the formal cost-benefit analysis as they could not be quantified. Some of the unquantified benefits include: profits to the local tourism sector; potentially higher profits to the secondary fisheries sector ; benefits of wetlands for local economic activities (reed harvesting and fish breeding); biodiversity values associated with improvements in the Black Sea/Danube ecosystem (including the restoration of wetlands); and local health benefits from reduced contamination of groundwater in rural areas. Although not specifically quantified, these benefits would be significant. The cost-benefit ratios undoubtedly underestimate the real impact since the calculations were made on a most conservative scenario. Even with these restrictions,

⁵ A benefit cost analysis for the Strategic Partnership alone was not conducted mainly due to the lack of studies quantifying the benefits of low levels of nutrient reduction. It is expected, however, that benefits associated with investments totaling US\$300 million will be far less significant than those achieved through the US\$2 billion program that is needed to make a significant difference in the solution of this ecological crisis. Nevertheless, the real value of the Strategic Partnership is its role in catalyzing the overall Black Sea/Danube investment program.

they are substantially higher than the investment needs that have been identified as part of the Danube and Black Sea SAPs⁶.

Declaration of the Strategic Partnership alone would give a strong signal to potential recipient countries that grant funds are available. The declared Strategic Partnership for the Recovery of the Black Sea would also help begin to steer co-financing by other donors to the nutrient reduction objectives of the Partnership. It is expected that private sector interest and action would also be catalyzed through the presence of the proposed Partnership. As a first model for a more programmatic investment approach in the International Waters Focal Area, it would serve as a model for the future, in line with GEF commitments and trends within the World Bank to move towards a strategic approach.

Access to these funds in the medium and long term would give leverage to environmental governmental bodies, local governments and agricultural interests in their efforts to cooperate with their respective ministries of finance in implementing environmental protection measures. This should assist in moving the regional/global environmental agenda to a higher rank in national investment priorities. Moreover, a regional partnership would help lower perceived risk that the impact of investments for protection of international waters could be adversely affected by the behavior of neighboring states.

Next Steps

The following next steps are envisioned for the proposed Strategic Partnership:

- May, 2000 Submission of the Concept Note and receipt of Council Comments.
- Submission of first example project proposal fully consistent with partnership criteria at the July, 2000 Inter-sessional.
- Efforts to integrate Partnership objectives into CASs would begin.
- Submission of a full Partnership Proposal at the November, 2000 Council Meeting along with the second example project proposal. Council approval of overall grant envelope for recipient countries.
- Tranche 1 period (2000-2003): Learning Phase: no cost-effectiveness threshold limits; initially leveraging ratio target of 2:1; initial demonstration projects.

⁶ The cost-benefit analysis also evaluated the impact on reduction in nutrient loads of implementing the full investment Program, and the Strategic Partnership projected investments as compared to baseline investments. Under baseline investments, it was estimated that 5-7 million kg/yr. of nitrogen would be removed in year 10, as compared with a potential removal of 38-49 million kg/yr. under the Strategic Partnership scenario, and 130-168 million kg under the full Investment Program scenario. For phosphorous, it was estimated that a baseline of 0.6–0.9 million kg would be removed in year 10, with a potential for 6-8 million kg to be removed under the Strategic Partnership investment scenario, and 19-24 million kg under the full Investment Program scenario. It should be noted that phosphorous loads are significantly lower than nitrogen loads to start with, and the reductions achieved are comparable to nitrogen in terms of percent removed.

- Tranche 2 period (2003-2006): More accelerated implementation phase: reliance on cost-effectiveness ratios; increase in the leveraging ratio target to 3:1; accelerated learning and replication.

For more information on the GEF-World Bank Partnership for Nutrient Reduction in the Danube River Basin and Black Sea, contact:

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Attachments:

Annex 1 Draft Project concept Document for Bulgaria Wetlands Restoration & Pollution Reduction Project

Annex 2 Draft Project Concept Document for Romania Agricultural Pollution Control Project.

World Bank User
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ANNEX 1

Bulgaria
Wetlands Restoration and Pollution Reduction Project

DRAFT Project Concept Document

Bulgaria
Wetlands Restoration and Pollution Reduction Project

Project Concept Document

Europe and Central Asia Region
ECSSD

Date: February 9, 2000	Team Leader: Jocelyne Albert
Country Manager/Director: Andrew Vorkink	Sector Manager/Director: John Hayward/ Kevin Cleaver
Project ID: P068858	Sector: VM
Lending Instrument: GEF Grant	Theme(s): ESSD
	Poverty Targeted Intervention: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Project Financing

Data

Loan Credit Grant Guarantee Other [Specify]

For Loans/Credits/Others:

Total Project Cost (US\$m)	13.5 m	Cofinancing	\$5.5 m (EU PHARE, EU SAPARD, European bi-laterals)
Total Bank Financing (US\$m)	7.5 m		

Financing Plan:	source	Local	Foreign	Total
Government		0.2		0.2
Global Environment Facility		5.0	2.5	7.5
Co-financing		3.0	2.8	5.8
Total:		8.2	5.3	13.5

Borrower: Government of Bulgaria

Guarantor: n/a

Responsible agency: Ministry of Environment and Waters

Project implementation period: 5 years

Implementing Agency: Ministry of Environment and Waters

Contact person: Nikolai Kouyumdzhiev, Sr. Expert
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A: Project Development Objective

1. Project development objective: (see Annex 1)

The global environmental and project development objective is to assist Bulgaria in meeting its national and international commitments to reduce transboundary nutrient loads and to conserve biodiversity in the Danube and Black Sea Basins through improved management and sustainable use of water resources and restoration of wetlands.

2. Key performance indicators: (see Annex 1)

Key performance indicators include:

- Increased capacity of responsible institutions to formulate water sector-related policies, within a framework of sustainable river basin management plan;
- Increased well-being –over the long term, of local communities who depend on the Danube River for their livelihoods;
- Sustainable management and use of floodplain wetlands in demonstration sites on the Danube and Black Sea coast;
- Decrease in nutrient loads downstream from the project sites in the Danube due to wetland restoration; and
- Globally significant biodiversity protected

1a. Global Operational Strategy/Program objective addressed by the project:

The project is fully consistent with Global Environment Facility (GEF) Operational Program (8) under the International Waters Operational Strategy regarding water bodies. The project addresses the highest priority transboundary problem identified in the Strategic Action Plans (financed by the GEF and the EU) of both the Black Sea and the Danube River. Under the project, the Bulgarian Government will undertake a comprehensive program addressing the problem of nutrient loads in the basins. The increased capacity of the Government to plan and implement this program of river basin development, the development of a national wetland restoration strategy, and innovative pilot activities in wetland restoration have clear transboundary (global) as well as national benefits. The incremental costs associated with these benefits are additional to other actions which have clear domestic benefits which will be taken to reduce nutrient run-off such as the construction of waste water treatment plants and introduction of low-impact agricultural practices. Taken together, these global and national benefits will lead to significant improvements in the health of the Black Sea.

The project also has significant biodiversity conservation benefits, consistent with eligibility criteria outlined in the GEF Operational Strategy OP2: conservation of coastal, marine, and freshwater biodiversity. Restoration of the original water flow patterns to wetlands and floodplains will help recreate natural habitats and conserve existing ones in three sites with globally significant biodiversity.

Bulgaria's National Biodiversity Strategy (1994) identifies the Danube wetland complex targeted by the project as the most representative of riverine wetlands and of international importance for waterfowl habitat. It has been proposed as a Ramsar site. Similarly, the Bulgarian National Plan for the Conservation of the Most Important Wetlands (1995) considers the three proposed project sites as high priority areas for restoration.

Consistency with World Bank/GEF Strategic Partnership. The Government has requested assistance from the GEF/Bank to undertake an innovative approach to wetland/floodplain restoration linking land use change with sustainable use and economic development. While acknowledging that restoration should be undertaken in conjunction with other measures such as waste water treatment facilities and industrial water treatment, the critical role wetlands and floodplains can play has been well documented.

(Floodplains are high efficiency water purifiers during both flood and dry periods. The self-purification action is a complex interaction of physical (sedimentation, filtration, absorption), microbiological (denitrification) and biological processes (nutrient reduction through aquatic micro and macrophytes and the roots of terrestrial vegetation). According to several studies in similar ecological conditions, floodplains can retain up to 90% of nitrates and up to 50% of phosphorous passing through.).

This project is being proposed to come under the umbrella of a proposed World Bank/GEF Strategic Partnership for Nutrient Reduction in the Black Sea/Danube Basin. This partnership is intended to help catalyze investment in priority hot spots for nutrient reduction within countries of the Danube and Black Sea Basins. Wetland restoration investments to promote nutrient filtration consistent with this project design, is one of three project types the Strategic Partnership would promote (it also supports agricultural investments to help control nutrient runoff; and industrial and municipal wastewater investments targeting point source nutrient discharges). As the first wetlands restoration project to be proposed under the Strategic Partnership - the Bulgaria project would play a critical demonstration role within the region and help to promote similar investments in the region. The Strategic Partnership framework will help ensure lessons learned during implementation of this project will be disseminated to enhance future project designs.

B: Strategic Context

1. Sector-related Country Assistance Strategy (CAS) goal supported by the project: (see Annex 1)

Document number: 17655-BUL

Date of latest CAS discussion: April 9, 1998

One of the five pillars of the Country Assistance Strategy is protecting and enhancing the environment and ensuring prudent and rational utilization of natural resources. Of special note are (a) pollution problems of the Black Sea; (b) the need for measures to conserve Bulgaria's globally significant biodiversity; (c) assisting the government to implement new legislation which complies with EU environmental directives. This project supports all of these areas.

First, it addresses the issue of non-point source pollution by reducing the nutrient load carried by the Danube which alone contributes almost 60% of the nutrient load reaching the Black Sea. Second, the selected wetlands harbor globally significant biodiversity, notably as spawning and feeding habitats for several endangered species of fish and waterfowl. Third, the project focuses on helping the government implement the newly enacted legislation on wetlands, water quality, and land-based sources of pollution. Project assistance will accelerate the process of meeting EU accession criteria in the water and natural habitats sectors.

This project demonstrates a clear poverty/environment link. The Danube region is one of the poorer areas in Bulgaria. The main reasons for this is the decreased economic productivity of the Danube River which has seen a tenfold drop in fishery catch since the late 1960's, seriously affecting rural incomes. One of the underlying causes of the decrease is the destruction of riverine wetlands necessary for fish spawning. Hence, linking wetland restoration with sustainable use in the region will help increase the well-being of local communities.

2. Main sector issues and Government strategy

Overview

The Black Sea, a critical regional resource, suffers severe environmental damage from eutrophication (i.e. choking and collapse of food chains due to loss of oxygen), declining water quality due to insufficiently treated sewage, introduction of exotic species, inadequate resource management, and loss of habitat -- all of which have led to long-term ecological change and a decline of its biological diversity.

In-depth analytical work points to eutrophication, caused by an increase in nutrient flux down the major rivers, as the most serious problem facing the Danube River and the Black Sea over the medium to long-term. The effects of eutrophication on the northwestern shelf of the Black Sea at the mouth of the Danube have had particularly disastrous impacts to water quality, natural habitat, and fish populations on which both biodiversity and human populations depend.

The Danube River is one of the continent's largest and most important rivers linking Central and Eastern Europe. It flows about 2900 kilometers through ten countries including 300 tributaries, from Germany to the Black Sea, draining 817,000 square kilometers. The lower Danube is also one of Europe's most polluted rivers. It contributes approximately 60% of the nutrients of the Black Sea. Approximately 60% of the nitrogen compounds and about 66% of the phosphorous compounds originate from non-point sources within the Danube watershed.

Regional action to clean up the Danube/Black Sea. In response to growing concerns about the pollution of the Danube, and in recognition of the fact that significant nutrient reduction requires regional commitment, the thirteen Danube River riparian countries joined to draw up the *Convention on the Cooperation for the Protection and Sustainable Use of the Danube River*, signed in 1994 and entering into force in 1999. Implementation monitoring of the Convention is the responsibility of the International Commission for the Protection of the Danube River (ICPDR). Similarly, the six Black Sea countries decided that joint action to save the Black Sea was urgently needed, and in 1992, signed the Bucharest Convention for the Protection of the Black Sea Against Pollution (ratified in early 1994). The Bucharest Convention was given additional impetus in 1993 by the Odessa Ministerial Declaration on the Protection of the Black Sea Environment, also endorsed by Bulgaria. Nutrient reduction is the highest priority issue for both programs.

Role of Bulgaria. The Danube forms the border between Bulgaria and its northern neighbor Romania for 472 kilometers before continuing through Romania to the Black Sea. More than half the area on the Bulgarian bank of the Danube is floodplain, covering 1280 square km. Over the years, the wetlands and floodplain has been drained or dyked to create arable land or as an anti-malaria measure, such that today's wetlands cover only about 10% of the area that existed at the turn of the century and hence cannot perform their original ecological function. Although about half of the country drains into the Danube River, Bulgaria is not the largest contributor of nutrient loads to the river. The Transboundary Diagnostic Analysis (TDA) undertaken by the Black Sea 1993-99 indicates that Bulgaria places third of the Black Sea states in terms of the nitrogen (N) and phosphorous (P) it contributes to the Sea, and accounts for between 1%-5% of the total pollution.

Actions which Bulgaria might take to address the issue of transboundary pollution have to be matched with a program addressing real national priorities in order to be politically and financially justified. Government and local officials are eager to integrate interventions which address the issue of transboundary pollution and global biodiversity benefits with efforts towards meeting EU Accession requirements related to EU Directives on Water Policy and Environment. Other national benefits include opportunities for sustainable use of aquatic water resources and income generation for local communities. This approach which integrates global and national development objectives increases the likelihood of long-term project success.

Main Sector Issues.

Bulgaria faces a number of issues as it attempts to comply with its international commitments to clean up the Danube/Black Seas, and to meet national environmental standards for EU accession. These include:

(a) *Water Quality and Nutrient Reduction.* Water in Bulgaria is a scarce resource, with per capita endowment less than half the average for European countries. One third of the country faces permanent or seasonal water shortages. Nitrogen content exceeds drinking water standards in a number of rural settlements. The water scarcity problem is aggravated by pollution from various sources, especially agricultural run-off, inadequately treated urban waste waters, changes in hydrological conditions and the

decline of water ecosystems. The underlying causes of the pollution include lack of resources for the construction of waste water treatment plants with appropriate treatment capacity in a number of Bulgarian towns, inappropriate agricultural practices and, to a lesser extent in the present economic situation, industrial pollution. For example, 49% of all waste water generated (incl. 43% of industrial waste waters) are discharged directly into the environment without any preliminary treatment. Nationwide, half of the towns with population over 50,000, and about 75% of the towns with population over 10,000 people have no waste water treatment plants (WWTP). According to the Transboundary Diagnostic Analysis (TDA), Bulgaria contributes approximately 7,500 tons of nitrogen and 720 tons of phosphorous/year into the Danube. For the Black Sea, the numbers are significantly higher: 2,480 tons of N and 693 tons of P from domestic sources, and an additional 2,000 tons of N and 432 tons of P from its rivers flowing into the Black Sea.

(b) Need for effective management of river basin development. Legislation was recently passed requiring watershed-based management system be implemented for the four main river watersheds. Currently, water management responsibilities are split between a number of organizations with different priorities, lacking effective coordination. The Ministry of Environment and Waters (MoEW) is charged with coordinating all environmental issues and implementing environmental policy. The Ministry of Agriculture, Forests and Agrarian Reform (MAFAR) is responsible for irrigation of agricultural land, for land registration, and for forest activities on the Danube islands. The Ministry of Regional Development and Public Works (MRDPW) manages the facilities for water supply and sewerage, while the Ministry of Health is responsible for the use of mineral waters. With the new legislation requiring that river basin authorities be set up, there will be a clear need to clarify roles and responsibilities of each of the actors. To meet EU accession requirements, the basins will need to develop nutrient reduction plans; a first step will be the analysis of the costs, benefits, and major opportunities for nutrient reduction in the short-and medium-term.

