

**Document of
The World Bank**

Report No: 19868

PROJECT APPRAISAL DOCUMENT

ON A

**PROPOSED LEARNING AND INNOVATION LOAN IN THE AMOUNT OF
US\$2.5 MILLION EQUIVALENT**

**AND A GRANT FROM THE GLOBAL ENVIRONMENT FACILITY TRUST
FUND IN THE AMOUNT OF
US\$3.0 MILLION EQUIVALENT**

**TO THE NATIONAL FUND FOR ENVIRONMENTAL PROTECTION AND
WATER MANAGEMENT
WITH A GUARANTEE OF THE REPUBLIC OF POLAND**

FOR A

RURAL ENVIRONMENTAL PROTECTION PROJECT

November 4, 1999

Rural Development and Environment Sector
Europe and Central Asia Regional Office

CURRENCY EQUIVALENTS

(As of November 4, 1999)

Currency Unit = PLN

US\$1 = PLN 4.25

FISCAL YEAR POLAND

January 1 - December 31

FISCAL YEAR WORLD BANK

July 1 - June 30

ABBREVIATIONS AND ACRONYMS

BAAP	Baltic Agriculture Run-off Action Program
Baltic 21	Baltic 21 Process for an Agenda 21 for the Baltic Sea Region
CAS	Country Assistance Strategy
CCB	Coalition Clean Baltic
ECU	European Currency Unit
EU	European Union
EU (Phare)	European Union Program for Assistance to the Countries of Central and Eastern Europe
FMS	Financial Management System
FRR	Financial Rate of Return
GEF	Global Environment Facility
HELCOM	Helsinki Commission - Baltic Marine Environment Protection Commission
Helsinki Convention	Convention on the Protection of the Marine Environment of the Baltic Sea (1974 and 1992)
LACI	Loan Administration Change Initiative
LIL	Learning and Innovation Loan
LIT	Local Implementation Team
MAFE	Ministry of Agriculture and Food Economy
MEP	Ministry of Environmental Protection, Natural Resources and Forestry
MIS	Management Information System
MOF	Ministry of Finance
NEFCO	Nordic Environment Finance Corporation
NFEP	National Fund for Environmental Protection and Water Management
NGOs	Nongovernmental Organizations
Nitrates Directive	Council Directive on the Protection of Waters Against Pollution caused by Nitrates from Agriculture (91/676/EEC)
ODR	Ministry of Agriculture and Food Economy's Extension Organization
PIU	Project Implementation Unit
PMR	Project Management Report
PSC	Project Steering Committee
RWB	Regional Water Management Boards
SAP	Strategic Action Program
STAP	Scientific and Technical Advisory Panel of the Global Environment Facility
WWF	World Wide Fund for Nature

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Poland
Rural Environmental Protection Project

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Map IBRD 29983

Poland
Rural Environmental Protection Project

Project Appraisal Document

Europe and Central Asia Regional Office
Rural Development and Environment Sector Unit

Date: November 5, 1999	Task Team Leader: Julia Bucknall
Country Manager/Director: Basil Kavalsky	Sector Manager/Director: Kevin M. Cleaver
Project ID: PL-PE-50660/	Sector: Environment
PL-PE-59613	Program Objective Category: Environmentally Sustainable Development
Lending Instrument: Learning and Innovation Loan	Program of Targeted Intervention: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Project Financing Data		[X] Grant	[X] Loan	[] Other	
GEF Grant Amount (US\$m equivalent) : 3.0					
IBRD Loan Amount (US\$m equivalent) : 2.5					
Proposed terms:		[] Multicurrency	[X] Single currency, in two equal tranches, EURO and US\$		
Grace period (years): 5		[] Standard Variable	[] Fixed	[X] LIBOR-based	
Years to maturity: 15					
Commitment fee: 0.75%					
Service charge: N/A					
Financing plan (US\$m equivalent):					
	Source	Local	Foreign	Total	
Government		0.7	0.0	0.7	
Beneficiaries		3.8	0.2	4.0	
NFEP		0.8	0.1	0.9	
GEF		3.0	0.0	3.0	
EU (Phare) proposed		3.7	0.0	3.7	
NEFCO		1.0	0.0	1.0	
IBRD		1.8	0.7	2.5	
Total		14.8	1.0	15.8	
Borrower: National Fund for Environmental Protection and Water Management (NFEP)					
Guarantor: Republic of Poland					
Responsible agency: NFEP					
Estimated disbursements (Bank FY/US\$m equivalent):		1999	2000	2001	2002
Annual		0.2	0.9	0.8	0.6
Cumulative		0.2	1.1	1.9	2.5
Project implementation period: 35 months from 15 December, 1999					
Expected effectiveness date: 15 December 1999					
Expected closing date: 30 April 2003					

A: PROJECT DEVELOPMENT OBJECTIVE

1. Global and project development objectives and performance indicators (see Annex 1):

Project Development Objective. The project's objective is to significantly increase the prevalence of environmentally responsible practices among eligible farms in target project areas. The ultimate goal is to reduce discharge of organic matter, which is a major cause of environmental problems in the Baltic Sea. The project will help farmers develop environmentally responsible farm management plans and will fund the related environmental investments as well as farm equipment in some cases. While the farmers will receive some benefits from the practices and investments, most of the benefits will come from improved environmental quality of Polish surface and groundwater and the Baltic Sea.