(c) Biodiversity Conservation and wetland restoration. Bulgaria is one of the most biodiversity-rich countries on the Danube, particularly along the Danube and Black Sea coasts. The National Biodiversity Strategy and National Wetland Strategy have identified priority areas for conservation and restoration of wetlands. Among those sites are areas on the Danube of international importance such as a nesting place of the Ferruginous Duck (*Aythya nyroca*) and the endangered Dalmatian Pelican (*Pelecanus crispus*). In its efforts to implement a wetland strategy consistent with EU directives on natural habitats and species, the Government has met with skeptical local community members who do not always appreciate the importance of wetlands for maintaining water quality, flood control and a variety of other environmental services. Public opinion has favored the draining of wetlands for other land uses, which is a direct result of the Government's policy over the last 50 years.

Government Strategy

Bulgaria's strategy with regard to nutrient reduction has two main overarching objectives, namely, to:

- (a) *Accelerate the process of EU accession.* Early in its candidacy for membership in the European Union (EU), Bulgaria is evaluating (with Bank and EU assistance) what measures it needs to take to meet eligibility criteria, to analyze the costs, to explore cost-effective measures to meet the European Union accession requirements, and to plan a short and medium-term accession strategy.
- (b) *Fulfill its obligations under several international agreements* to which the county is a signatory. The country has committed itself to implement the Strategic Action Plans of the Black Sea and Danube Conventions. This includes participating in the development of a common Danube River Basin Management Plan in the framework of the Danube Convention. Efforts to restore water quality and water ecosystems are also relevant to the Ramsar Convention on Wetlands of International Importance, Especially as Waterfowl Habitat, encouraging sustainable development and wise use of natural resources in wetland areas.

Water quality and management. In 1999, the Bulgarian Parliament adopted a new Water Act that reflects to a large extent the requirements of the proposed EU Water Framework Directive. It introduces a more integrated approach to water management based on river basins, ensuring better co-ordination among institutions (with assistance for training and implementation from the French Agence des Eaux, supported by an EU Twinning program.). The objective is to establish a river basin management authority and to train its staff to organize and manage the sector.

Investments in point-source pollution. The government has planned investments from the National Environmental Protection Fund for a small number of priority WWTP, identified according to a set of criteria. Virtually all cities on Danube tributaries are included in the *National Program for the Construction of WWTP for Settlements with More than 10,000 Inhabitants*. These resources, however are far from sufficient. Nutrient reduction investments are not address specifically by the plan. The Government will rely heavily on investment from international donors for the construction of WWTPs, in particular the EU PHARE Program and the EU ISPA instrument of the EC (Environment Strategy for ISPA, 1999). Hence the government is very interested in looking at low-cost technologies such as wetland restoration as a means of reducing nutrient loads and meeting water quality standards near smaller urban areas.

Wetland restoration for biodiversity conservation and nutrient reduction. The Government views wetland restoration as having several benefits: first, as a way to decrease transboundary pollution, second, as a means of preserving globally significant biodiversity, and third, as a possible source of revenue for local communities living in the poorer regions of Bulgaria. By restoring the spawning grounds for fish, the expectation is that the local fishing industry will make a comeback. Their strategy is based on the findings of the *Danube TDA* which includes an analysis of the potential impacts on the Danube of floodplain and wetland restoration.

3. Sector issues to be addressed by the project and strategic choices:

The Project would support Government strategy on nutrient reduction and biodiversity conservation by addressing key sector issues and objectives by:

- (a) Helping develop a program for nutrient reduction in the Danube/Black Sea Basin consistent with new policies and legislation;
- (b) Undertaking an innovative and potentially high-impact wetland restoration program which combines conservation of biodiversity values, nutrient reduction, and sustainable management and use of aquatic resources;
- (c) Assisting the to Government meet its international obligations under the Bucharest Convention for the Protection of the Black Sea, the Danube River Protection Convention, the Ramsar Convention on Wetlands of International Importance, especially as Waterfowl Habitat;
- (d) Assisting the Government to act on an accelerated schedule to comply with EU Directives—particularly on directives on water, nitrates, natural habitats and species--as part of the accession process; and
- (e) Assisting the Government to develop institutional options for improving river basin management.

C: Project Description Summary

1. Project components: (see Annex 1)

1. Nutrient Reduction Plan and Policy Analysis.

As part of its strategy to meet its international obligations as well as to comply with EU directives and

new national legislation on water, the government is considering creating four river basin authorities. The project will assist in the development of a basin-wide strategy for nutrient reduction, led by the MoEW. The strategy will integrate all of the government's activities in support of nutrient reduction, including *the National Plan for Waste Water Treatment*, its low-impact agricultural programs, and its wetland restoration work. The plan will analyze the potential nutrient reduction impact of each activity (WWTP, agriculture, industrial pollution) undertake a financial analysis of the cost of implementing these measures (similar to the Bank/Government of Poland study, *Meeting the Costs of Accession to the European Union*, but focussing more directly on the water sector). The study will (i) examine cost-effective measures which can be used to improve water quality, (ii) analyze the policy framework hindering introduction and use of cost-effective measures and (iii) recommend changes in those policies to encourage adoption. Other donor financing, particularly the EU program for accession countries would finance complementary activities and related training.. (*approximate cost: \$1.5m; GEF Contribution: \$0.5m*)

2. Wetland Restoration.

This is the most innovative activity to be financed under the project, and if successful, will have high replication value throughout Bulgaria and the region. The proposed project sites are among the 16 former floodplains with potentially high environment benefits recommended for restoration in the GEF-financed Pollution Reduction Program study of the Danube Commission. The Bulgaria sites all border larger potential restoration areas in neighboring Romania. Selection criteria for the sites targeted under the project included

- ecological potential
- floodplain type
- floodplain width
- current land use , and
- nutrient reduction potential.

The two proposed sites are briefly described below. More detail is available in annex 4.

(a) Kalimok and Brushlen Marshes (2,000 ha). The site is located about 60 kilometers east of Russe, the administrative capital of the Danube Region near the small town of Tutrakan. Up until the 1950's, the extensive marsh complex near Tutrakan was a key part of the region's valuable fish resources, providing the communities food, breeding grounds and nurseries. In the 1950's, a dyke was constructed between Russe and Tutrakan, cutting fish off from the marshes. Fish ponds were constructed, severely damaging the marsh ecosystem. In 1993, following the collapse of the state farming system, the fishponds were declared bankrupt and the system abandoned. The fishponds were purchased by Green Balkans and will be contributed to this project (560 ha.). The original marshlands are now state-owned, and much of this area has reverted to reed beds. Areas bordering the marshes are privately and municipality-owned and used for agriculture.

(b) the Belene wetland complex upstream from Tutrakan, situated 18 kilometers west of Svishtov. This is an extensive complex of two large islands (Belene Island is 15 km long) and 12 smaller islands. The land belongs to the Ministry of Justice, although MAFAR has the right to maintain plantation forests on the islands. Prior to 1991, the island was home to political prisoners; more recently, it is a regular prison. The island complex has enormous potential for wetland restoration, according to preliminary design work. However, in order to keep land issues as simple as possible, only land belonging to the state which not under agricultural production would be included in this project (approximately 1,000 ha., although the technical feasibility study will investigate options of up to triple this area).

The Kalimok site has the most advanced design prepared by the Green Balkans (Bulgarian NGO) and, financed by both EU Phare and World Wildlife Fund (WWF)/Danube Programme. Other donor financing is being sought to complete the technical design for hydrological work at the site. Under this project, the GEF would finance the civil works, including removal of parts of dikes, construction of

sluices for emergency control, removal of existing levees, and reconnection of former river branches to the Danube river dynamics. Similar civil works are needed at the Belene Island which has a preliminary hydrological study and site restoration plan, but will need more detailed design work.

Several studies need to be undertaken during **project preparation** in addition to the detailed technical design work mentioned above. These include an economic valuation study to quantify the economic and nutrient reduction benefits of various flooding scenarios currently under discussion (see technical and social issues section). The land-use and social assessment studies are particularly important because if, as preliminary findings indicate, grazing and meadows are more economically attractive than low-productivity agriculture, the 59 land owners currently owning land on the outskirts of the project area may wish to switch to a different land use more complementary to wetlands, thus allowing the project to purchase these lands and expand the project zone. Secondly, a water modeling study will be undertaken at one site, probably Kalimok, to gain a better understanding of the nutrient stripping potential of wetlands under various management regimes. Final site designs will be agreed to with the local communities based on a synthesis of these study findings.

Management plans, including requirements for ecological viability and measures to ensure sustainable use of the restored site would be developed for each site. The plans will include a monitoring program to regularly assess water quality and ecological health. Once the initial technical design is agreed to, site plans will require detailed engineering designs for restoration (civil works) and maintaining the hydrologic and ecological conditions essential for nutrient uptake. Training for MoEW and local staff in the management of the wetlands will be included. While most training will be conducted on-site, staff will also visit successful restoration sites in Europe to see first-hand how these sites are restored, managed and monitored.

In this first stage, approximately 3,000 ha of government/municipality-owned land with uncomplicated ownership and land use will be restored. Total nutrient reduction potential from this area, using the most conservative estimates of nutrient reduction potential (see technical issues), is approximately 375 tons of nitrogen and 37 tons of phosphorous/year. This projects an incremental cost ratio of \$106/ton /year for nutrient reduction under the project.

At the national level, MoEW staff will synthesize and integrate the considerable wealth of information into a wetland restoration strategy and program for the Bulgarian Danube and Black Sea regions. Donor interest and availability of government funds to finance these will be ascertained. With implementation funding secured, initial restoration plans for selected sites will be completed.

At the regional level, the wetland restoration work will benefit from working closely wetland restoration activities proposed in Romania at the Calarasi wetland complex under the Romania Agricultural Pollution Control GEF project. (In addition, the Romanian Balta Graeca floodplain directly across from the Tutrakan site which was highlighted in the Danube TDA recommendations as an exceptionally promising restoration site may also be restored. It is one of the sites included in the WWF Lower Green Danube Corridor Project being submitted for co-financing from European donors. If this happens, a joint management plan for the broader complex will need to be formulated.) The Romanian Danube Delta Authority, which has considerable experience in the management of wetlands and of working with local communities on the Delta has also expressed interest in working with the Bulgarians to share expertise and lessons learned. *(Total cost: \$6m; GEF contribution \$4m)*

3. Water Quality Monitoring

It will be critical to monitor water quality upstream from the demonstration sites, and just below the wetlands to determine the nutrient reduction and overall improvements in water quality achieved relative to expectations. A comprehensive, well designed, and functioning monitoring system is needed to enable identification of problems, to evaluate the cost effectiveness of management actions, and to identify the need for future measures. Other impacts, including anticipated biodiversity improvements

will also be monitored. This project is setting the precedent and standard for other nutrient load monitoring systems in Bulgaria, and in other Danube/Black Sea countries. The results of this project will directly feed into a wider regional framework bringing together experience from individual country projects participating in the proposed World Bank/GEF Black Sea/Danube Strategic Partnership.

The monitoring system should be compatible with existing systems in Bulgaria, in other countries and particularly with regional standards established by the two Commissions. A water quality monitoring system is in place in Bulgaria—as in most Danube countries—but recent experience has highlighted some of the system’s shortcomings. Hence the first step will be to assess the short-falls in the existing system. This will be done as part of project preparation. Additional training in effective data collection, management and analysis of hydrologic data will be needed. *(Total cost: \$1.7m; GEF: \$1m)*

4. Support for activities to ensure long-term sustainability .

Experience throughout the world, and in particular Eastern Europe, demonstrates that people living in the project areas—and indeed people who are dependent on the natural resources of the area—need to be involved in project decision-making and to benefit from project activities. Otherwise, the long-term financial sustainability of the project sites is in jeopardy. Hence, issues of long-term financial sustainability as well as environmental sustainability need to be addressed immediately and simultaneously.

The management plans for the project sites will include a medium and long-term strategy for sustainable use of the wetlands. In preliminary discussions with local communities and officials in Tutrakan, sustainable development activities mentioned include: sustainable harvesting of bio-mass (including reeds and herbs) for subsistence or small-scale markets; revitalization of fisheries which formerly flourished in the river/wetlands complex; and tourism based on the natural attractions and other amenities that could be developed at each site. Resources would be allocated under the project to finance feasibility studies for economic activities outlined in the management plans. Co-financing from donors for micro-credit schemes and private sector development not eligible for GEF financing is under discussion. *(Estimated total cost: \$2.8m; GEF financing: \$0.5)*

5. Public Awareness.

Government staff, local officials, and local NGOs with whom the project team has met consistently pointed to the need for public awareness, information, and stakeholder buy-in to project’s activities to enhance project sustainability at both the local and national levels. Public awareness campaigns will be directed at the general public to enhance their understanding of the importance of wetlands to Bulgaria’s natural heritage, as well as to maintaining their function in water quality, flood control and a variety of other environmental services vital to Bulgaria’s wealth. Environmental education will also be directed at local communities adjacent to wetlands to help them realize some of the tangible benefits from sustainable use of the goods and services that healthy wetlands provide. During project preparation, the possibility of establishing a wetland information/training center in one of the two sites will be explored. Information on project activities should be linked to similar activities in nutrient reduction being undertaken across the Danube, in Romania, for possible future collaboration or joint implementation. Funds will be earmarked for exchange visits, joint seminars, joint scientific ventures, and participation in Basin-wide programs such as Strategic Partnership-supported exchanges. *(Estimated total cost: \$.8m; GEF \$0.8m)*

6. Project Management. This component will finance activities of local, national, and international coordination required for the implementation and monitoring of project activities. The model proposed by the Government is to establish a Project Coordination Unit within the Water Directorate of MoEW to manage project activities. However, in an effort to build the capacity within each department/agency, technical staff working on project activities (financed by the Government) would remain with the appropriate department. However, the PCU would be responsible for project activities which cut across

all components: formulating and coordinating a project training plan; coordinating public awareness activities with NGOs; coordinating cross-border collaboration with Romania and with the Commissions for the Danube and Black Sea. The PCU would also be responsible for project monitoring, financial accounting, and reporting. (*Estimated total cost: \$0.7m*)

Component	Sector	Indicative Costs (US\$M)	% of Total	Bank-financing (US\$M)	% of Bank-financing
Nutrient Reduction Planning and Policy analysis	VM	1.5	13	0.5	6
Wetland Restoration	VM	6.	47	4.0	55
Water Quality monitoring	VM	1.7	14	1.0	16
Support to sustainable development activities	VM	2.8	18	0.5	6
Public awareness	VM	0.8	4	0.8	8
Project coordination	VM	0.7	4	0.7	8
	Total	13.5	100	7.5	56%
	Total Project Costs	13.5		7.5	

2. Key policy and institutional reforms to be sought:

Bulgaria is at the first stage of long process leading towards EU accession. As discussed in the issues section, the Government has already begun to enact policy changes (through new legislation) consistent with the EU Framework Directive on Water, and several other sectors. This project will assist the government to move quickly in drafting the enabling regulations and building the technical capacity needed to implement the new laws. The key policy change sought is related to the explicit consideration of transboundary impacts in the formulation of national water and land-use policy and reflected in the selection of high priority projects to be financed.

Secondly, the project will facilitate a change in the government —and particularly regional government — framework on land use policy and development planning. Following years of agricultural policy and massive investments in irrigation schemes which has favored the drainage of wetlands throughout the country, the challenge will be to demonstrate the economic benefits of wetlands. In particular, the project will help identify more appropriate land use options in wetland areas (e.g. extensive use of regularly flooded lands as meadows and pastures rather than as arable lands, use of biomass from wetlands, and nature-based tourism, etc.) that will be economically acceptable to local stakeholders. Once the economic and environmental impacts of wetlands are evaluated, the Bank would (a) urge the Government to modify its cumbersome procedures for changing land-use category, making it easier for local communities to undertake small-scale wetland restoration programs; and (b) work with the government to give priority to cost-effective measures to improve water quality. A related policy objective is to increase regional government's support and implementation of river basin management, which integrates environmental and economic development objectives in a basin wide approach to planning.

3. Benefits and target population:

At the local level, the main beneficiaries will be people living in the communities located downstream from the wetland who will enjoy cleaner water. Local communities will also benefit from improved fisheries along the Danube. Fishing has traditionally been the mainstay for communities along the Danube. The deterioration of water quality and the destruction of breeding sites for fish has deprived a significant part of local people from their main source of food and living; where 60 years ago there were 5,000 fishermen, there are now 60. The restoration of wetlands is expected to have beneficial effects on fish populations and hence on the local fishermen's incomes. Small entrepreneurs interested in establishing businesses related to bio-mass processing, fish processing, and eco-tourism may also see increases in incomes.