Global Environmental Goal. The long-term goal is to demonstrate effective mechanisms for improving environmental practices in agriculture by reducing nutrients entering the Baltic Sea from agriculture in Poland. Project activities are directly linked to the implementation of the Baltic Sea Joint Comprehensive Environmental Action Program. The project also supports Poland's move towards compliance with its national policies, European Union (EU) directives and international agreements. Funding from the Global Environment Facility (GEF) will help remove institutional, financial and knowledge barriers that currently serve as disincentives to farmer adoption of environmentally sustainable agricultural practices.

Demand-Driven, Flexible Approach. The project is modeled on the approach taken by social investment funds, which are flexible funding mechanisms that respond to requests from communities or local groups. Thus the project will respond to demands from eligible farmers for support, rather than targeting specific farms or farmers. It will be flexible, so that project design can be adapted during implementation according to feedback from beneficiaries and local communities. In this way, it takes a highly participatory approach by involving farmers and farmers' representatives in decision-making processes.

The project is a learning and innovation loan (LIL), which emphasizes flexibility, testing and learning with the aim of scaling up the project into a larger program in the future. The Government and the National Fund for Environmental Protection and Water Management (NFEP) intend to expand the activities funded under this project into a nationwide program. This project will test the mechanisms for scaling demonstration activities up into a comprehensive program. It will also test the beneficiaries' willingness to pay for services and investments to improve their agricultural management practices. The financial and economic impact of the adoption of new farming and other agricultural practices will be closely monitored and results will feed back into the program design. The NFEP, the Bank and the co-financiers will consider that this LIL has been successful if the NFEP has a functioning system in place to scale the project up into a national program.

Extensive Field Testing. This project is based on several years' experience from pilot operations. Some of these originated and were financed in Poland, while others have international sponsors. They have taken place in several parts of the country with a number of institutional counterparts. The most successful of these found that farm environmental infrastructure (facilities for storing liquid animal waste) were technically effective when

specialized contractors were used, and that they were popular with farmers, who used and maintained the facilities well. The pilots focused on testing efficacy of the technologies in the context of Polish farming and did not fully evaluate the economic impact on the farmer nor did they try to establish an administrative system for scaling up such support. The earlier experience did, however, find that farmers were willing to contribute a limited amount to the costs of the infrastructure, principally through an in-kind contribution. The proposed levels of subsidy in this project are therefore based on these earlier experiences.

Key Performance Indicators:

- Increased awareness of environmental issues related to agriculture among farmers and communities outside the project areas.
- High satisfaction rate among participating farmers.
- High percentage of participating farmers implementing the farm management plan properly, two years after joining the project.
- High percentage of participating farmers aware of the financial benefits to them of adopting environmentally responsible practices.

2. GEF program objective addressed by the project:

The Baltic Sea Joint Comprehensive Environmental Action Program, developed under the leadership of the Helsinki Commission, provides a sound basis for a project under 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 in this program area address the "types of measures needed to ensure that the ecological carrying of the water body is not exceeded."

This project will address such issues by supporting innovative activities and working directly with farmers to protect Polish watercourses, coastal zones and the marine environment. The project provides an opportunity for the GEF to be a "catalyst for action to bring about the successful integration of improved land and water resource management practices on an area wide basis." GEF support will buy down the cost or barriers to farmers of adopting innovations. It will also help develop a mechanism to move from demonstration level activities to operational projects to reduce pollution from agriculture. The project has been designed specifically to provide a model activity, which can be replicated at other locations in Poland, the Baltic Sea region and Central and Eastern Europe. It is anticipated that experience gained from this project can be applied in the ongoing GEF supported programs for the Danube River Basin and the Black Sea, in which pollution from agriculture is a major transboundary issue. Therefore, the proposed project also provides an opportunity to assess the usefulness of the Strategic Action Program (SAP) concept and to derive lessons learned, which can be applied in other locations (see Annex 14 for transboundary analysis).

B: STRATEGIC CONTEXT

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

CAS document number: **16484 - POL** Date of latest CAS discussion: **April 14, 1997**; CAS Update was discussed **September 16, 1999**. Document number **R99-167 (IFC/R99-148)**.

One of the CAS's four overarching objectives is to achieve environmental sustainability. Specifically, the CAS describes the Bank's objectives of helping the Government to increase the focus on reducing pollution from dispersed (or "non-point" sources) and to move towards compliance with EU directives and international agreements in a cost-effective manner. This project directly addresses each of those objectives.

2. Main sector issues and government strategy:

At the international level, Poland has an obligation under the Helsinki Convention to reduce pollution of the Baltic Sea from both point and non-point sources, and the Helsinki Commission has recently identified actions to reduce pollution from agriculture and rural settlements as a high priority. In addition, the Polish Government is working hard to move into compliance with EU environmental directives. The EU has a directive specifically aimed at reducing nitrate pollution from agriculture (the Nitrates Directive). The draft Framework Directive for Community Action in the Field of Water Policy is also relevant as it includes measures for classifying the quality of water in certain water bodies and will require reducing pollution from agriculture.

At the national level, the Government, in its National Environmental Strategy of 1990, set an objective of reducing pollution entering the Baltic Sea from Polish rivers by 80 percent by the year 2020. In order to realize these objectives, the Government has actively sought international cooperation to help develop agricultural non-point source pollution programs.

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

This project will address the following sector issues:

- Assisting integration of environmental concerns into agricultural practices in order to reduce nutrient pollution entering Polish surface and ground waters.
- Moving towards compliance with both the Helsinki Convention and the EU Nitrates Directive in a cost-effective manner.
- Strengthening water management at the level of the river basin, through a basin-based approach to the replication strategy and by working with the Regional Water Management Boards (RWBs) to monitor the environmental effects of the project.
- Helping eligible farmers develop and implement modern farm management plans that incorporate environmental considerations.

C: PROJECT DESCRIPTION SUMMARY

1. Project components (see Annex 2 for a detailed description and Annex 6 for a detailed cost breakdown):

The project has two components. The first involves farm environmental improvements and consists of environmental advice to eligible farmers and financial support for the recommended farm investments. The second involves public outreach and project management.

Component 1. Farm Environmental Improvements (US\$13.8 million or 87.5 percent of total cost).

Operational Support and Training for Farmers (US\$0.9 million or 6.0 percent of total cost). The Local Implementation Teams will have specially-trained agri-environmental advisors who will work with local farmers to demonstrate the benefits of environmentally responsible management on farms. The agri-environmental advisers will then help eligible farmers develop management plans for their farms. These plans will consider options for cropping, tilling, manure spreading, fertilizer application practices, and constructed wetlands, as well as investments such as manure storage facilities, buffer strips, etc. The agri-environmental advisers will explain the terms of investment support offered under the project and help the farmer develop detailed application. They will coordinate their technical advice with the other local agricultural extension agents.

Farm Environmental Investments. (US\$12.0 million or 75.7 percent of total cost). The sub-component will channel financial support to eligible farmers to invest in facilities recommended by the farm management plan. The project will fund contractors to provide materials, detailed design and labor as necessary. The farmers will contribute in kind and, in some cases, also in cash. At the outset, the project will cover up to an estimated 70 percent of total project cost and up to a total estimated value of US\$10,000 equivalent per farm. Eligibility criteria for farmers include single family ownership, possession of at least ten cows or equivalent sized animals (large animal units) and financial viability. Both the level of project support and the eligibility criteria are set out in detail in the Operational Handbook and can be changed in the course of implementation, in agreement with the World Bank and other co-financiers. The project will also fund up to 50% of the cost of a limited amount of environmental agricultural equipment for groups of farmers as recommended by their farm management plans. Where protective buffer strips on the edge of sensitive waterways are recommended, the project will cover 100 percent of the costs of planting.

It is expected that investments and equipment will be funded for approximately 1000 farmers during the project.

Incremental Operating Costs (US\$0.9 million or 5.7 percent of total cost). The project will finance the operation and maintenance costs for the farm environmental facilities and equipment recommended by the farm management plan, and the operating expenses of the LITs (transportation, utilities, office supplies, office rent).

Component 2. Outreach and Management (US\$2.0 million or 12.5 percent of total cost)

Public Awareness (US\$0.4 million or 2.6 percent of total cost). This sub-component will support a public awareness program to widen understanding of the importance of agriculture and environment issues in Poland beyond project areas and beyond farm families. The program will work with local groups to promote environmentally sound agricultural practices and to highlight the critical role of the farmer as an environmental manager. It will include information on the agronomic and economic benefits of improved practices. Through farm visits, videos, leaflets, the Internet, etc., the program will disseminate good practices, results from demonstrations, new approaches and information about incentive programs.

Monitoring (US\$0.5 million or 3.2 percent of total cost). The NFEP's PIU will be responsible for monitoring project performance. This will involve a social assessment, including ongoing beneficiary assessment, to ensure that the project meets the needs of its clients in rural Poland and to suggest modifications to project design and implementation. It will also involve a

financial and economic assessment to quantify the impacts on Polish farmers of adopting environmentally responsible practices and in order to assess the cost-effectiveness of the project. Local environmental inspectorates and authorities, in collaboration with the MEP and RWBs, will monitor the long-term environmental benefits from reduced discharges of pollutants to surface and groundwater.

Replication Strategy (US\$0.1 million or 0.7 percent of total cost). The project has been designed as a model for a national program in Poland and therefore includes provisions for preparing a national strategy to replicate the activities. This sub-component will hire consultants to work with the Project Steering Committee (PSC) and other stakeholders to take the results of project monitoring activities and draw lessons for the rest of Poland. The consultants will pay particular attention to possible farmer reactions to changes in levels of support, and to potential areas for future activities. At the mid-term review, the NFEP, the Government, the Bank and the other co-financiers will decide whether to prepare the next phase in the national program.

Project Management (US\$0.5 million or 2.9 percent of total cost). The NFEP will establish a PIU to manage the project. In the project areas, LITs will screen expressions of interest from farmers, manage the technical assistance program, forward farm environmental investment applications to the PIU for approval and undertake technical supervision of farm environmental investments.

Recurrent Costs (US\$0.5 million or 3.2 percent of the total cost). The project will finance the operating costs of the PIU (salaries of staff and office rent) and the expenditures incurred by the Steering Committee.