The main global benefit is the reduction of transboundary pollution. Based on conservative estimates of 100 kg/ha/yr reduction of nitrogen, and 10 kg/ha/yr of phosphorous, 375 tons of N and 39 tons of P could be reduced yearly. This accounts for approximately 5% of Bulgaria's total nutrient contribution to the Danube. The primary beneficiaries are Bulgarians living downstream from the wetlands, other downstream riparians, and littoral states of the Black Sea who will benefit from cleaner water.

Finally, significant biodiversity benefits are expected. The wetland complexes are of international importance as a nesting place of the Ferruginous Duck (*Aythya nyroca*) and Dalmatian Pelican (*Pelecanus crispus*). The Black Sea site is of even greater importance globally since it is a critical feeding site on the most important bird migration flyway linking Europe with the Middle East and Africa.

4. Institutional and implementation arrangements:

Implementation arrangements will need to be further developed during the course of project preparation. The government has suggested that a project coordination unit (PCU) be established within the Ministry of Environment and Waters to oversee day-to-day management of the project. Given the number of ministries (MoEW, Agriculture, Justice), municipal governments, and NGOs who will be involved in the implementation of the project, the Government has proposed that a Steering Group consisting of key agencies as well as representatives of the local communities and other donor agencies which are funding complementary activities be created. The Group would meet regularly to review project implementation and recommend adjustments as necessary.

The PCU would be headed by a Project Coordinator, reporting to the Minister of Environment and Water, assisted by two staff responsible for financial management and administration responsible for financial accounting. In an effort to build the internal capacity of the MoEW and to ensure that the work done under the project is fully owned by the respective agencies, each component would have a lead technical person working directly in the responsible ministerial department. The PCU would take the lead on designing and implementing a project-wide training activities, on collaboration with other riparian states—namely Romania on joint training programs—and with the wider Black Sea/Danube Basin Nutrient Reduction Program. The Unit would facilitate reaching institutional consensus required to execute the project, and it will be responsible for project monitoring and reporting to the Bank. We will discuss with MoEW the possibility of an in-house on-the-job training program with project staff responsible for the Bulgaria GEF Ozone Depleting Substances Phase-out Project. As well, other options for project management, including a decentralized management system for field activities operating under a PCU will be explored with the Government during project preparation.

D: Project Rationale

1. Project alternatives considered and reasons for rejection:

Scope of project. Several alternatives for project design were considered before deciding on the current proposal. The first option was broadening the scope to include activities targeting non-point source pollution from agricultural run-off. This is similar to the approach currently proposed for neighboring

Romania and has high potential returns. However, Government officials reassured us that agricultural issues were also subject to new EU Directives, and that they had requested (and been promised) support for introducing low-impact farming and other more environment-friendly appropriate agricultural practices from the EU through the SAPARD program and from bi-lateral donors, including the Danish Government. So while agricultural run-off is not being financed by this Bank/GEF operation, actions are underway in Bulgaria to address the problem. Commitments to these actions will be verified during the course of project preparation. The challenge will be to co-ordinate activities under the umbrella of the DRBA. Regular reporting on agricultural activities and water quality monitoring of agricultural run-off will be part of the Nutrient Reduction Strategy financed under the project and other mechanisms to achieve the synergies of various ongoing activities will be considered during the preparation stage.

Point vs. non-point source pollution. A second alternative was to focus on point-source pollution such as waste water treatment and industrial discharge. GEF funds would be available to finance incremental costs of nutrient reduction technology if governments were willing to borrow for baseline costs to the level (at least secondary) where these nutrient technologies could be added. This option is unaffordable by the Bulgarian government in its current economic situation. However, the current project offers a relatively low-cost opportunity to address water quality issues for smaller settlements along the Danube and its tributaries. Wetland restoration requires significantly lower construction and maintenance costs than nutrient reduction technologies at WWTPs, while at the same time providing a very effective system for the removal of nutrients from large quantities of water.

Selection of sites. Restoration sites were carefully considered in consultation with the MoEW. Such a wealth of analytical work exists on both the Danube and Black Sea, making decisions easier in some ways, but more difficult in others. Both the Bulgarian National Wetland Strategy and the Biodiversity Strategy identify key wetlands from a biodiversity perspective. In consultation with the Government and the Danube River Pollution Reduction Programme, specific criteria were established and each wetland site measured against these. Criteria include: nutrient reduction potential (based on their size and hydrological characteristics), current land use, and demonstration value. Several promising sites which might be considered for a follow-on project were not selected for some of the following reasons: limited nutrient reduction capacity, conflict over land use, or technical implementation difficulties.

2. Major related projects financed by the Bank and/or other development agencies (completed, ongoing and planned):

Sector issue	Project	Latest Supervision (Form 590) Ratings (Bank-financed projects only)	
		Implementation Progress (IP)	Development Objective (DO)
Bank-financed Environment	Environmental Remediation	S	S
Water	Water Companies Restructuring and Modernization Project	S*	S
Social	Regional Initiatives Fund (LIL)	HS	S
Agriculture	Agricultural Structural Adjustment Loan	n/a	n/a
Agriculture	Irrigation Rehabilitation and Restructuring Project (<i>under preparation</i>)	n/a	n/a
Agriculture	Cadastre / Land Registration (<i>under preparation</i>)	n/a	n/a
Environment	Environmental and Privatization Support Project (<i>under preparation</i>)	n/a	n/a
Environment	Bulgaria Agricultural Pollution Control (<i>under preparation</i>)	n/a	n/a
Other Development Agencies USAID	Black Sea-Danube Project (Hungary, Slovakia and Romania)		
USAID (1990-1998)	Environmental Initiatives Project (180-0004)		
WWF	Lower Green Danube Corridor Programme		
UNDP (1994-1997)	Establishment of a Land Information Management System (Bul/94/002)		
UNDP (1995-1999)	Ecological Monitoring and Pollution Control of Maritza River Basin (BUL/94/003)		
UNDP (1997-1999)	Biodiversity Action Plan (BUL/98/G31)		

FAO (1995-1997)	Rehabilitation of Inland Agriculture (focus on fisheries aquaculture) (TPC/BUL/4451+6711)	
PHARE (1994-1999)	Environment Program 1994 (BG9408)	
EIB (1998-2000)	Riverbank and Coastline Protection Project	
DEN (1997-1999)	Rehabilitation of Varna Waste Water Treatment Plant (124/008-0008)	
GEF, UNDP, WB, UNEP (1996-1998)	Implementation of the Black Sea Strategic Action Plan (RER/96/006/RER/97/G3)	

IP/DO Ratings: HS (Highly Satisfactory), S (Satisfactory), U (Unsatisfactory), HU (Highly Unsatisfactory) * considered a “project at risk”

3. Lessons learned and reflected in proposed project design:

Experience from wetlands restoration and pollution abatement programs in Europe and around the world suggest that:

- a) The early involvement in project concept design of key stakeholders from across the water, agriculture, and environment sectors as well as of local communities is essential in order to ensure ownership, build lasting commitment and achieve successful project implementation;
- b) The rationale, benefits and objectives of the project should be made known to all stakeholders, if not through active participation, on through effective public awareness programs. The benefits of sustainable land use needs to be demonstrated and the results widely disseminated;
- c) Problems should be solved jointly with clients and not for them. Capacity and skills transfer can only be achieved by working with clients, to do otherwise is to leave solutions that are unsustainable;
- d) Maintaining support for central governmental units, but emphasizing decentralized responsibility for financial and project management (e.g. Romania’s Danube Delta Biodiversity and Agricultural Pollution Control Projects) helps to build local ownership and sustainability of project activities;
- e) Socio-economic and regional development issues need to be carefully considered in the design of the project, which in turn should provide support for the integration of environmental and sustainable development principles into regional planning exercises;
- f) Early on, the project needs to focus on activities which promote replication, sustainability and resource mobilization beyond the life of the project.

World Bank experience with the Bulgaria country portfolio indicates that:

- a) In order to avoid delays in disbursements, forward planning of budget needs to be ensured early in project preparation and carefully monitored during each of Bulgaria’s budget years
- b) Significant effort must be undertaken to ensure project management capacity is adequate to permit implementation of complex activities and policy measures with efficacy and speed; and
- c) While direct participation of sector ministries is essential for the implementation of individual projects, successful implementation relies heavily on good relationships and cooperation from central units such as the Ministry of Finance when it comes to dealing with issues such as counterpart funding, VAT, financial management, approval processes and procedures, technical exchange of views on legislation.

The proposed program will incorporate these experiences and build on them, specifically by (a) continuing the inclusive and participatory approach; (b) effectively communicating the purpose and

progress of the program to stakeholders through a public awareness campaign and (c) building national and local capacity for sustainable management of the country's water resources.

4. Indications of borrower commitment and ownership:

The Government of Bulgaria has taken a lead role in efforts to establish a network of wetland and floodplain sites in the Lower Danube. The Ministry of Environment which represents Bulgaria on the Danube Commission has worked closely with WWF to prepare the restoration program's Lower Danube Program. Subsequently, the Bank joined WWF and the Ministry to move forward on investment operation which met the criteria for inclusion in the GEF/Bank Strategic Partnership for Nutrient Reduction.

The project scope expanded from the original request focussed on wetland restoration to include national level activities for improved water resources management, assistance in developing national restoration and rehabilitation strategies and policy formulation/implementation for nutrient reduction. The Government views these as an integrated package of measures needed to address water and land-use issues at their interface, and has asked the Bank, through the GEF, for assistance.

5. Value added of Bank support in this project

The Bank is currently assisting the Government formulate a strategy to comply with EU environment legislation—and to meet the expected high costs. The main issues involve policy frameworks and financing. The proposed project may provide an alternative to high-cost investment in infrastructure if the expected improvements in water quality from non-point source pollution are forthcoming. The Bank is in a unique position to help the government synthesize experiences and lessons learned from this project and from several other related projects in the water and agriculture sectors (ASAL, Land Cadastre), as well as its considerable experience in regional integrated river basin planning and management, to help implement the new water policy and assist the Government in its negotiations with the EU.

Secondly, the Bank plays an important role in helping coordinate donor assistance. Given the number of donors assisting Bulgaria, this role is needed to coordinate investments, technical assistance, and policy advice. The Bank can do this within the context of the CAS and through its regular participation in donor coordination dialogue.

In addition, the World Bank/GEF has built experience over the past decade involving numerous coastal zone, wetland and water quality projects related to the Black Sea and Danube River. Experience garnered through such projects as the Romania Danube Delta and Georgia Integrated Coastal Zone Management Projects and coordination with the Black Sea Environment, Danube River Basin Environment and Danube Pollution Reduction Programs is being shared with newly started projects.

E: Issues Requiring Special Attention

1. Economic

Summarize issues below (e.g., fiscal impact, pricing distortions)

To be defined (indicate how issues will be identified) None

Economic evaluation methodology:

Cost benefit Cost effectiveness Other [specify] incremental cost

There are two possible ways of undertaking an economic analysis which would meet GEF requirements. First, utilizing the typical incremental cost (IC) assessment, we estimate the IC of achieving global benefits in this project are \$7.5 of a total project costs of \$13.5. This total cost are restricted to those expenditures directly related to the nutrient reduction program focussing on wetlands, and does not include government or donor financing of WWTPs in the Danube or its tributaries, nor of agricultural

activities aimed at reducing non-point source pollution, all of which would be part of broader a nutrient reduction program for the Danube Basin and which should be considered as ‘leveraged financing’.

The second methodology currently under discussion with the GEF Secretariat involves a formula to be applied to all projects which fall under the Strategic Partnership for Nutrient Reduction in the Black Sea and Danube. This formula would likely include (a) a ratio of \$cost/ton of nutrient reduced; and (b) a leveraging ratio to determine appropriate levels of co-financing of total project costs. Co-financing would be used to cover costs of sustainable development activities. Currently, there is not enough information relevant available for the Danube/Black Sea region to scientifically establish the appropriate ratios. This project, along with a similar nutrient reduction project in Romania, will provide important information for establishing the ratios to be used for future projects under the Strategic Partnership. Consequently, the monitoring component of the project is particularly important since the monitoring information gathered will serve as one of main sources of data to establish these ratios.

Financial

Summarize issues below (e.g., cost recovery, tariff policies, financial controls and accountability)
 To be defined (indicate how issues will be identified) None

Government budgetary contribution to the project is not expected to significantly exceed current budgetary allocations to the sector.

The technical/economic studies may indicate that the most appropriate solution for wetland restoration involves flooding private lands. In that case, the government may compensate land owners for these lands. The MoEW would consider using funds from the National Environment Fund to cover these costs. This solution has been raised with the Ministry of Finance and MoEW and will be discussed again if the technical design recommends the higher flooding alternative.

3. Technical

Summarize issues below (e.g., appropriate technology, costing)
 To be defined (indicate how issues will be identified) None

Estimation of Nutrient Reduction Potential. Estimation of the nutrient reduction potential was carried out on the basis of international experience in other regions, with data adapted to the size and general characteristics of the selected demonstration sites. Experience in Denmark and Sweden achieved reductions of 400 kg/ha N and 40 kg/ha P (source: RAMSAR International). Using conservative figures based on international experience similar to Bulgaria's, expected nutrient reduction is 100-200 kg/ha/year for nitrogen and 10-20 kg/ha/yea for phosphorous. Applying a 125kg/ha N and 13kg/a P estimate to a low-case land area scenario, approximately 375 tons of N and 39 tons of P could be removed yearly from the three sites. The real quantities could be 2-3 times this amount, depending on various hydrological factors and the management regime. The water modeling exercise to be undertaken as part of project preparation will refine and validate these preliminary estimates.

4. Institutional

While MoEW is the lead implementation agency, the active participation of several other Ministries, agencies, local government and scientists will be critical to its success. In this context, the composition and mandate of the Steering Committee is important and will be given close consideration during project development.

Capacity and institution building. Training and capacity building has been incorporated into every component. MoEW will be trained in the management and monitoring aspects wetland restoration and hydrological monitoring. These areas complement the strong technical background and professional training of many staff working on water issues. Other training needs will be identified as part of a training needs assessment undertaken during project preparation. These will likely include training in

environmental education, socio-economic analysis, and policy analysis with regard to water policy formulation. The project will work to build up the capacity of existing directorates in the MoEW, rather than create new ones, given that staff are already overstretched. A conscious effort will also be made to facilitate synergies between this and related projects, to optimize MoEW staff time in project supervision and reporting. On-site training will be complemented with site visits to successful restoration sites in Europe. During project development, possible joint training with Romanian counterparts will be investigated. The relationship with the Strategic Partnership with regard to replication to other Partnership activities and to the links between this component and the Regional Projects which include regional training funds will be clarified in final documentation.

5. Social

Land Designation and Ownership. Wetland restoration may potentially affect agricultural lands and private property that were drained in the past. This is particularly the case for the Kalimok wetlands. If a change in land use designation is required, this can be a time-consuming and difficult process. MAFAR is responsible for agricultural lands in the country, as well as for the irrigation and drainage facilities on these lands, and has been consulted by the project team on the issues of land ownership and designation. After discussions with local government officials and community members, three different restoration scenarios were devised, ranging from a 13.5 meter flood zone affecting only municipal and state owned land, to a maximum flooding scenario of 14.5 meters affecting about 60 land owners who farm on adjacent land (a total of 59 hectares, though no one lives on the land in question). The economic/technical analysis will be critical to formulating a development program. If the analysis shows that the land has a greater economic value as a wetland, several alternatives need to be explored. These include purchasing of private land by the government, i.e. the MoEW through the National Environment Fund, by an NGO for the purposes of the project; or modifying land-use sub-category from arable to meadows and pastures (a much simpler step than changing category).

According to initial discussions with local people in Tutrakan, several land owners seemed interested in finding alternative productive uses for their lands, since much of the land is subject to periodic flooding and loss of crops. Decisions will be taken in close consultation and with the approval of land owners and government authorities.

6. Environmental

a. Environmental issues:

Summarize issues below (distinguish between major issues and less important ones)

To be defined (indicate how issues will be identified) None

The long-term impacts of the proposed project is expected be entirely positive. The project has been specifically designed to address national, global and transboundary environmental issues (water quality and nutrient loads in Danube River and Black Sea, biodiversity protection and habitat restoration, improved management and sustainable use of water resources.