As the project focuses on learning and testing approaches, it is designed to be flexible and to adapt to experience during implementation. Detailed plans, eligibility criteria, etc. are laid out in an Operational Handbook. As implementation proceeds, these can be changed in agreement with the implementing agency, the World Bank and co-financiers.

<u>Component</u>	<u>Category</u>	<u>Cost Incl. Contingencies (US\$m)</u>	<u>% of Total</u>	<u>Bank- financing (US\$m)</u>	<u>% of Bank- financing</u>
1. Farm environmental improvements	Training & Investment	13.8	87.5%	1.5	58.7%
• Operational Support and Training		(0.9)	(6.0%)	(0.5)	(18.6%)
• Farm Environmental Investment		(12.0)	(75.7%)	(0.5)	(21.2%)
• Incremental Operating Costs		(0.9)	(5.7%)	(0.5)	(18.9%)
2. Outreach and Management	Learning & Adaptation	2.0	12.5%	1.0	41.3%
• Public Awareness		(0.4)	(2.6%)	(0.3)	(12.8%)
• Monitoring		(0.5)	(3.2%)	(0.4)	(15.2%)
• Replication Strategy		(0.1)	(0.7%)	(0.1)	(3.6%)
• Project Management		(0.5)	(2.9%)	(0.2)	(9.7%)
• Recurrent Costs		(0.5)	(3.2%)	n.a.	n.a.
Total		15.8	100%	2.5	100%

2. Key policy and institutional reforms supported by the project:

Reducing pollution from agriculture and rural communities is key to the Government's agricultural and environmental strategies. Thus, rather than seeking policy changes, this project will assist the Government to develop an effective mechanism to implement existing policies.

3. Benefits and target population:

National and international/global benefits:

- Demonstration of an effective mechanism for channeling investment for environmental protection in rural areas.
- Quantification and demonstration of benefits to farmers of integrating environmental concerns into their activities.
- Reduction of nitrates reaching Poland's water bodies from approximately 1000 farms, with long-term improved quality of local streams, lakes and ultimately rivers, coastal lagoons and the Baltic Sea.
- Progress towards meeting Poland's water quality targets, its obligations under the Helsinki Convention, and compliance with EU directives

Benefits to participating farms:

- Farms investing in manure storage can use the manure as fertilizer and thus could save \$150-200 per year on chemical fertilizer.
- Farmers may also see productivity improvements from better cropping, tilling and fertilizer application practices.
- Better storage of animal wastes will reduce odor and inconvenience and improve hygienic conditions on participating farms.
- Soil erosion on stream banks will be reduced in farms that invest in riparian buffer strips.
- Eventual reduction of nitrates in groundwater will help to protect health of farm families who drink from shallow wells.

The target populations for this initial activity are families and rural communities in three areas—around Elblag, Torun and the Ostroleka/Lomza area (see attached Map). These areas were chosen because they have all undertaken successful demonstration projects and because their local governments expressed strong interest in participating in and contributing to the project. These areas are sensitive to nitrate pollution, representative of different farm and soil types in Poland, and are well distributed within the country. Elblag borders the Vistula Lagoon, which is shared by Poland and Russia and is a highly sensitive international water body. Because of the administrative reforms underway in Poland at the time of preparation, it was agreed at appraisal that the PIU staff would negotiate with the local administrations on exactly which municipalities (gminas) would be included at the start of the project in each local area.

In the light of implementation experience, it may be necessary or desirable to move the project activities to other areas as agreed by the Borrower, the PSC, the Bank and co-financiers. In any case no more than three areas will be active at any one time.

A STAP (Scientific and Technical Advisory Panel of the GEF) roster expert prepared an independent technical review of the project (see Annex 15). The reviewer endorsed the project in positive terms and noted that it was of “substantial importance.” The reviewer made a number of constructive suggestions for further strengthening of the proposal. His chief concern was that the link was not clear between the technical assistance to farmers on the one hand, and the financial and economic impact of the adoption of new technologies on the other. We fully agree that this link must be made—clearly, precisely, and with solid analysis—and that it is critical to project success and replicability. Since receiving these comments, we have clarified the link, specifying, for example, that the project will only fund investments that have been recommended by the farm management plans developed with technical assistance from the project.

4. Institutional and implementation arrangements:

NFEP will implement the project through its PIU, and will establish decentralized implementation teams in the participating project areas. The institutional arrangements include:

- *Project Steering Committee (PSC).* At the national level, the PSC will coordinate the project. This will be chaired by the NFEP, and include representatives of the Ministry of Finance (MOF), Ministry of Agriculture and Food Economy (MAFE), Ministry of Environmental Protection, Natural Resources and Forestry (MEP), Office of the Committee on European Integration and representatives of the Chambers of Agriculture in each of the project areas. It will meet on a rotating basis in Warsaw and in each of the project areas.
- *Project Implementation Unit (PIU).* The NFEP will establish a PIU to manage the project; promote project activities; approve batches of farm environmental investment applications; procure necessary services and equipment; disburse funds and maintain the account; monitor project impacts and propose improvements; and prepare quarterly and annual reports. The financial management arrangements are considered adequate, once the agreed changes have been made (see Annex 7). The project is expected to convert to Project Management Report-based disbursement arrangements under the Loan Administration Change Initiative (LACI) by June 30, 2000.
- *Local Implementation Team (LIT).* The project will form LITs. These will consist of a LIT director, hired by the project, and agri-environmental specialists who will either be local agricultural extension agents seconded to the LIT or hired by the project depending on local conditions. They will promote the project to local farmers; screen expressions of interest for eligibility; help eligible farmers prepare farm management plans and make formal applications; forward applications to the PIU for approval; work with gmina construction supervisory engineers to ensure civil works are approved and supervised adequately; prepare project reports and accounts; visit the project sites prior to approval and disbursements; and coordinate work with the MAFE’s extension agents (ODRs) and other technical services.

A mid-term review is scheduled for June 2001 and an ICR will be prepared six months prior to the expected final closing date in April 2003. The monitoring and evaluation results will be used to decide on the potential follow-on project.

Annex 1 contains monitoring indicators, and Annex 2 contains details of the implementing arrangements. The Operational Handbook spells these out further.

D: PROJECT RATIONALE

1. Project alternatives considered and reasons for rejection:

- *Full-Scale National Program.* While the demonstration projects have generated significant experience in technical and social aspects, the administrative mechanism for delivering support for the investments is less developed. In addition, the financial and economic impacts of adopting the environmental practices have not been fully documented. Further information is needed to establish the minimum level of subsidy required. In addition, massive changes in local government structures are causing significant uncertainty at the local level. Therefore, a full-scale program would not be justified at this stage. This project will be the first phase of a national program and will allow for development and testing of management, financing and outreach systems, which could be expanded in geographical coverage over time. A phased approach will also allow for a more precise calculation of the direct and broader social benefits of the interventions, which will be an important element in generating support for a larger program of interventions.
- *On-lending to farmers for environmental investment.* We considered passing a proportion of the funds to the farmers as loans, in order to test the farmers' willingness to borrow for investments of this type. This option was rejected for the first stage of the program for three reasons. First, the environmental investments bring very little private benefit to the farmer, but rather benefits that are mostly regional, national and international. Thus a large grant component will be necessary in any case, as it has been throughout western Europe. Second, the administrative costs of managing large numbers of small loans (\$1,000-3,000) are likely to be very high and cause delays in the project. Third, the project can test willingness to pay (or borrow) by cost sharing with the farmers and varying the proportion of project funds versus the farmer contribution. The possibility of passing loans to farmers will be considered as the project develops.
- *Targeting larger farms.* The team decided against targeting larger farms, since they are more financially viable and need fewer subsidies. This project aims to create a model that will allow efforts to reach a majority of Polish farmers, and that can be applied to financially-viable small farms.

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

The Environment Management Project, completed in 1997, supported various activities to strengthen environmental management capacity, including environmental monitoring in several areas of Poland.

Several field-based studies and demonstration projects have addressed management of pollution from agriculture since the early 1990s in Poland and the Baltic Sea region.

The proposed Baltic Sea GEF project to address non point source pollution from agriculture has been specifically designed to fit with the Rural Environmental Protection Project, and includes funds to take the experience from this project and apply the lessons to other Baltic countries.

The Rural Development Project, under preparation, will among other things reduce discharge of organic material from villages through its rural infrastructure component.

Sector issue	Project	Latest Supervision (Form 590) Ratings (Bank-financed projects only)	
		Implementation Progress (IP)	Development Objective (DO)
<u>Bank-financed</u> Strengthen environmental management at central and local levels <u>Other development agencies</u> US Government, EU (Phare) and other bilateral government financed demonstration activities of farm environmental improvements	Environment Management Project	HS The Polish, US, Danish and Swedish Governments and the EU considered the pilots successful	HS

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

3. Lessons learned and reflected in the project design:

Key lessons learned from agricultural and environmental projects in Poland, as well as regional initiatives to protect the Baltic Sea include:

- The need for a long-term commitment to address agriculture and environment issues through phased programs of interventions and a broad-based partnership.
- The need to work directly with farmers to encourage them to think of themselves as environmental managers at the farm level.
- The importance of calculating and disseminating the benefits of improved environmental management in rural areas at local and national levels in order to sustain support for the program.
- The high capacity of local and national Government officials for innovation and effective management.
- The importance of adequate counterpart training and specialized support for procurement, disbursement and supervision.
- The benefits from working within the existing policy environment rather than using the project to push for major policy reforms.

In addition, the Bank's experience with social funds in over forty countries worldwide has generated important lessons for the mechanism for implementing this project. These include:

- The importance of agreeing in advance on clear, flexible approaches to administrative procedures such as procurement and disbursement.

- The benefits of establishing a framework for project management in the form of an Operational Handbook that can be updated on the basis of implementation experience.
- The benefits of project quality associated with careful attention during the early phases of innovative projects to the provision of specialized support for implementation activities.

4. Indications of borrower commitment and ownership:

NFEP has worked actively to prepare the project. It established an inter-ministerial steering committee that met several times during the course of project preparation. Before appraisal, NFEP applied for Phare funds to co-finance the project, hired a consultant to work on project preparation, appointed key PIU staff, and consulted with local governments and other stakeholders. During the appraisal mission, NFEP hosted a press conference to announce agreements, and began the process of applying for a MOF guarantee.

MEP and MAFE have been working throughout the 1990s on farm environmental pilot initiatives in cooperation with EU (Phare), Denmark, Sweden and the United States. Both MEP and MAFE recognize the success of the farm-level demonstration projects and have expressed repeatedly the need to broaden these successful pilots into larger programs. As an indication of this, when US Government funding ended for the first pilot operation, MAFE independently applied for EU (Phare) funding to enable it to continue that program.