Short-term impacts may result during the construction or removal of civil works (removal of existing dikes or levees, construction of sluice gates, reconnection of waterways). Some of these activities may involve the movement of earth (e.g. reconnection of waterways) or removal of infrastructure which may cause temporary influx of soil into waterways during heavy rainfall.

Other:

b. Environmental category: A B C

c. Justification/Rationale for category rating: While the project is expected to have mainly positive environmental impact, it is proposed as a Category B due to the likelihood of short-term impacts during construction / de-construction phases.

d. Status of Category A assessment: EA start-up date: 9/15/2000

Date of first EA draft: 2/15/2001

Current status: n/a

e. Proposed Actions: The design of actions needed for the restoration of wetland habitat and hydrological functioning will be completed during project preparation. The Terms of Reference for the design of alternative approaches for this sub-component will include a section on the analysis of potential environmental impact. This report will also propose options for mitigation and any long-term environmental management issues that will need to be considered during project implementation and beyond (e.g. appropriate management actions during floods). An environment management plan will be prepared to ensure that these issues are addressed.

f. Status of any other environmental studies:

g. Local groups and NGOs consulted (list names)

Green Balkan, WWF/Danube Programme

h. Resettlement

Summarize issues below (e.g., resettlement planning, compensation)

To be defined (indicate how issues will be identified) None

Under the high-case flooding scenario, 59 hectares of private agricultural land would be flooded. No one lives on this land and most of it is of poor quality. The Government is considering purchasing the land, and NGOs are prepared to buy the land as well in order to avoid any resettlement issues. These issues will be examined in the context of the social assessment, and the economic viability study.

i. Borrower permission to release EA: Yes No N/A

j. Other remarks:

7. Participatory Approach:

a. Primary beneficiaries and other affected groups:

Name and describe groups (how involved, and what they have influenced or may influence.)

b. Other key stakeholders:

Involvement of primary beneficiaries. The primary beneficiaries of the proposed project are the local communities living on the Danube River in the two project sites. As part of a preliminary social assessment undertaken by the NGO Green Balkans, they have been involved in technical discussions on flooding of land and on issues of management/maintenance arrangements. They have been very vocal about the need to link sustainable livelihood activities to the wetland restoration components. This has refocused the basic objectives of the project to go beyond global objectives of nutrient reduction, national objectives of meeting EU directives, to include activities directly related to poverty alleviation and sustainable development. Local groups will continue to be involved in various roles at all stages of project design and implementation as part of local Management committees and the national Steering Committee.

Participation of local authorities, Government. The project activities have long been identified as top priorities for not only Bulgaria, but for all countries in the Black Sea/Danube Basin. The Strategic Action Plans, formulated using a broad participatory process dating back to 1991 and agreed to by all riparian governments, identify non-point source pollution as a top priority, and specifically, propose wetland restoration as one of the most effective ways to reduce nutrient loads into the Danube and Black Sea. As the lead agency for project implementation, MoEW has been involved since the earliest stages of project identification which was undertaken by WWF as part of its Lower Danube Green Corridor Program. At the request of the MoEW, the scope of the project was broadened to include national level activities related to nutrient reduction.

8. Checklist of Bank Policies

a. Safeguard Policies (check applicable items):

Policy		Risk of Non-Compliance (H, M, L)
<input checked="" type="checkbox"/>	Environmental Assessment(OD 4.01)	L
<input checked="" type="checkbox"/>	Natural Habitats (OP/BP/GP 4.04)	L
<input type="checkbox"/>	Forestry (OP 4.36)	
<input type="checkbox"/>	Pest Management(OP 4.09)	
<input type="checkbox"/>	Cultural Property (OPN 11.03)	
<input type="checkbox"/>	Indigenous Peoples(OD 4.20)	
<input checked="" type="checkbox"/>	Involuntary Resettlement(OP 4.30)	VERY L
<input type="checkbox"/>	Safety of Dams (OP 4.37)	
<input type="checkbox"/>	Projects on International Waterways(OP 7.50)	
<input type="checkbox"/>	Projects in Disputed Areas(OP 7.60)	

b. Business Policies (check applicable items):

<input type="checkbox"/>	Financing of recurrent costs(OMS 10.02)
<input type="checkbox"/>	Cost sharing above country 3-yr average(OP/BP/GP 6.30)
<input type="checkbox"/>	Retroactive financing above normal limit(OP/GP/BP 12.10)
<input checked="" type="checkbox"/>	Financial management(OP/BP 10.02)
<input checked="" type="checkbox"/>	Involvement of NGOs (GP 14.70)
<input type="checkbox"/>	Other (provide necessary details)

F: Sustainability and Risks

1. Sustainability:

Institutional sustainability. At the national level, long-term institutional sustainability is linked to the country's compliance with EU Directives. Given the importance of meeting these directives, the Government has requested assistance in training and capacity building to enable staff to formulate and implement the new laws and regulations. The project will help finance training (along with other donors, notably the EU) related specifically to nutrient reduction and water quality monitoring. At the local level, a management structure for the maintenance of water facilities and decision making on different issues in the wetland area will need to be established. For the Kalimok Marshes, a committee of local stakeholders is already at work. For the Belene marsh, since this is land belonging to the Ministry of Justice, MoEW will be responsible for the management and maintenance of the restored sites

Poverty Reduction and Sustainable Development. For long-term ecological and financial sustainability of the wetlands, it is of utmost importance to link wetland restoration to sustainable use and local economic development. A community assessment has already been carried out at two project sites (Kalimok, completed; Belene under preparation). Based on the results from the community assessment, the opportunities of greatest interest to local people include fisheries development, small business development related to bio-mass processing and tourism. While GEF funds cannot be used to finance the credit or other start-up capital needed to undertake such activities, the project team will seek co-financing from other donors to ensure that these activities are funded either directly or in parallel with this project. Given the technology being introduced, recurrent cost will be modest in relation to the Government's current budgetary allocation to the water sector.

2. *Critical Risks: (reflecting assumptions in the fourth column of Annex 1)*

Risk	Risk Rating	Risk Minimization Measures
From Outputs to Objectives Transboundary nutrient load does not decrease due to: (a) lack of serious effort from upstream riparians and (b) increases in agricultural activity in Bulgaria as economy improves	M M	(a) Concerted action by all riparian countries, supported by Danube Commissions, GEF Regional projects, and other donors to decrease nutrient pollution (b) Strong public awareness campaign aimed at informing local farmers; incentives provided by EU accession timetable; and donor-financed projects ineco-farming
Nutrient stripping potential of wetlands not as great as originally expected	S	Project development includes technical water modeling study for one wetland site to refine estimates
Sustainable economic development activities supported in project sites not sufficient to (a) ensure long-term sustainable use of wetland resources; and (b) increases in incomes of local communities	M S	Management plan for wetlands includes socio-economic development activities, financial projections. Strong public awareness campaign and training of local staff in benefits of wetlands Close collaboration with other donors who can finance micro-credit and sustainable livelihood activities
Land ownership in the project area is more complex than preliminary analysis would indicate, necessitating a low-case scenario for flooding and thereby reducing potential ecological benefits	M	Discussions on land issues are already underway with local authorities and the Ministry of Justice. Local officials and NGOs are also involved. This process must continue to build trust among stakeholders. The economic and technical evaluation of alternatives in land-use will be discussed in depth with all stakeholders prior to the government taking a decision. Even in a low-case scenario, ecological, biodiversity, and nutrient-stripping benefits are justified.

G: Project Preparation and Processing

1. Has a project preparation plan been agreed with the borrower? (see Annex 2 to this form)

Yes, date submitted: MM/DD/YY No, date expected: 03/20/2000

The project preparation plan will be formulated in collaboration with our counterparts in the MoEW during the mission tentatively scheduled for early March. A list of the proposed studies to be undertaken with GEF PDF B financing are listed in annex 2.

2. Advice/consultation outside country department:

Within the Bank: (Peer reviewers are Steve Lintner (ENV) and Isabel Braga (LCSER); others: Manuel Marino (ECSIN), John Hayward, Adriana Damianova, Karin Shepardson (ECSSD), Paul O'Connell (RDV), Tony Garvey (SASEN)

Other development agencies: WWF-Danube Programme, Danish Aid, USAID, Ramsar International Secretariat, Wetlands International (The Hague),

3. Composition of Task Team: (see Annex 2)

Jocelyne Albert, Team Leader, ENV

Marea Hatzios, Environmental Specialist, ENV

Andreas Wurzer, Environmental Specialist, WWF-Danube Programme

Rayka Doubleva, Environmental Specialist, Consultant

Kerstin Canby, Environmental Specialist, ENV

4. Quality Assurance Arrangements:(see Annex 2)

John Hayward/Marjory-Anne Bromhead, Karin Shepardson (ECSSD), Steve Lintner (ENV), Gonzalo Castro (ENV)

5. Management Decisions:

We are requesting Management agreement to proceed with further project identification/preparation.

Issue	Action/Decision.	Responsibility

Total Preparation Budget: **Bank Budget:** US\$46,000 **Trust Fund :** \$37,000 Austrian Trust Fund

Cost to Date: US\$15,000

Preparation costs thus far total less than \$15,000 of BB/GEF plus \$7,000 drawn down from the Austrian Trust Fund. We have been able to draft the PCD thanks to the preparation work undertaken by EUPhare and WWF, in collaboration of the MoEW Water Directorate. In order to complete project preparation, we are requesting the following budgetary allocation: Bank/GEF Administrative Budget: \$100,000; GEF PDF B: \$300,000

GO **NO GO** **Further Review [Expected Date]**

(signature)
Team Leader: Jocelyne Albert

(signature)
Sector Manager/Director: Kevin Cleaver

(signature)
Country Manager/Director: Andrew Vorkink

Annex 1: Project Design Summary

Bulgaria: Wetland Restoration and Pollution Reduction Project

Hierarchy of Objectives	Key Performance Indicators	Monitoring and Evaluation	Critical Assumptions
<p>Sector-related CAS Goal:</p> <ul style="list-style-type: none"> Protecting and enhancing the environment Fighting poverty 	<p>Sector Indicators:</p> <ul style="list-style-type: none"> Improvement in water quality of Danube as evidenced by a decrease in nutrient loads downstream from project sites; Sustainable management of wetlands; Reduced poverty in Danube Region 	<p>Sector / Country Reports:</p> <ul style="list-style-type: none"> Danube and Black Sea Monitoring reports; national water quality statistics National statistics 	<p>(from Goal to Bank Mission)</p> <p>Improved institutional capacity to implement and monitor water legislation</p> <ul style="list-style-type: none"> Sustainable economic development activities supported by government and donors.
<p>Gef Operational Program:</p> <ul style="list-style-type: none"> International Waters Operational Program (8): water-body based transboundary problem <i>or program?</i> and biodiversity operational program (2): conservation and sustainable use of globally significant biodiversity in wetland, coastal and freshwater ecosystems 	<p>Improved water quality in the Danube River below the project sites</p> <ul style="list-style-type: none"> Globally important biodiversity conserved and/or sustainably used 	<ul style="list-style-type: none"> Danube water quality monitoring reports Ecological surveys 	<ul style="list-style-type: none"> Other upstream riparian countries do not initiate water quality actions

<p>Project Development Objective:</p> <ul style="list-style-type: none"> • Reduce transboundary water pollution and conserve biodiversity in the Danube River through improved management and use of the water resources and restoration of wetlands. • Assist Bulgaria in meeting its international commitments related to environmental aspects of water resources management. 	<p>Outcome / Impact Indicators:</p> <ul style="list-style-type: none"> • Improved water quality from Bulgarian sources into the Danube River • Improved biodiversity habitat • Sustainable use of floodplain wetlands in demonstration sites • Increased well-being of local communities who depend on Danube River • Increased capacity of responsible institutions to formulate water-sector policies, and to manage water resources consistent with EU Directives and other international conventions • 	<p>Project Reports:</p> <ul style="list-style-type: none"> • Danube and Black Sea Commission Monitoring Reports Ecological surveys • Socio-economic and ecological surveys 	<p>(from Objective to Goal)</p> <ul style="list-style-type: none"> • Nutrient-stripping potential of wetlands as good or better than similar wetlands in other parts of the world • Donors finance micro-credit and other sustainable livelihood activities
<p>Global Objective:</p> <ol style="list-style-type: none"> 1. Improve water quality of Black Sea Basin 2. Improve conservation of globally significant biodiversity in selected wetland sites through sustainable management and use 	<p>same as above</p>		

Output from each component:	Output Indicators:	Project Reports:	(from Outputs to Objective)
<p>1. a. .Preparation of integrated management plan for Danube Basin, focusing on wetland use and nutrient reduction of transboundary pollution; improved policy framework for reduction of non-point source pollution</p> <p>2. a. Completion of comprehensive plan for Danube / Black Sea Basin for wetland restoration</p> <p>b. Two priority sites restored and removing nutrients</p> <p>c. Natural habitats improved and sustainably used by local communities</p> <p>3. Effective water quality monitoring system compatible with other systems in region</p> <p>4. Technical and managerial staff of MoEW trained (hydrological monitoring, wetland management, project management, land-use planning etc)</p>	<p>1. .a Plan consistent with EU Directives on wetlands and non-point source pollution; includes strategy for achieving long-term targets</p> <p>2.a. Selection of priority wetland restoration site based on national plan</p> <p>b. Water quality from wetland areas improves</p> <p>c. Indicator species thriving</p> <p>c. healthy wetland</p> <p>c. increase in fish catch in local areas</p> <p>3. Quality data on water quality and wetland functions; Data shared with other country systems</p> <p>4. M&E system well-design and producing quality information; social aspects of land-use integrated into management plans: well managed wetland sites</p>	<p>1. a. Management plan</p> <p>2. a. Management Plan</p> <p>b. M&E Reports on water quality</p> <p>c. M&E Reports – species</p> <p>3. M&E Reports</p> <p>4. Socio-economic assessment (at MTR); Project monitoring reports; Supervision Reports</p>	<p>1. a. Continued strong Government support for Basin-wide wetland plan</p> <p>b. Wetlands potential as nutrient strippers consistent with estimates</p> <p>c. Public awareness campaign successful; Local Steering Committee operating effectively</p> <p>2.</p> <p>Government gives priority to training activities in first years of project implementation</p>

5. Economic activities identified within management plans which contribute to long-term sustainability	5. Feasibility studies prepared; Micro-credit fund established by other donors;	5. Project reports; Supervision Reprints	5. Donor co-financing secured
6. Increased awareness and appreciation by local communities of wetland functions and their economic value	6. Consultation and workshops with community groups; Educational materials developed and in use in local schools	6. Socio-economic assessment	6. Wetlands begin to recover and undertake ecological functions quickly to local communities can quickly see benefits.
Project Components	Inputs (budget for each component)	Project reports	(from Components to Outputs)
1. Nutrient Reduction Plan	\$1.8 total \$0.5 GEF	Basin-wide plan on nutrient reduction	
2. Wetland Restoration	\$6.4 total \$4.3 (GEF)	Project monitoring report	
3. Water quality monitoring	\$1.9 \$1.2 (GEF)	Water quality monitoring reports	
4. Support to sustainable development activities	\$2.4 \$0.5 GEF	Feasibility studies	
5. Public Awareness	\$0.5 (GEF)	Educational materials	
6. Project Management	\$0.7 GEF	Project monitoring reports	

Annex 2: Project Preparation Plan

Bulgaria: Wetland Restoration Project

A. Core Project Preparation Team

Name	Bank Unit	Borrower Agency	Role/Responsibility
Jocelyne Albert	ENV		Task Team Leader
Marea Hatzios	ENV		Marine biologist
Kerstin Canby	ENV		Operations analyst
Nikolai Kouyumdzhiev		MoEW	Lead Government counterpart
Andreas Wurzer		WWF/Danube program	Ecologist, Lead consultant
Marjory-Anne Bromhead	ECSSD		Quality Assurance
Rayka Doubleva		WWF/Danube Program	Ecologist, NGO liaison
Michail Michailov		MOEW, Dept of Wetlands	Wetland and Protected Areas