In addition, the Government is committed to demonstrating its seriousness in moving towards compliance with EU agricultural and environmental policies and directives and its pollution reduction goals for the Baltic. The Government is aware that significant pre-accession resources will become available for environmental and infrastructure activities and wishes to develop a mechanism to ensure that these resources are used efficiently and equitably.

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

The principal value added of GEF support for this project comes from providing additional funds to address the top priority transboundary water problems in the Baltic Sea. GEF funds will specifically help reduce the barriers to farmers' adoption of environmentally sensitive practices and will allow the Government of Poland to consider expanding early pilot operations into a larger program. Without GEF support to coordinate these activities, Poland would undertake a series of small activities in different parts of the country to address these issues. It would lack a mechanism to coordinate the financing, approaches and geographical targeting of activities. Without support from the GEF, the project would lack sufficient resources to accelerate the program, to demonstrate measures on a wide range of farm types and to undertake a public outreach program. The GEF is thus leveraging funds from other donors and stimulating a program to coordinate activities, increase coverage and generate larger impact.

Because of their international scope, the World Bank and GEF can provide funds and finance the incremental costs for replicating such activities both within Poland and in other countries in the region. This is particularly important, as agricultural pollution is a major local and transboundary problem in most countries in the ECA region, particularly those in the Baltic, Danube and Black 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.

In addition, the World Bank has considerable experience with a demand-driven mechanism that can usefully be applied to the problem of agricultural pollution, which requires a blend of outreach, technical assistance and investment for a large number of small polluters. This mechanism, applied in social funds, links technical assistance, outreach, and beneficiary assessment with small grants for investments in social infrastructure.

E: SUMMARY PROJECT ANALYSIS (Detailed assessments are in the project file, see Annex 4)

1. Economic:

Given the emphasis on learning and innovation, the project has included resources to review economic evaluation of the farm investments and the changes in farming practices. The investments are unlikely to generate positive rates of return, because the benefits will only be seen in the long term, will be diffuse and are extremely difficult to quantify. Project analysis will focus on the cost-effectiveness of the project compared to similar schemes in other countries. Terms of reference for the financial/economic analysis are included in the Operational Handbook.

2. Financial:

This LIL will review financial implications of the farm environmental improvements during project implementation. Experience in other countries indicates that improved manure storage, together with changing fertilization, tilling and cropping practices, can generate positive financial rates of return for the farmer from his or her share of the investment, although some level of subsidy is always necessary. The project will specifically assess the conditions in Poland under which these positive FRRs can be established and what the returns are likely to be. Preliminary estimates suggest that proper storage of manure will save the average farmer participating in this project \$150-200 per year in reduced need to purchase fertilizer, which is more than the cost of operating and maintaining the manure storage facilities.

3. Technical:

Most of the technology that this project will use is simple and well tested in Poland and other countries in the Baltic Sea region. The emphasis will be on the use of low cost farm investments. The project will pay special attention to developing technical guidelines for the liquid manure storage tanks and construction guidelines to ensure that the tanks do not leak. The key variable is whether a farmer can build the tank alone or whether a contractor is needed to provide technically skilled labor. The team has reviewed the experience of demonstration projects using both approaches and has concluded that the project also will use both approaches, based on expert opinions, with close attention paid to supervision and control of technical quality of construction.

4. Institutional:

The NFEP will establish a PIU to manage the project. This will have key staff consisting of a project director, a chief engineer, and a chief financial officer appointed before negotiations to work full time on the project. Other staff will include an agri-environmental specialist, a procurement officer, and possibly a budget officer, and an assistant to the project director. At the local level, the project will establish LITs in each of the project areas. These will consist of a LIT director, hired by the project, and agri-environmental specialists either seconded from local extension services or hired by the project. The agri-environmental specialists will report to the LIT director for the duration of the project, and the LIT director will report to the PIU director. The World Bank will approve staff appointments and any changes in staffing.

5. Financial management:

Financial management arrangements for the project are detailed in Annex 7. The project complies with relevant Bank policies (OP/BP 10.02).

At the outset, disbursements under the project will be based on traditional disbursement procedures and will be converted to disbursements under the LACI framework based on quarterly project management reports (PMRs) by June 30, 2000. A project financial management system (FMS), conforming to the LACI guidelines, will be completed during the first year of implementation. The financial management reports will be generated from the FMS. The internal audit wing of NFEP will be strengthened to perform effective internal control functions for the project, and an independent and competent firm of public accountants will audit the project accounts. The project also provides for the design and implementation of a Management Information System (MIS) which will include key aspects of the FMS, such as proper budgeting.

6. Social:

While there has been no systematic social assessment during project preparation, evaluations of the pilot projects showed positive social results. Farm families, particularly farmers' wives, were highly supportive of the activities, because of both increased farm productivity and reduction in odor and inconvenience associated with improved manure storage. In some areas, communities lobbied local governments for funds to extend the programs to other farms.

The project includes systematic social assessment throughout implementation, to evaluate social impacts of the farm-based activities and the outreach program, and to feed potential modifications back into project design. Terms of reference for the social assessment are included in the Operational Handbook.