B. Project Preparation Activities

Key Outputs	Prepared by	Responsibility	Cost	Appraisal Requirement	Timeline
Feasibility Studies 1. Wetland Restoration: technical design 2. Economic study of alternative land use in Kalimok and Belene 3. analysis of preliminary management plans (2 areas) 4. analysis of existing water quality monitoring system 5. Analysis of nutrient reduction potential of alternative flooding scenarios	national con.	Dept. of Wetland/PA	PDF B/ (\$350,000 to be requested)	yes	10/01
	international consultants	Project Implementation Unit/Bank		yes	9/01
	national con.	MoEW/ Water Directorate/ Bank		yes	10/01
	inter. consultants	MoEW/		yes	9/01
Environmental Assessment	National consultants	Government: MoEW	\$40,000 (PDF B)	advanced draft	2/01
Social Assessment	National consultants/ NGOs	MoEW, ECSSD, ENV	\$45,000 (PDF B), Greek Trust Fund	final draft	10/01
Institutional Assessment 1. Assessment of project management needs 2. Training assessment	international consultants	MoEW, PIU, Bank	Greek Trust Fund/ PDF B	yes	1/01
Preparation Plan	consultants	MoEW, PIU, Bank	PDF B	yes	3/01

C. Specialist Tasks

Specialist Area	Level of analysis/ Tools	Skills Needed	Key Output Document	Bank Review Target Date
Financial management	Assessment of financial management capacity/ LACI	accounting/auditing	Financial assessment	8/00
Procurement		Bank procurement rules	Plan	2/01

GEF Incremental Cost Analysis	determination of baseline/ alternative nutrient reduction scenarios	GEF methodology	IC Annex for PAD	10/00
Wetland management	nutrient reduction potential	hydrology, wetland ecology		10/00
Micro-enterprise development	determination of micro-enterprise development potential	finance, micro-credit	Micro-credit plan	2/01

Annex 3: Timetable and Budget
Bulgaria: Wetland Restoration Project

Project Processing Timetable and Budget			
Phase	Timetable step	Plan	Key Dates Actual
LEPN	GEF Eligibility Review		August--99
LENP	Concept Review Meeting	14- February- 00	16-February--00
LENP	RVP/ROC/OC Sign off		
LENP	PID to PIC date	16-February--00	
LENP	Depart Preappraisal		
LENP	Decision Meeting		
LENA	Authorize	01—February--01	
	Appraisal/Negotiation		
LENA	Update PID to PIC		
LENA	EA received date		
LENA	Depart Appraisal	15-February-01	
LENN	Invitation to Negotiate		
LENN	Start Negotiations		
LENN	Board Presentation	15-May-01	
	Completion Note		

7. AVR. 2000 16:55

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REPUBLIC OF BULGARIA



MINISTRY OF ENVIRONMENT AND WATER

March 15, 2000

Mr. Andrew Vorkink
Country Director, Bulgaria
World Bank
1818 H. St. NW
Washington, DC

Dear Mr. Vorkink:

As you know, Bulgaria has been actively involved in national and regional activities to reduce transboundary pollution in the Black Sea and in the Danube. In fact, Bulgaria is currently the sitting chair of the International Commission for the Protection of the Danube (ICPDR).

Bulgaria is also very much moving towards accession to the European Union. To this effect, we have recently passed laws which will lead to compliance with the EU Framework Directive on Water.

We have been working with staff from the World Bank to identify projects which will address the problems of transboundary nutrients in the Black Sea/Danube, to help us meet our commitments under the Danube and Black Sea Conventions, as well as to assist us in complying with EU regulations. We have identified a Wetland Restoration and Nutrient Reduction Project in the Danube River Basin which is eligible for financing under the GEF Operational programs for biodiversity and international waters. It falls under the proposed GEF/World Bank Strategic Partnership for Nutrient Reduction.

We are writing to request your assistance in financing the GEF Wetland Restoration and Nutrient Reduction Project. This will serve as a pilot program which will then be replicated not only throughout Bulgaria, but in other countries of the region.

Thank you very much for your consideration.

Yours sincerely,

Deputy Minister: 

(Neno Dimov)

ANNEX 2

Romania
Agricultural Pollution Control Project

DRAFT
Project Concept Document

DRAFT

ROMANIA

AGRICULTURAL POLLUTION CONTROL

PROJECT CONCEPT DOCUMENT

**EUROPE AND CENTRAL ASIA REGION
ECSSD**

Date: March 21, 2000	Team Leader: Jitendra P. Srivastava
Country Manager/Director: Andrew N. Vorkink	Sector Manager/Director: Kevin M. Cleaver
Project ID: P066065	Sector(s): VY - Other Environment
Lending Instrument: GEF Grant	Theme(s): ENVIRONMENT, AGRICULTURE
Focal Area: Pollution Control / Waste Management	Poverty Targeted Intervention: N
Project Financing Data : GEF Grant	
<u>For Loans/Credits/Others:</u>	
Total Project Cost (US\$m): 12.78	Cofinancing: To be determined
Total GEF Financing (US\$m): 5.50	
Borrower/Recipient: GOVERNMENT OF ROMANIA	
Responsible agency: MINISTRY OF WATERS, FORESTS AND ENVIRONMENT PROTECTION	
Project Implementation Period: 5 years	

A. Project Development Objective

1. Project development objective: (see Annex 1)

1. *Project Development Objective:* The overall project development objective is to increase significantly the use of environment-friendly agricultural practices in the project area and thereby reduce pollution from agricultural sources in Romania to the Danube River and Black Sea. In support of this objective, the project will assist the Government of Romania to: (i) promote the adoption of environment-friendly agricultural practices by farmers' associations, family farms and individual farmers in seven comunas of the Calarasi Judet (county); (ii) promote ecologically sustainable land use in the Boianu-Sticleanu Polder including a conservation management plan for the Iezer Calarasi water body; (iii) strengthen national policy and local regulatory capacity; and (iv) promote regional level collaboration. The project, envisaged as a pilot activity in the Calarasi county in the southern part of Romania, along the lower Danube, will be replicated in similar sites in Romania which will, in the long term, reduce the discharge of nutrients and other agricultural pollutants and yield substantial benefits in terms of improved quality of Romanian surface and ground waters and the Black Sea.

Project Global Environmental Objectives: The global environmental objective of the Project is to reduce, over the long-term, the discharge of nutrients (nitrogen and phosphorous) and other agricultural pollutants into the Danube River and Black Sea through integrated management of the Calarasi region, by combining better on-farm environmental management and ecological rehabilitation of an agricultural polder. These activities are directly linked to "Strategic Action Plan for the Protection and Rehabilitation of the Black Sea" (BSSAP), formulated with the assistance of the Global Environment Facility (GEF). BSSAP has identified non-point sources of agricultural pollution as the most serious problem facing the Black Sea. By improving agricultural practices, through relatively low cost investments, changes in consumer practices and by restoring a high priority former floodplain area, the Project would also complement the Danube River Pollution Reduction Program and assist the Government in meeting its international obligations under the Bucharest Convention -- Convention for the Protection of Black Sea from Pollution, signed in April 1992 by all six coastal countries and enforced regionally in April 1994. In addition, the Odessa Ministerial Declaration on the Protection of the Black Sea was signed in 1993 by Ministers of Environment from all six Black Sea coastal countries to adopt a series of actions which would collectively support the rehabilitation and protection of the Black Sea. The Danube River Protection Convention was signed in 1994 and came into force in December 1998. The International Commission for the Protection of Danube River (ICPDR) is responsible for its implementation as well as moving towards meeting the European Union Directives: 91/676/CEE – Directive regarding water protection against pollution with nutrients originating from agriculture; and 96/61/CEE – Directive related to the prevention and the complete reduction of pollution. Also, through proposed project activities of tree planting and ecologically sustainable land use in the polder, carbon sequestration will occur. The improved farming practices envisaged by the project will result in a decrease in methane emissions from farmyard manure.

2. Key performance indicators: (see Annex 1)

B. Strategic Context

1. Sector-related Country Assistance Strategy (CAS) goal supported by the project: (see Annex 1)

Document number: 16559 RO

Date of latest CAS discussion : 05/09/97

Protecting and enhancing the environment is one of the four main development challenges identified in Romania Country Assistance Strategy (CAS). Towards this, the Bank will (i) continue its joint work alongside the EU and other partners to help the Romanian counterparts implement the National Environment Action Plan (NEAP) through institutional strengthening of the Ministry of Waters, Forests and Environmental Protection, further research work and development of regulations to facilitate the EU accession process; (ii) ensure that environmental issues are fully addressed in the Bank's work in other sectors such as private sector development, energy and agriculture; and (iii) support selected investments, including GEF operations.

In support of this development challenge, the project will (i) promote environment-friendly agricultural practices; (ii) promote ecologically sustainable land use in a high priority floodplain area; (iii) assist with relevant legal and regulatory framework; and (iv) raise public awareness. The Project is also in line with the initiatives launched in support of the agricultural sector, which was deemed a priority on the grounds that it offered good prospects for generating a supply response and increasing private sector involvement. The proposed Project builds on the measures to be implemented under the Agricultural Support Services Project (ASSP) to promote environmentally benign practices for the storage, management and application of manure, buffer strips, crop rotation, to reduce over the long-term the discharge of nutrient load into the Romanian ground and surface waters as well as the Black Sea.

1a. Global Operational strategy/Program objective addressed by the project:

GEF Operational Strategy/Program Objective Addressed by the Project: The Project will implement priority actions identified in the Black Sea Strategic Action Plan, Danube River Strategic Action Plan and Danube River Basin Pollution Reduction Program supported by GEF. The Project's objective of reducing non-point source 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 transboundary threats to their ecosystems." 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 transboundary environmental concerns". The Project's holistic approach on combining good agricultural practices with ecologically sustainable land use management of a high priority former floodplain area, identified under the Danube River Pollution Reduction Program, is consistent with the GEF Operational Program Number 9, *Integrated Land and Water Multiple Focal Area Operational Program*, which supports "more comprehensive approaches for restoring and protecting the international waters environment." Projects under this Operational Program address the "types of measures needed to ensure that the ecological carrying capacity of the water body is not exceeded" and the proposed project is commensurate with this.

The Project will provide an opportunity for the GEF to be a catalyst for actions to bring about the successful integration of improved land and water resource management practices. GEF support will reduce costs and barriers to farmers adopting improved and sustainable agricultural practices. It will help develop mechanisms to move from demonstration level activities to operational projects that reduce non-point source agricultural pollution to the Danube River and Black Sea. The Project builds on the Rural Environmental Protection Project in Poland and the Agricultural Research, Extension and Training (ARET) Project in Georgia and is expected to serve as a model for similar operations to be launched in the other littoral countries for which a strategic partnership between the GEF and the Bank is envisaged. The World Bank is preparing a Black Sea/Danube River Strategic Partnership (BSDRSP) for review by the GEF Council in the Spring of 2000. Under the Partnership, riparian countries would be eligible for GEF funding for projects that would control or mitigate nutrient inflow to the Black Sea in one or more of the following ways: (i) restore or create wetlands that would reduce nutrient discharge; (ii) reform or improve

agricultural and land use management practices to reduce nutrient load and/or diffuse discharges through run-off; and (iii) treat wastewater from small communities and industries. The proposed project would serve as a model for future projects under this Partnership Program.

2. Main sector issues and Government strategy:

Main Sector Issues: The Black Sea, a critical regional resource, is one of Europe's newest seas, formed a mere seven to eight thousand years ago. Despite its uniquely fragile natural physical and chemical characteristics, the Black Sea ecosystem had been relatively stable until recent times. During the past decades, however, the Black Sea suffered severe environmental damage, due mainly to coastal erosion, eutrophication, insufficiently treated sewage, introduction of exotic species, inadequate resource management, loss of habitat, all of which led to a decline of its biological diversity and long-term ecological changes. There is general agreement that eutrophication, caused by an increase in nutrient flux down the major rivers, particularly in the late 1960s when fertilizer and chemical use increased markedly as a result of the "Green Revolution", is the most serious problem facing Danube River and the Black Sea over the medium-to long term. The effect of eutrophication on the northwestern shelf of the Black Sea is generally recognized as disastrous and is primarily related to nutrient loads carried by Danube River.

Nutrient flow from the Danube River: Black Sea Environmental Program (BSEP) Studies revealed that 58 % of the total nitrogen and 66 % of the total phosphorous flowing in dissolved form into the Black Sea come from the Danube basin. More than half of all nutrient loads into Danube River originate from agriculture, about one fourth from private households and about 10 – 13 % from industry. The most important pathways into the Danube basin for phosphorous are direct discharges (33% of the total flow, predominantly from agriculture), erosion/runoff (31 %, mainly agriculture) and sewage treatment plant effluents (30%). Nitrogen loads come from: direct discharges (35 %), erosion/runoff and sewage treatment plant effluents in more or less equal shares, again agriculture being the source for more than half the total nitrogen run-offs in many countries.

The Trans-boundary Diagnostic Analysis carried out on the basis of a pollution source inventory for the BSEP reveals that Romania plays a particularly significant role in the discharge of nutrients into the Black Sea, accounting for about 27% of the total discharge. The other river basin countries (Bulgaria, Ukraine, Georgia, Russia and Turkey) together account for another 43% and the non-coastal countries (Austria, Belarus, Bosnia-Herzegovina, Croatia, Czech Republic, Germany, former Yugoslavia, Hungary, Moldova, Slovakia and Slovenia) for the remaining 30%.

Nutrient flow from Romania: Romania is the biggest contributor of nutrients to the Black Sea as its entire territory drains into the Black Sea. Total nutrient emissions in surface water in 1994 were about 284 – 306 kilo tons nitrogen/year and 39 – 40 kilo tons phosphorous/year. About 44 % of the total nitrogen input stems from agriculture, while municipal waste water accounts for 11 – 12 % and industry for 9 – 10 %. In the case of phosphorous, the role of agriculture is even greater, accounting for about 58 % of total emissions, followed by industry with 20.6 % and municipal waste water with 11.4 %. Groundwater pollution with nitrogen and phosphorous from agriculture has a major social significance from the point of view of drinking water supply for rural settlements in Romania.

Between 1996-1999, forty-five cases of acute nitrate poisoning were reported in the proposed project area (Calarasi Judet). In 1997, a number of infants were diagnosed and hospitalized with

acute nitrates poisoning.¹ In fact, all cases of acute nitrate poisoning in 1997 in Romania were in the Calarasi Judet. Between 1996 and 1999, 59 samples from public wells and microcentrales in Calarasi were analyzed for quality. Of this, 45 samples (76.2%) exceeded bacteriological standards and 47 samples (79%) exceeded acceptable levels of chemical content. Twenty samples (39.9%) of the 45 samples that did not meet the maximum admitted number of bacteria, exceeded acceptable levels for *Streptococcus Fecalis* and 29 samples for *Fecalis Coliforms*. Also, low levels of sanitation and lack of hygiene are increasing transmission of enteric germs, leading to a large number of diseases including Acute Diarrheic Disease (ADD).²

Following the political and social upheaval caused by the transition to a market economy, and the accompanying economic decline in the region, riparian countries have reduced the overall discharge of nutrients into the Danube River and the Black Sea. Nevertheless, the overall discharge of nutrients is still higher than what it was in the 1960s. Largely because of this, and also because of the success of nutrient load reduction programs, particularly, in the upper Danube countries, there has been partial recovery of coastal ecosystems. The economic downturn in the coastal countries is temporary, and offers a window of opportunity for actions aimed at improving the marine ecosystems and avoiding the return to the previous situation of chronic eutrophication.

Government Strategy

Romania has assumed its international obligations under the Bucharest Convention, the Odessa Ministerial Declaration on the Protection of the Black Sea, Danube River Protection Convention and to move toward the European Union Directives. In addition, as a member, Romania is also committed to the overall goals of the joint Danube-Black Sea Working Party, which may be summarized thus:

The long term goal is for all Black Sea basin countries to take measures to reduce nutrient levels and hazardous substances to such levels necessary to permit the Black Sea eco-system to recover to similar conditions as those observed in the 1960s.

As an intermediate goal, urgent control measures should be taken by all countries in the Black Sea basin, in order to avoid that discharges of nitrogen and phosphorus to the Black Sea exceed those levels observed in 1997.