7. Environmental assessment: Environmental Category [] A [X] B [] C

The project will support a series of complementary measures to improve environmental management in rural areas, with a focus on reducing pollution of surface and groundwater, leading to a beneficial impact on inland water, coastal water and the Baltic Sea. The primary

environmental issues will be addressed in the Operational Handbook and include (a) adoption of guidelines for design and construction of manure pads and slurry tanks and for the use of their contents; and (b) guidelines for the development of buffer strips. The activities supported under the project will be subject to review by local environmental authorities. The Environmental Data Sheet is provided in Annex 12. The PIU will need to have in place agreed technical guidelines for liquid animal waste storage as a condition of effectiveness.

8. Participatory approach:

a. Primary beneficiaries and other affected groups:

The project is based on demonstration projects conducted throughout the 1990s with highly participatory approaches. They included field-based demonstrations, field days for farmers and farmers' wives, participatory water quality monitoring with farmers and their families, outreach programs and extensive farmer-to-farmer visits. The project has been prepared jointly with officials involved in implementing these programs and in consultation with provincial (voivodship) and municipal (gmina) governments, extension agents, contractors, participating farmers and other members of rural communities. The team has also consulted extensively with the Water Supply Foundation, a major Polish nongovernmental organization (NGO), which has an extensive record in cooperative development of rural infrastructure, including the construction of manure storage facilities. It has also collaborated with the Foundation for Development of Polish Agriculture and the National Association of Farmers.

During implementation, the project will be highly participatory, with a social assessment providing a mechanism for incorporating the views and experiences of local communities and farmers on an ongoing basis.

b. Other key stakeholders:

The United States Environmental Protection Agency and Department of Agriculture, which were involved in designing and supervising the first pilot phases of this operation, have been key members of the project preparation team and participated in project missions. The co-financing bodies, EU (Phare) and Nordic Environment Finance Corporation (NEFCO), have also been involved in the project design processes, with NEFCO participating in project missions. The team has consulted with the Governments of Denmark and Sweden concerning their experience in field-based demonstration programs in Poland.

The team has prepared the project in close collaboration with representatives of the MAFE and its technical institutes, who are active participants in the PSC.

The team has consulted with the representatives of the Helsinki Commission and the Baltic 21 Secretariat, both of which are involved in supporting measures at the regional level to improve environmental management in agriculture to reduce the degradation of rivers, wetlands, coastal zones and the marine environment in the Baltic Sea region. Finally, the team benefited from ideas generated through discussions with representatives of the Coalition Clean Baltic (CCB) and the World Wide Fund for Nature (WWF).

F: SUSTAINABILITY AND RISKS

1. Sustainability:

The farm investments will use field-tested designs that require limited operation and maintenance. The team estimated that the annual cost to the farmer for operation and maintenance of the environmental infrastructure and equipment will average approximately 2 percent of the total cost. The farmer will also get a benefit in terms of liquid fertilizer with a value of approximately 1.5 –2 percent of the total cost. We therefore believe that farmers will have an incentive to operate and maintain the investments properly. Demonstration projects in Poland have borne this out. Nevertheless, social assessment and follow-up visits built into the technical assistance program will assess sustainability issues explicitly. Terms of reference for the social assessment are included in the Operational Handbook.

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

<u>Risk</u>	<u>Risk Rating</u>	<u>Risk Minimization Measure</u>
<p><i>Annex 1, cell "from Outputs to Objective"</i></p> <p>Participating farmers will implement farm management plans and use investments properly after project-financed interventions are completed.</p> <p>Other government programs do not contradict objectives of this project.</p>	<p>N</p> <p>N</p>	<p>Costs to farmer are very low and almost entirely offset by direct immediate benefits. Technical assistance will pay specific attention to sustainability. Social assessment will check two years after completing project to ensure that investments are sustainable and investigate reasons if they are not.</p> <p>A steering committee is established that involves all relevant ministries and is explicitly charged with coordinating with other government programs. Extension agents involved at the local levels, as are local governments, farmers' chambers, NGOs etc. Cooperation with Brussels to ensure that the importance of this issue to the EU is clear to all ministries. Mechanisms in place, especially through outreach program, to ensure that MAFE, MEP and local governments, farmers' chambers etc. receive public recognition for their contributions to the project.</p>
<p><i>Annex 1, cell "from Components to Outputs"</i></p> <p>Local governments remain committed and continue contribution to the project (particularly to the LITs).</p> <p>Government, Bank and co-financiers cannot streamline procedures for project implementation.</p> <p>Phare co-financing approved and available at appropriate time</p> <p>Project incentives are sufficient to motivate farmers to participate in the project.</p> <p>Overall Risk Rating</p>	<p>S</p> <p>M</p> <p>M</p> <p>N</p> <p>M</p>	<p>Establishment of clear agreements with local governments at the outset specifying their contributions to the project. Outreach activities give public recognition to local governments' contributions. Outreach program will report widely the direct benefits to the farmers. Project will involve key stakeholders, such as National Farmers' Union, Chambers of Agriculture, extension agents, and NGOs to broaden support for initiatives of this type. If local support does dry up, project can move to different areas.</p> <p>Substantial efforts in project preparation and start-up phase for simplifying procedures. Key aspects in Operational Handbook rather than loan agreement, so that they can be adapted during implementation.</p> <p>All Phare funds used for component 1, so if they are not available, it will not hold up the rest of the project. Search for other potential co-financiers for the project.</p> <p>Regular reviews during implementation. Because details are outlined in the OH, if problems occur, it is possible to increase the portion of project dedicated to outreach and training. It is also possible to increase the proportion of investment costs covered by the project.</p>
<p>Risk Rating - H (High Risk), S (Substantial Risk), M (Modest Risk), N (Negligible or Low Risk)</p>		