Government Strategy for Agriculture: On-farm environmental management is an integral part of the Government's overall strategy for the agricultural sector, which is aimed at creating an enabling environment to fully realize the sector's yet unfulfilled potential. In support of the strategy, agricultural input and output prices are being liberalized as is the trade regime. Also, about 80% of the arable land has been returned to previous owners and heirs. However, as few of the new owners have farming experience, measures are expected to be initiated shortly under the proposed Bank's Agricultural Support Services Project to strengthen the infrastructure for the agricultural research, extension and training system and make the entities delivering such services more responsive to the needs of private farmers, including access to information and cost effective agricultural technologies and practices which, while increasing productivity, promote conservation and sustainable use of the country's natural resource base.

Government Strategy for Environment: Reduction of nutrient run-off (nitrogen and phosphorous) into the Danube and Black Sea from agriculture was identified as a priority action by the National

¹ Romania Vadineanu, A et al, 1999 - *Targets concerning socio-economic restructuring emerged from the material accounting analysis at the National Scale.*

² Report prepared by Directorate of Public Health, Calarasi for the proposed project.

Environmental Action Plan, and both the Black Sea and Danube River Basin Strategic Action Plans. Wetland restoration along the Danube River was identified as one of the most effective ways to reduce nutrient loads into the Danube and Black Sea and the project's selected site, Boianu-Sticleanu agricultural polder, is listed as a high priority area both in the NEAP and in the Danube River Pollution Reduction Program. The project will build upon the experience in polder restoration during four years of implementation of the GEF-financed Danube Delta Biodiversity Project. The Ministry of Waters, Forests and Environmental Protection is in the process of harmonizing the environmental legislation with that of the EU, as a condition for accession, and the Nitrates Directive is one of the most important Directive.

3. Sector issues to be addressed by the project and strategic choices:

Sector issues to be addressed by the project and strategic choices:

The Project would extend and deepen the ongoing and proposed reforms of the sector by addressing the following key issues:

fully integrating environmental concerns into agricultural practices to make them more sustainable, including the storage, management and application of manure, domestic waste management and riparian forest buffer strips, to reduce over the long term the discharge of the nutrient load into the Romanian ground and surface waters as well as the Black Sea;

assisting the Government in meeting its international obligations under the Bucharest Convention, the Odessa Ministerial Declarations of the Protection of the Black Sea and the Danube River Protection Convention; and

moving towards compliance with the EU Directives as part of the EU-accession process.

C. Project Description Summary

1. Project components (see Annex 1):

The pilot project area comprises seven comunas in *Calarasi Judet*, a compact area of about 74,200 ha with 64,000 ha as arable land, in the southeastern part of Romania. The southern part of this area, bordering the lower Danube river, includes the Boianu-Sticleanu polder (approx. 23,000 ha), formerly a floodplain area, drained and transformed into an agricultural polder in the late sixties and now containing large areas of cultivated land, small areas of floodplain forests, degraded lands and Iezer Calarasi waterbody. Iezer Calarasi, with a surface of 3,200 ha is proposed to be declared a nature reserve, being an important corridor for bird migration, most of them listed on Bonn and Bern Conventions. Iezer Calarasi was also identified by WWF studies under the Danube Pollution Reduction Program (Project RO 67), the NEAP, and recent studies coordinated by MWFEP, as a high-priority area to be rehabilitated in the Lower Danube River Basin.

1. Project components: (See Annex 6 for a detailed cost breakdown)

The four project components would build on experiences in related existing and planned initiatives, and will support activities to be implemented over five years as follows:

Component 1: Activities in the Calarasi Judet (US\$10.69m):

- ***Promotion of Environment-friendly Agricultural Practices (US\$2.51)*** will include adoption of agricultural practices that would maintain or increase profitability from crop production while reducing non-point source pollution from agriculture. The proposed activities include:

(i) the promotion of environment-friendly agricultural practices, such as crop rotation, conservation tillage systems, riparian buffer strips and improved livestock management; and (ii) application of organic and inorganic fertilizers based on soil tests. These activities will result in reducing nutrient run-off into surface and ground-water, protecting the long-term fertility of soils by maintaining organic matter levels, fostering soil biological activity, through the use legumes and vegetables in the crop rotation schemes as well as effective recycling of organic materials, including crop residues and livestock wastes.

- **Manure Management Practices (US\$3.0m)** to include collection, storage, handling and use of animal manure at the village level. Under this sub-component, the U.K. Know How Fund will finance community training and awareness on good practices for waste collection and manure management, including its use in crop production.
- **Integrated management of Boianu-Sticleanu Polder (US\$1.47m):** The project proposes to develop and support specific land use management plan for the Boianu-Sticleanu polder. Thus the project would develop an action plan for a vulnerable area as requested under the EU Nitrate Directive. This component which will be based on the results of the baseline survey to be undertaken in the preparation phase, would include: (i) afforestation of the degraded lands adjacent to the Iezer Calarasi and of the unproductive riparian land; (ii) implementation of the code for good agricultural practices on the arable land; (iii) promotion of pastures and sustainable grazing areas; and (iv) conservation management plan for the proposed Iezer Calarasi nature reserve. The component will, therefore, complement the restoration activities on the Bulgarian side (Oriahovo, Bulgarian Danube islands and the floodplain west of Belene and Tutracan).
- **Water and Soil Quality Monitoring (US\$0.45m):** The project would strengthen the capacity of EPA and Public Health Department in Calarasi to carry out water and soil quality monitoring. The project would support the incremental costs of: (a) selecting and maintaining a set of water and soil quality monitoring sites in the project area; (b) upgrading the equipment for monitoring of water and soil quality; and (c) incremental operating expenses for monitoring activities. The two local agencies will be responsible for monitoring the water and soil quality at selected sites, as well as the long-term environmental benefits from reduced discharges of nutrients to surface and groundwater.
- **Public Awareness and Replication in Calarasi Judet (US\$0.23m):** The project will support the promotion of public awareness activities to achieve replicability of this component in Calarasi Judet. The public awareness activities will be undertaken in the seven pilot comunas and will be delivered through cost effective, traditional and innovative vehicles which should lead to awareness of the sense of urgency among the population to test the solutions provided under component 1 of the project. Co-ordination on timing of message delivery and availability of resources to implement suggested improvements will be essential. Co-operation with local authorities and other local leaders in the communities would also be essential for an effective campaign, to reach the majority of the population in the comunas concerned. Farmers and other stakeholders will be presented the benefits of the activities in order to consolidate the new behaviour patterns.
- **Wastewater Treatment at Olenita (US\$3.03m):** EU is favorably considering support through PHARE 2000 Regional, the MWFEP request for a wastewater treatment plant in Olenita, located upstream from Calarasi at an approximate cost of 3.07 million euro. There is also a possibility that under PHARE 2001, EU will support a wastewater treatment plan in Calarasi town at an estimated value of 15 million euro. These water treatment plants will help reduce

pollution to the Danube River from Calarasi county, thus furthering the objectives of the proposed project.

- The component includes a “needs assessment” activity under a parallel-financed U. K. Know How Fund to determine main constraints and priorities of raising profitability of farming at village and individual farm levels. Such financing will also provide technical assistance to extension agents in organic farming, vegetable growing, and livestock production, especially to female farmers.

Component 2: National Level Activities (US\$1.18m)

Strengthening National Policy and Regulatory Capacity (US\$0.98m): which would include support to the Ministry of Water, Forests and Environmental Protection (MWFEP) and Ministry of Agriculture and Food (MAF) for: (i) harmonizing relevant legislation with the requirements of the European Union, specifically the Nitrate Directive; (ii) developing the Strategy for Nutrient Reduction as part of the good practices for environment protection in agriculture which is currently being prepared by MAF; (iii) strengthening the capacity of the proposed National Agency for Ecological Agriculture in its efforts to promote scientific organic farming and land use management. The project will also support the MWFEP and MAF to develop and implement a Code for Good Agricultural practices in Calarasi.

Public Awareness Activities and Replication Strategy (US\$0.20m): A broad, nationwide public information campaign will be undertaken to disseminate the benefits of proposed project activities. Information will be delivered (as a public service) through the public broadcasting institutions, including a regular supply of information to the mass-media on the progress of the project. This approach will build a general good-will for the project and its benefits, and will raise the interest of potential future clients.

Component 3: Regional collaboration (US\$0.15m): The project would provide for the organization of regional workshops, field trips, training and other activities to promote replication of project activities in other Black Sea riparian countries. The pilot activity will aim to serve as a model to be replicated in countries such as Bulgaria, Ukraine, Moldova, which will help contribute to significant reductions in the nutrient loads entering the Danube River and Black Sea.

Component 4: Project Management Unit (US\$0.75m). The project would support a Project Management Unit (PMU) to be established in the DGA offices, Calarasi. The PMU would comprise Project Manager, Procurement Specialist, Project Financial Management Specialist and Project Administrative Assistant. The PMU would co-ordinate project implementation by the different implementing agencies and would be responsible for all procurement, financial management and monitoring/evaluation matters.

Component	Activity	Indicative Costs (US\$M)	% of Total	GEF financing (US\$M)	% of GEF-financing
Calarasi	Promotion of environment-friendly agricultural practices	2.51	19.6	1.05	41.7
	Manure management practices	3.00	23.5	1.62	53.9
	Integrated management of the Boianu-Sticleanu Polder	1.47	11.5	1.04	70.5
	Water and Soil Quality Monitoring	0.45	3.5	0.20	45.3
	Public Awareness activities and Replication	0.23	1.8	0.20	86.1
	Wastewater Treatment Plant	3.03	23.7	0.00	0.0
National	National Policy Framework	0.98	7.6	0.38	38.8
	National public awareness activities and Replication	0.20	1.6	0.20	100.0
Regional	Regional Cooperation	0.15	1.2	0.10	67.7
Project Management Unit (PMU)		0.75	5.9	0.71	94.7
Total Project Costs		12.78	100.00	5.50	43.1

2. Key policy and institutional reforms to be sought:

Key Policy reforms to be sought:

Given the land ownership in the polder will not be resolved in the next six months, the preparation mission raised the issue of how to ensure that the new owners/lessees will follow the code of conduct that is agreed in the land management plan. Both MWFEP and MAF representatives gave assurances that, within the context of Romanian legislation, the people responsible for farming in the polder would be obliged to follow the guidelines of the land management plan. The preparation mission advised that the Bank would require the government to ensure the leasing agreements contain provisions for lessees to follow the guidelines and mechanisms would be established for enforcement. Both the ministries assured the mission of jointly signing a side-letter reflecting this agreement.

With respect to the introduction of agro-forestry, windbreaks and buffer strips in the project area, the mission sought assurance from the MWFEP and MAF that the current tax on change of land use from agricultural land to forest land would not be applied. Both Ministers made reference to the Land Law 18/1991, article 2, paragraph (a), according to which, the lands covered by forestry

vegetation which are not included in existent forest management plans represent agricultural lands, so for degraded lands where agro-forestry is going to be practiced, the land will belong in the same land-use category and no tax will be applied, provided that they will not be a part of the forestry planning and will be administered by the comunas, farmers' associations and not by the Territorial Forestry Units.

This project will support the MWFEP and MAF to develop and implement a Code for Good Agricultural practices in Calarasi, which will include the implementation of land use management plan.

Institutional Reform to be sought:

The project would pilot the establishment of intersectoral cooperation between MWFEP and MAF in the implementation of the project. The institutional arrangements agreed between MWFEP, MAF and the Ministry of Finance during project preparation, which would include setting up of the Project Preparation Unit in Calarasi, would establish the necessary collaborative requirements for implementation. The project would also strengthen national policy and regulatory capacity of the country for meeting its international obligations under the Bucharest Convention, Odessa Ministerial Declaration on the Protection of the Black Sea, and Danube River Protection Convention as well as assist Romania in implementing the EU Directives as part of the EU accession process. Further the project would contribute to the on-going decentralization process and help Romania build local institutional capacity to absorb EU accession and structural funds

3. Benefits and target population:

The proposed project is the first instance where the Government of Romania is mainstreaming environmental considerations in agricultural practices. The synergy of such an approach will bring about greater benefits globally, regionally and locally vis-à-vis independent, discrete agricultural and environmental projects.

Internationally: (i) through a continual reduction in the discharge of nutrients into Danube River and Black Sea and the accompanying improvements in the local and Black Sea water quality; (ii) by sequestering carbon in the grasslands and forests.

Nationally: (i) through improvements in quality of the ground and surface waters; (ii) better maintenance of productive ecosystems and critical natural habitats in the freshwater, estuarine and near shore waters along the Black Sea coast; and (iii) progress towards compliance with EC Directives; and (iv) increased productivity through improved agricultural practices.

Locally: (i) at the farm level, resulting from the use of manure as fertilizer and earning additional incomes from the improved quality of farming; (ii) improvement in health and sanitation as there will be an improvement in the drinking water and general hygiene of the villages; and (iii) biodiversity protection, through the development and implementation of a conservation management plan for a priority wetland that represents a nesting site for many endangered species.

The private farmers are the primary beneficiaries of the Project.

4. Institutional and implementation arrangements:

Project Oversight Committee: A Project Steering Committee will replace the current Inter-

Ministerial Working Group. The Steering Committee will be established by the two Ministers, MWFEP & MAF, and will consist of seven members, one representative from each Ministry (MWFEP, MAF and MOF) and four to be nominated by MWFEP and MAF. In order to strengthen the linkages with other projects supported by World Bank, the Chairman of the Competitive Grant Scheme Board of the Agricultural Support Service Project would be one of the members of the Steering Committee. The committee will be responsible for providing project oversight, advice and assistance in resolving issues associated with project implementation. The Ministers of MWFEP and MAF will co-chair the Steering Committee. MWFEP has been designated by the Ministry of Finance as the line Ministry with overall responsibility of project implementation.

Project Management Unit (PMU): MWFEP would establish a Project Management Unit (PMU), located at DGA–Calarasi to handle procurement, all financial matters relating to disbursements, maintenance of project accounts and financial monitoring, the monitoring and evaluation of all project activities. The PMU would co-ordinate the implementation of activities by the different local and national agencies, including the field agencies of MAF and MWFEP. The PMU, which would comprise Project Manager, Procurement Specialist, Project Financial Management Specialist and Project Administrative Assistant, will initially be established as a Project Preparation Unit. The Project Manager would report to the Minister, MWFEP.

The implementation arrangements are summarized in Organization charts for (a) project preparation and (b) project implementation in Annexes 7 and 8 respectively.

Financial Management A Financial Management System approved by GOR and the World Bank will be procured as part of establishing the Project Preparation Unit and will be used throughout the project. The system would be developed to cover the operating procedures, audits and reporting requirements of the GOR, World Bank and other international donors. Prior to negotiations, the Bank's Financial Management Specialist will issue the Financial Management Certificate (Annex 4 of the Bank's Financial Management Manual available at the World Bank Resident Mission, Bucharest) together with an action plan agreed with the Borrower.

Project Monitoring and Evaluation – Project monitoring and evaluation would be the responsibility of the PMU. Monitoring will be based on the baseline survey undertaken during preparation phase of the project. Extensive data by comunas and villages have been collected and the Public Health Department and the EPA-Calarasi have provided baseline data for soil and water quality levels. During project preparation, the Project Preparation Unit will also develop a project monitoring and evaluation plan with performance indicators using Annex 1 as the basis. The PMU would annually monitor and evaluate project performance through conducting beneficiary surveys.

D. Project Rationale

1. Project alternatives considered and reasons for rejection:

Alternatives considered were: (i) limit project activities to manure management in most problematic areas along the Danube River; (ii) reduce nutrient run-off by promoting environmentally-friendly farming practices in the main agricultural areas of Romania; (iii) work primarily on wetland restoration along the lower Danube river; and (iv) link proposed project to the Agricultural Support Services Project under preparation.

With regard to (i) it was concluded that simply targeting manure management would be inadequate and ineffective in realizing the project objectives. Manure management should be part of a more comprehensive package that involves a variety of measures to control nutrient run-off

to the Black Sea. Thus, to make a larger impact, the project has included other activities in addition to the storage, application and disposal of manure, including, *inter alia*, crop rotation, conservation tillage systems, riparian buffer strips, soil testing, application of fertilizers, monitoring of water quality.

Options (ii) and (iii) were rejected in favor of a more comprehensive approach that would involve a combination of environment-friendly agricultural practices as well as wetland management in one compact, high priority area along the Danube river. Thus, the project preparation team selected Calarasi region, in the southern part of Romania, along the lower Danube which would include the Boianu-Sticleanu polder for the following reasons: (i) poor agricultural practices, including inappropriate management, storage and application of mineral fertilizers, pesticides, manure and domestic waste; (ii) lack of septic tanks in most of the rural settlements; (iii) soil erosion resulting from unsustainable land use; (iv) destruction of the former floodplain areas; and (v) lack of waste water treatment plants for both small human settlements and intensive animal production. Groundwater pollution with nitrogen and phosphorous from agricultural practices in this region is high. In 1997, a general pollution of groundwater with nitrites, nitrates and phosphates was observed in more than 30 % of investigated wells. This had strong ramifications on human health with 15 infants diagnosed and hospitalized in 1997 with acute intoxication with nitrites. In some villages in the region, the Ministry of Health still maintains the interdiction for children under 3 years old to drink water from the wells. The Boianu–Sticleanu polder was chosen as this formerly reclaimed floodplain, if rehabilitated, could serve as a biological filtration mechanism that could result in significant nutrient load reductions to the Black Sea.

As regards (iv), initially it was decided to tie the proposed project to the ASSP that was under preparation at the time. The proposed project would ensure that the research, extension and training undertaken under ASSP would promote the adoption of environment-friendly agricultural practices among new farmers. However, this approach was rejected and it was decided to make the proposed project self-standing. This would allow the project to have a more focused approach in one selected area than ambitiously target the entire country. It would serve as a pilot activity, a model that could be replicated in other similar sites of Romania. Wherever possible, the proposed project will work together with ASSP.

2. Major related projects financed by the Bank and/or other development agencies (completed, ongoing and planned).

Sector Issue	Project	Latest Supervision (PSR) Ratings (Bank-financed projects only)
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Sector Issue	Project	Latest Supervision (PSR) Ratings (Bank-financed projects only)	
		Implementation Progress (IP)	Development Objective (DO)
Bank-financed: Environmentally Sustainable Agricultural Practices, Protection of the Black Sea/Biodiversity	<u>Romania:</u> Agricultural Support Services Project (ASSP) Biodiversity Conservation Management Project Cultural Heritage Project <u>Bulgaria:</u> Wetlands Restoration Project <u>Georgia:</u> Agricultural Research, Extension and Training (ARET) Project Municipal Infrastructure Rehabilitation—MIRP National Environment Action Plan (IDF/Bank) Forestry Biodiversity Project	S S	S S
Other development agencies USAID	Black Sea-Danube Project (Hungary, Slovakia and Romania)		

IP/DO Ratings: HS (Highly Satisfactory), S (Satisfactory), U (Unsatisfactory), HU (Highly Unsatisfactory)

3. Lessons learned and reflected in proposed project design:

Key lessons learned from rural environmental and agricultural operations in the regions and reflected in the Proposed Project include:

the early involvement of key stakeholders in project preparation, specifically including local communities and influential decision makers, is essential in order to ensure ownership and successful project implementation;

working directly with the beneficiaries is essential for developing ownership, which is a precondition for the sustainability of an operation.

environment-friendly agricultural activities should establish a link between the objectives of environmental protection and tangible benefits for key stakeholders, specifically including local communities;

the benefits and objectives of the project should be made known to key stakeholders, if not through active participation, then through effective public awareness and outreach programs;

where consumptive use of natural resources is an issue, (e.g., grazing, hunting, fishing, and use of agricultural land), resource users must be substantively involved in the design of

sustainable resource management systems, and effective monitoring and control mechanisms need to be developed and applied;

decentralized responsibility for financial and project management (e.g., as in the Romania Danube Delta Biodiversity Project) builds local ownership and sustainability of project activities;

applied research and monitoring programs should be site-specific and targeted to provide direct support for effective conservation management;

substantial capacity exists at the local and national levels, but counterpart training and specialized support for project related activities such as procurement, disbursement, supervision, financial management, etc., is a must; and

dissemination of information about the benefits of improved environmental management is critical to the widespread adoption of new technologies and practices.

The project will incorporate these experiences and build on them specifically by: i) addressing the links between socio-economic issues and environment-friendly agricultural practices, (ii) building both the local and national capacity for reduction of nutrient loads into the groundwater and surface water including the Black Sea; and (iii) ensuring a participatory and transparent approach to project preparation and implementation.

4. Indications of borrower and recipient commitment and ownership:

The Ministry of Waters, Forests and Environmental Protection (MWFEP) and the Ministry of Agriculture and Food (MAF) have requested the World Bank assistance – both technical and financial – in their efforts to promote the adoption of environment-friendly agricultural practices by farmers in Romania and to restore part of the former floodplain areas along the lower Danube River that will reduce further deterioration of the waters of the Black Sea. The Government, through a letter signed jointly by the Ministers of Agriculture and Food and of Waters, Forests and Environmental Protection, has requested GEF assistance for the Project. This is the first instance when the Ministries of Waters, Forests and Environmental Protection as well as Agriculture and Food have come together to jointly support project preparation and cooperate to jointly implement the project. The project preparation team has received full support from both ministries in project preparation.

In view of the importance of these issues an Inter-ministerial Working Group³ was established on July, 8, 1999 under the leadership of MWFEP and MAF to (i) identify geographical distribution of priority non-point sources of agricultural pollution and the underlying economic and social causes for these practices; (ii) establish criteria for selecting among the priority regions and possible activities, areas and interventions that would address national and regional needs most strategically and effectively; (iii) propose possible activities to reduce nutrients discharge from agriculture in the selected region; and (iv) agree on institutional arrangements for project implementation. The composition of the inter-ministerial working group is in Attachment 1, and the criteria for selection of possible project areas and activities is in Attachment 2. The project preparation team found excellent commitment and support for the project from the Ministry of Waters, Forests and Environmental Protection, Ministry of Agriculture and Food, and Ministry of Finance. As the project moves towards final preparation and implementation, a Project Steering Committee will replace the Inter-ministerial Working Group.

5. Value added of Bank and Global support in this project:

The principal value added of GEF support for the Project comes from providing additional funds to address transboundary water issues. Also, GEF funds will help reduce the barriers to farmers adopting environment-friendly agricultural practices and allow the Government to consider scaling-up the program. Without GEF support to coordinate these activities, Romania might undertake a series of small activities in different parts of the country to address the issues. It would lack a mechanism to coordinate the financing, approaches and geographical targeting of activities. In addition, the Project would lack sufficient resources to develop capacity national and local capacity to promote and accelerate the program, to demonstrate the holistic approach to controlling nutrient loads and to undertake a public outreach program. The GEF is thus leveraging funds from donors and stimulating a program to coordinate activities, increase coverage and generate a larger impact. In this regard, the EU, British Know How Fund, France, and USAID have indicated their interest in directly assisting project preparation and/or supporting the project through parallel investment activities.

The GEF has already added value by supporting the Poland – Rural Environmental Project and the Georgia – Agricultural Research, Extension and Training (ARET) Project, in addition to the Black Sea Environmental Program, Danube River Basin Environment Program and Danube Pollution Reduction Program. Given their international scope, the GEF and the Bank can provide funds to cover the incremental costs of replicating such activities within Romania and in other countries in the Region. This is particularly important, as agricultural pollution and conversion of the former floodplain areas into agricultural polders are major local and transboundary problems in most countries in the ECA region, particularly those in the Black Sea, Danube River and Baltic Sea drainage basins. Some level of financial support from the public sector and the international community will continue to be necessary, particularly in lower income countries, because these activities address externalities, affect transboundary pollution and involve an element of public good.

³ Inter-ministerial Working Group is composed of representatives of MWFEP, MAF, ISPIF, ICPA, ICIM, ICAS, NFA and University of Bucharest

E. Issues Requiring Special Attention

1. Economic

None

Economic evaluation methodology:
Incremental Cost

Under preparation

2. Financial

Summarize issues below

The total government financing during the project implementation period is estimated at US\$2.1 million. This is approximately 1% of the combined annual budgets of MAF and MWFEP. Since this contribution is spread over a five-year period, the annual strain on the government's resources and thus the fiscal impact should be minimal.

Financial implications of the farm environmental improvements will be reviewed during project implementation. Experience in other countries indicates that improved manure storage, conservation tillage, crop rotations, and other similar practices, can generate positive financial rates of return for the farmer from his or her share of investment. Financial rates of return to be done during project preparation.

3. Technical

Summarize issues below

The project is technically justified on the basis of the urgent need to address growing threats to the ground water quality in the Calarasi region of Romania as well as the Black Sea and the absence of effective pollution control measures. The project seeks to mainstream environmental considerations in agricultural practices, a comprehensive strategy that will have a far greater impact in improving water and soil quality along the lower Danube and reducing nutrient loads entering the Black Sea. This will have the added benefit of improving health and sanitation conditions in the villages in the Calarasi region and parts of southeast Romania.

The project will establish a functioning model of best practice to reduce nutrient from agricultural practices and build national capacity to replicate this practice in other parts of Romania. Skills will be acquired from international experience through a combination of study tours, workshops, networking, training, establishing linkages among various relevant institutions. Technical issues include buffer strip identification and species to be planted, contour ploughing, crop rotations, fertilizer application, crop marketing and organic farming. These will be identified during the project preparation phase. A land use suitability map for the Boianu-Sticleanu Polder will be developed during project preparation identifying, interalia, lands to be planted with trees, the land suitable for retaining under arable farming and lands to be returned to seasonal grazing. An integrated management plan for the polder would be developed and supported during the project. Wherever possible, the project will cooperate with the extension staff of the Agricultural Support Services Project. The project will also aim to strengthen the legislative and regulatory framework to promote project activities and a public awareness program will be developed to disseminate the benefits of environmentally sustainable agricultural practices.

4. Institutional

Summarize issues below

A Project Steering Committee will replace the current Inter-Ministerial Working Group. The Steering Committee will be established by the two Ministers, MWFEP & MAF, and will consist of seven members, one representative from each Ministry (MWFEP, MAF and MOF) and four to be nominated by MWFEP and MAF. In order to strengthen the linkages with other projects supported by the Bank, the Chairman of the Competitive Grant Scheme Board of the Agricultural Support Service Project (ASSP) will be one of the members of the Steering Committee. The committee will be responsible for providing project oversight advice and assistance in resolving issues associated with project implementation. The Ministers of MWFEP and MAF will co-chair the Steering Committee.

MWFEP has been designated by the Ministry of Finance as the line Ministry with overall responsibility of project implementation. MWFEP would establish a Project Management Unit (PMU), located at DGA–Calarasi to handle procurement, all financial matters relating to disbursements, maintenance of project accounts and financial monitoring, the monitoring and evaluation of all project activities, as well as co-ordination of implementation activities by the different local and national agencies, including the field agencies of MAF and MWFEP. The PMU will initially be established as a Project Preparation Unit.

5. Social

Summarize issues below

A baseline survey at the communa and village level has been conducted and is available. A more detailed questionnaire has been developed which will be completed during project preparation. Subsequently, such a survey will be undertaken annually to monitor progress of the project.

The project site has 21 villages grouped in seven communes with a population of 25,700. The average village population is 1,200 and there are just over 2.1 people per household – mainly elderly. There are nearly 90 farming associations, out of which 59 are family associations, that supply some inputs to their members. However, the bulk of farmers do not have access to such services and farm work is carried out manually or with the help of a horse. Four state farms still remain and these have some equipment. However, due to insufficient funds they cannot purchase the necessary fertilizers, fuel and spares and are therefore currently working below capacity.

The land is divided into farms, fields and plots; the farm and plot numbers change every year and farm residences are outside of fields, usually within villages. These are the areas for residing, storing food for human consumption as well as animal feed, and for stabling animals – poultry, pigs, cattle, sheep, horses. The area is characterized by a high concentration of animals within rural areas, very little knowledge of the practices for efficient storage, management and application of fertilizers and a very high concentration of domestic waste disposed near the watercourses. In 1997, a general pollution of groundwater with nitrites, nitrates and phosphates was observed in more than 30 % of investigated wells. This had a strong impact on human health with 15 infants (under 6 months) diagnosed and hospitalized in 1997 with acute intoxication with nitrites. At the national level, Governmental restructuring and reduction of subsidies are influencing socio-economic conditions to a large degree, including real wage declines and unemployment. At the level of the project demonstration site, key rural development issues are unsustainable use of resources, unemployment, lack of knowledge and lack of access to credit to support environment-friendly agricultural practices. Poor economic conditions and their

implications for social welfare result in a lack of interest in environmental protection on the part of stakeholders. The project will support economic opportunities for key stakeholders that are linked to the objectives of the project.

6. Environmental

a. Environmental Issues:

Summarize issues below (distinguish between major issues and less important ones)

Major: None

The major environmental issue is decreasing the amount of nutrients leaching into the groundwater or flowing directly into the river systems and then into the Black Sea. The thrust of this project is to decrease this flow through polder restoration, appropriate manure and solid waste management and improved agricultural practices. The project cannot be successful without the full co-operation of the farmers. Therefore, it has been designed and will be implemented in a participatory manner so as to have the maximum environmental (and financial) impact on the area. Hence, no major adverse environmental impacts are envisaged.

As part of component 1, the project will construct and install manure storage tanks. The environmental concerns under this component may include leakage of the manure (if construction is not according to specifications), inappropriate manure spreading and inadequate cleaning of the manure storage tanks. To mitigate these environmental issues, the project will undertake environmental assessments during preparation. Also, an environmental management plan will be developed to ensure that activities undertaken under this component will be closely monitored with regular inspections by the local environmental agency(ies). Farmers will be advised on measures to address any adverse environmental impacts arising out of inappropriate manure management.

All civil works that the project will support will be subject to review and approval by the local environmental authorities.

Other:

Environmental Category: B

7. Participatory Approach

a. Primary beneficiaries and other affected groups:

In meetings with the preparation mission, stakeholders from the sevencommunas expressed their full support for the project objectives and gave first priority to the introduction of waste management systems at the village level. In addition, they were particularly interested in the planting of wind breaks, in establishing buffer strips in degraded areas along water courses, as well as in promoting better use of the livestock grazing areas. The mission found that there was good awareness of the needs for developing more sustainable agriculture in the area.

b. Other key stakeholders:

Participation in project pre-identification The components of the proposed project were identified as top priorities in both national and regional action plans and strategies which were prepared in a participatory manner involving all institutions concerned with environment and agriculture. Reduction of nutrient run-off in the Danube and Black Sea from agriculture was identified as a priority action by the National Environmental Action Plan, the Strategy for

Environmental Protection in Agriculture and both the Black Sea and Danube River Basin Strategic Action Plans. Wetland restoration along the Danube River was identified as one of the most effective ways to reduce nutrient loads into the Danube and Black Sea and the selected site, Calarasi polder, is listed as high priority area both in the NEAP and in the Danube River Pollution Reduction Program. In addition, the Inter-Ministerial Working Group, composed of key national institutions concerned with mainstreaming environment into agriculture, identified the proposed components as ones that would be most effective in addressing nutrient pollution of the Danube and Black Sea. The Advanced Project Concept document was finalized in collaboration with Government counterparts and various research institutions that are continuing to actively pursue options for co-financing and establishing links between the proposed project and related national and international initiatives.

Participation in project identification and preparation Structured meetings will be organized in the next stage by a trained facilitator to solicit the views of all relevant stakeholders on the rationale and design of the Project based on experiences gained in the pre-appraisal of the GEF Biodiversity Conservation Management Project and development of the vision for reform of the forestry sector

c. Describe issue(s) involved not already discussed above:

Given that the land ownership in the Polder will not be resolved in the next six months, the preparation mission raised the issue of how to ensure that the new owners/lessees will follow the code of conduct that is agreed in the land management plan. The mission received assurances from the Ministers, MWFEP and MAF, that, within the context of Romanian legislation, whomsoever is responsible for the farming in the Polder would be obliged to follow the guidelines of the environmental land management plan. The mission agreed to proceed with the project preparation on this basis. However, the mission advised the Government that the Bank would require that the leasing agreements contain provisions for lessees to follow the environmental guidelines and an enforcement mechanism should be established. The mission was assured that the MAF and MWFEP will jointly sign a side-letter reflecting this agreement.

F. Sustainability and Risks

1. Sustainability:

Institutional sustainability

The local government agencies and the communa councils led by elected Mayors, are in full support of the project. The project preparation team will work closely with the extension service, which has only been recently established and supported through the World Bank Agricultural Support Services Project (ASSP). The project seeks to strengthen the policy and regulatory framework and build capacity of national and local institutions, including the Ministry of Waters, Forests and Environmental Protection and the Ministry of Agriculture and Food towards project preparation and implementation. Also, the PMU will be located in the Calarasi branch of the General Directorate for Agriculture (DGA) bringing project management to the local level. Both the DGA and the Environmental Protection Agency, which have strong institutional capacity and a proven track record at the county level, will have lead responsibility for project implementation at the field level and will thus ensure sustainability of the project.

Social sustainability

Early involvement of key stakeholders in project preparation and implementation, including policy makers, farmers, NGOs, will ensure social sustainability of the project. The technology

provided will be responsive to the needs of the farmers and end-users. They will help in identifying issues and possible measures to address them. This will give the farmers and beneficiaries a sense of ownership and contribute to social sustainability. The Farmer's associations and individual farmers have pledged their support and are looking forward to working with the project staff.

The project has been designed as a pilot, small-scale project to demonstrate good environmental practices that will act as a model and demonstration for adoption in other areas. Under the EU Nitrate Directive, Romania has to identify vulnerable areas and to develop and implement a Code of Good Agricultural Practices and Action Plans for each vulnerable area. The activities to be implemented under the Project (which is seen as the first pilot project in Romania to reduce the nutrient load) could be replicated at both local and national level. This replication will be promoted by the series of on-farm trials and demonstrations in the project area, by the training programs that will be conducted, including seminars and workshops at different levels, as well as by the public awareness program, and by the involvement of NGOs and private sector in the village level activities. Furthermore, the project has been designed as a model for a regional program to reduce nutrient loads in the Danube and Black Sea. This is a priority that has been identified in both the Strategic Action Plan for the Protection and Rehabilitation of the Black Sea and the Strategic Action Plan for Pollution Reduction in the Danube River basin, supported with GEF assistance.

Financial Sustainability

The main focus of activities at the village and individual farm level is the introduction of environment-friendly agricultural practices that maintain or increase farm profitability and household revenues. Farmers will be contributing to-wards the operating expenses of the demonstrations and be involved in the planning and execution from the start. A sense of ownership with cost sharing plus attention to positive impact on profitability will ensure that farmer adoption of these practices will become self-sustaining. Practices to be tested would include conservation tillage, crop rotation, nutrient management, pesticide management and agro-forestry, among others. Thus the major thrust of activities at the local level is the development of sustainable solutions. Moreover, with regard to the Boianu-Sticleanu Polder, the proposed integrated land management plan would designate the land use suitability of the different areas and a plan for their management on a sustainable basis. Finally, the assistance for capacity building in policy and regulatory matters will enable MWFEP and MAF to establish a sound basis for management of the various agro-ecological systems in Romania.

The Government has demonstrated consistent financial commitment to implementing the ongoing GEF Danube Delta Biodiversity Project and the Biodiversity Conservation Management Project. This project is a logical extension of these initiatives. Additionally, the Government is enthusiastic about this project, because it is the first time that the MAF and MWFEP will be working together to solve pressing environmental and agricultural problems. Government recognizes that a holistic approach combining good agricultural practices, ecologically sustainable land use management of former floodplain areas and an appropriate legal framework is the most efficient way to contribute to the reduction the nutrient loads into the Danube River and Black Sea and have committed to contribute to the incremental costs of the project, and to financially support replication of this model in other areas of Romania after completion of the project. The project would also benefit the farmers by promoting cost-saving agricultural practices. In addition, the promotion of organic farming has the potential to open new markets for the local farmers.

2. Critical Risks (reflecting assumptions in the fourth column of Annex 1):

Risk	Risk Rating	Risk Minimization Measure
From Outputs to Objective		
Increased pollution of the Danube River and Black Sea and failure of national and local authorities to avert further damage.	N	National awareness public program targeted at key audience, including policy makers.
Low/inadequate commitment from national and local governments and institutes.	N	Public awareness campaign to mobilize support for improving water quality. Participatory approach in developing plans and staff training.
Implementing agencies may be unable to attract and retain qualified staff.	M	Project will provide training and career development benefits and work towards establishing loyalty to this new professional field.
Lack of fiscal resources may preclude replication of project activities in other similar sites of Romania.	M	Project benefits will demonstrate efficacy and need for replication and garner government support; Exploration of possible donors.
From Components to Outputs		
Farmers are less willing to accept improved, environment-friendly agricultural practices.	M	Careful validation of proposed environment-friendly practices and staff and farmer training; on-location advice; and advocacy of immediate and long-term benefits of project activities. Public awareness campaign to disseminate information on the benefits and results of environment-friendly agricultural practices.
New private sources of funding do not come forward.	N	Ensure donor participation in project design.
Overall Risk Rating	M	

Risk Rating - H (High Risk), S (Substantial Risk), M (Modest Risk), N(Negligible or Low Risk)

G. Project Preparation and Processing

1. Has a project preparation plan been agreed with the borrower?

Under preparation

2. Advice/consultation outside country department:

Within the Bank: ENV, ECSIN

Other development agencies: World Wildlife Fund, UNDP, PPC, Iowa State University, Chesapeake Bay Foundation

3. Composition of Task Team (see Annex 2):

Jitendra Srivastava - Task Team Leader
Doina Rachita - Projects Officer
Adriana Dinu - Consultant
Meeta Sehgal - Project Analyst
Srish Kumar - Financial and Economic Analyst
Naushad Khan - Procurement
Keith Openshaw - Consultant
Mahesh Sharma - Environment Specialist
Dana Dobrescu - Consultant
Bogdan Constantinescu – Financial Management Specialist
Sharifa Kalala - Team Assistant

4. Quality Assurance Arrangements (see Annex 2):

John Hayward, Julia Bucknall (ECSSD); Manuel Marino (ECSIN); Mahesh Sharma (GEF)

5. Management Decisions:

Issue	Action/Decision	Responsibility
PCD Review Meeting	Cleared for project preparation mission	Jitendra Srivastava, Task team Leader

Total Preparation Budget: US\$421,000 PDF-B Grant : US\$300,000

GEF Funds: US\$121,000

Cost to Date: US\$119,900

Further Review [Expected Date]

Jitendra P. Srivastava
Team Leader

Kevin M. Cleaver
Sector Manager/Director

Andrew N. Vorkink
Country Manager/Director

Annex 1: Project Design Summary

ROMANIA: AGRICULTURAL POLLUTION CONTROL PROJECT

Hierarchy of Objectives	Key Performance Indicators	Monitoring & Evaluation	Critical Assumptions
Sector-related CAS Goal:	Sector Indicators:	Sector/ country reports:	(from Goal to Bank Mission)
<p>Protection and enhancement of the environment</p> <p>Assist Romania in implementing the National Environment Action Plan (NEAP)</p> <p>Institutional strengthening of the Ministry of Water, Forests and Environment Protection</p>	<p>Improvements in water quality</p> <p>Capacity to address environmental degradation of the Black Sea.</p>	<p>Agricultural statistics</p> <p>National reports</p> <p>Periodic EU assessments</p>	<p>Stable Macro-economic framework in light of EU membership and improved agricultural practices contributing to decreased poverty</p>

GEF Operational Program			
The Project's objective of reducing non point source pollution is consistent with OP No. 8, Water body based operational Program which focuses mainly on threatened water bodies and the most important trans-boundary threats to their ecosystems. Project goals are also consistent with OP No. 9, Integrated Land and Water Multiple Focal Area	Increased awareness of threats to water bodies from trans-boundary non-point source pollutants.	Regional Surveys	Government's ability to mobilize resources to reduce threats to water bodies
The ultimate goal is to reduce the discharge of nutrients and other agricultural pollutants into the Danube River and Black Sea through integrated land and water management.	High percentage of farmers, local and national governments aware of financial and environmental impacts of adopting environment-friendly agricultural practices	Regional Surveys	Sustained effort to raise the public awareness and demand for protection and improvement to environmental factors
Global Objective:	Outcome / Impact Indicators:	Project reports:	(from Objective to Goal)
To significantly increase the prevalence of environment-friendly agricultural practices among farmers' associations, family farms and other eligible farmers in target project areas.	Increased area of adoption of environment-friendly farm practices, and manure management at village level.	Agricultural statistics	Project-developed interventions are replicated on a wide scale.
Output from each component:	Output Indicators:	Project reports:	(from Outputs to Objective)
1. Calarasi level A well documented pilot completed and evaluated for replication	high level of participation (all comunas, all villages and 65 % of individual farmers) in target areas where nutrient management plans have been developed	Quarterly reports	Technologies respond to farmer's needs.
Packages developed for manure management	high level of participation (all comunas, all villages and 65 % of individual farmers) in target areas that have built manure storage pits/tanks.	Quarterly reports	New private sources of funding might not be forthcoming after the life of the project.
Restored acreage of polders.	High level of restored polder area.	Supervision mission reports	Continued land use based on plans developed. Other

			government programs do not conflict with project goals.
Good monitoring system for water and soil quality	Better soil and water quality	Annual monitoring reports from EPA and Calarasi Department of Public Health	Farmers continue to practice unsustainable agricultural practices
Increased awareness of ways to reduce non-point source agricultural pollution.	High level of public awareness to: a) environment-friendly agricultural practices & policy on non source pollution; and b) Economic & financial impacts of adopting environmentally responsible practices.	Social assessment sample surveys	Support from local and national government continues for carrying out the components.
2. National Level			
Improved policy framework drafted for non-source pollution control	Draft policy framework for non-source pollution meets EU criteria.	Adopting the Policy framework	Continued support and enforcement of policy
Increased Awareness and demand for replication in other Judets	Awareness of farmers outside project area about the potential to improve income while protecting the environment.	Demands from other local governments for replication of project investments	Provide resources to monitor and regulate standards.
3. Regional Level:			
Increased knowledge & awareness of ways to reduce non-point source pollution among regional participants.	Awareness of farmers, NGOs, and officials of other countries of the impact of the project to the Calarasi Judet	Visits of farmers, NGOs, and officials of other countries in the region	Farmers and leaders in other countries become interested in the topic to allocate resources to replicate
4. Project Management Well managed project.	Continued support from the project steering committee	Supervision Reports	Adequate availability of necessary institutional support government agencies.
Project Components / Sub-components:	Inputs: (budget for each component)	Project reports:	(from Components to Outputs)
1. Calarasi Level US\$ 10.69 million			.
testing and demonstrating environment-friendly agricultural Practices	US\$ 2.51 million	Progress Reports (quarterly)	Project incentives are sufficient to motivate farmers to participate in the project

Matching grant for manure management practices	US\$ 3.00 million	Progress Reports (quarterly)	Local government support the pilot initiative by contributing resources.
Ecological restoration of the Boianu-Sticleanu Polder.	US\$ 1.47 million	Progress Reports (quarterly)	Enforcement of land-use plan
Monitoring	US\$ 0.45 million	EPA and Public Health annual reports of soil and water quality. Annual social assessment sample survey	Implementing agencies may be unable to attract and retain qualified staff
Public awareness and replication	US\$ 0.23 million	Annual social assessment sample survey	Timely availability of counterpart funds
Waste water treatment Plant (PHARE 2000 parallel Financing)	US\$ 3.03 million	EU Report	Approval of EU funding
2. National Level US\$ 1.18 million			
Draft policy framework for non source pollution	US\$ 0.98 million	Draft agriculture policy to include non source pollution of water	Continued support and will for enforcing policy
Public awareness, and replication	US\$ 0.20 million	Sample Survey	
3. Regional Level US\$ 0.15 million			
Regional cooperation for replication	US\$ 0.15 million	Progress Reports (quarterly)	Ability to interact with each other for mutual benefit.
4. Project Management, Unit US\$ 0.75 million	US\$ 0.75 million	Progress Reports (quarterly)	Ability to maintain staff, offices and support from local governments and communities

**Table – Annual Benchmarks for Indicators
TO BE DEVELOPED**

Impact Indicators	What is Measured	Baseline	End of Year 1	End of Year 2	End of Year 3	End of Year 4	End Year
% of farm associations , % of farm families, and % of individual farmers aware of environment- friendly agriculture practices recommended by the project.	Awareness to technology and benefits	0 0 0	% to be decided	% to be decided	% to be decided	% to be decided	% to decid
% of farm associations , % of farm families, and % of individual farmers aware of manure management and use	Awareness of cost effectiveness of manure use as against chemical fertilizers	0 0 0	% to be decided	% to be decided	% to be decided	% to be decided	% to decid
Village level manure pits	Actual number of manure pits		To be decided	To be decided	To be decided	To be decided	To b decid
% area of Polder in compliance with Land Use Plan			% to be decided	% to be decided	% to be decided	% to be decided	% to decid
Awareness of soil and water quality			% to be decided	% to be decided	% to be decided	% to be decided	% to decid

Annex 2: Project Preparation Plan

ROMANIA: AGRICULTURAL POLLUTION CONTROL PROJECT

Under Preparation

A. Core Project Preparation Team

Name	Bank Unit	Borrower Agency	Role/Responsibility

B. Project Preparation Activities

Key Outputs	Prepared By	Responsibility	Cost	Appraisal Requirement	Target Date
Feasibility Studies					
Environment Assessment					
Social Assessment					
Institutional Assessment					
Project Implementation Plan (PIP)					

C. Specialist Tasks

Specialist Area	Level of analysis /Tools	Skills Needed	Key Output Document	Bank Review Target Date

Annex 3: Project Processing Timetable

ROMANIA: AGRICULTURAL POLLUTION CONTROL

Timetable step	Plan	Actual
GEF Eligibility Confirmation		22-Oct-99
Concept Review	30-May-00	16-Dec-99
RVP/ROC/OC Signoff		
PID to Infoshop	15-June-00	06 Jan 00
GEF Council Approval	Nov-00	
Decision Meeting		16 Dec 99
Auth Appr/Negs (in principle)	15-Sep-00	
Update PID to Infoshop	Oct. 00	
EA Received in Infoshop		
Begin Appraisal	Jan 2001	
Send Notice/Issue Invt Neg	April 2001	
Begin Negotiations	April 2001	
GEF CEO Endorsement	July 2001	
Board Approval	July 2001	

Annex 4: Incremental Cost Analysis

ROMANIA: AGRICULTURAL POLLUTION CONTROL

Under preparation.

**Annex 5: STAP Roster Technical Review
ROMANIA: AGRICULTURAL POLLUTION CONTROL**

Annex 6: Detailed Project Costs
Romania Agricultural Pollution Control Project

Annex 7: Institutional Arrangements for Project Preparation

Romania Agricultural Pollution Control Project

Annex 8: Institutional Arrangements for Project Implementation
Romania Agricultural Pollution Control Project

World Bank User
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MINISTRY OF WATERS, FORESTS AND ENVIRONMENTAL PROTECTION

NATIONAL GEF OPERATIONAL FOCAL POINT

B-dul Liberatatii nr. 12, Sector 5, Bucharest Romania

Tel: 40 1 410 53 86; Fax: 40 1 312 55 07

To:
Mr. Jitendra SRIVASATAVA
Principal Agriculturist
World Bank
Environmentally and Socially Sustainable Development
Europe and Central Asia

October, 4 1999

**LETTER OF ENDORSEMENT
FOR PDF B
BLACK SEA AGRICULTURAL POLLUTION CONTROL PROJECT**

Dear Mr. Srivastava,

This is to confirm the endorsement for the Project Development Funds Block B Grant required for the preparation of the Black Sea Agricultural Pollution Control Project.

The Ministry of Waters, Forests and Environmental Protection and the Ministry of Agriculture and Food requested World Bank assistance both technical and financial in their efforts to promote the adoption of environmentally-friendly agricultural practices by farmers in Calarasi region and to restore part of the former floodplain areas along the lower Danube River, that will reduce further deterioration of the Black Sea waters. The proposed project represents a priority for Romania and is included in the National Environmental Action Plan, the Strategy for Environmental Protection of the Ministry of Agriculture and in the Danube River Pollution Reduction Program.

We request the World Bank as executing agency for preparation implementation.

Sincerely yours,



Adriana Măceș
GEF National Operational Focal Point.