3. Possible controversial aspects:

It is not anticipated that the project will have any controversial aspects. The proposed interventions have formally been given high priority by the Helsinki Commission, European Union, Polish authorities and by international and national NGOs. The only area of controversy noted to date is whether farmers can or cannot provide the labor for some of the more technically complex storage tanks for liquid animal waste. We will test both approaches in the project.

G: MAIN LOAN CONDITIONS

1. Condition of negotiations:

- Key PIU staff (project director, chief engineer, chief financial officer) appointed as full time project staff.

2. Conditions of board presentation:

- Remaining PIU staff (agri-environmental specialist, and procurement officer) appointed.
- A work plan satisfactory to the Bank, for reaching agreement with at least one LIT detailing geographic coverage of project in that area and local government contribution to LIT, has been prepared by the Borrower.

3. Effectiveness conditions:

- The Operational Handbook, satisfactory to the Bank, has been adopted.
- The grant from the GEF is effective.
- The grant from NEFCO is effective.
- The NFEP has prepared and the Bank has approved a shortlist of potential firms to conduct the annual audit of the project.

4. Other covenants:

- The NFEP will carry out the project in accordance with the requirements in the Operational Handbook.
- The NFEP will maintain the PIU with resources, composition and under terms of reference satisfactory to the Bank until completion of the project.
- The NFEP shall maintain the Project Steering Committee until completion of the project, with terms of reference and composition satisfactory to the Bank.
- By January 30, 2000, the borrower shall ensure that the MIS has been prepared, in accordance with terms of reference agreed with the Bank, and is put into operation by the PIU.
- The NFEP will establish and maintain a financial management system in accordance with accounting standards acceptable to the Bank, consistently applied, and by June 30, 2000 carry out an agreed action plan for strengthening the financial management system.


H: READINESS FOR IMPLEMENTATION

- [X] The engineering design documents for the first year's activities are complete and ready for the start of project implementation.
- [X] The procurement documents for the first year's activities are complete and ready for the start of project implementation.
- [X] The Operational Handbook has been appraised and found to be realistic and of satisfactory quality.

I: COMPLIANCE WITH BANK POLICIES

- [X] This project complies with all applicable Bank policies.

Task Team Leader


Julia Bucknall

Sector Director: Kevin Cleaver



Country Director Basil Kavalsky



ANNEX 1
POLAND: RURAL ENVIRONMENTAL PROTECTION PROJECT
PROJECT DESIGN SUMMARY

Narrative Summary	Key Performance Indicators	Monitoring and Evaluation	Critical Assumptions
Sector-related CAS Goal: <ul style="list-style-type: none"> • Improve environmental quality through increased focus on non-point source pollution. • Assist process of integration with the European Union. 	<ul style="list-style-type: none"> • Gradual improvements in ambient water quality measures. • Progress towards meeting environmental compliance targets with EU and Polish legislation. 	<ul style="list-style-type: none"> • Government's annual State of the Environment Report. • Government's periodic reports to EU and periodic EU assessments. • HELCOM reports. 	(Goal to Bank Mission) <ul style="list-style-type: none"> • EU membership is likely to increase average incomes. • EU ensures that Poland enforces environmental standards according to agreed schedule.
Project Development Objective: <ul style="list-style-type: none"> • To substantially increase the prevalence of environmentally responsible practices among eligible farmers. 	<ul style="list-style-type: none"> • Increased awareness of environmental issues in agriculture among farmers outside project areas. • High satisfaction rates among participating farmers. • High percentage of participating farmers implementing plan properly two years after joining the project. • High percentage of participating farmers aware of financial impacts of adopting environmentally responsible practices. 	<ul style="list-style-type: none"> • Report from non-user survey (part of social assessment). • Social assessment. • Social assessment and NFEP evaluations. • Economic and financial assessment. 	(Objective to Goal) <ul style="list-style-type: none"> • Government negotiations with EU continue on track. • Project-developed interventions are replicated on a wide scale.

TABLE 4: ANNUAL BENCHMARKS FOR INDICATORS

INDICATORS OF IMPACT	WHAT IS MEASURED	CY 99: 0% of all Farms	CY 00 25% of all Farms	CY 01: 40% of all Farms	CY 02: 35% of all Farms	HOW
Increased awareness of environmental issues in agriculture among farmers outside project area-	Increased knowledge of non-participating farmers : of the issue of the potentially available assistance			%TBD	%TBD	Public Awareness Surveys and Social Assessment
Satisfaction rate from participating farmers	% of participating farmers satisfied with investments % satisfied with the advisory services		75% 60%	75% 60%	75% 60%	Social Assessment
High percentage of participating farmers implementing plan properly two years after joining project	% of participating farmers with NMP prepared satisfactorily and implemented satisfactorily two years after joining			50%	50%	Social Assessment and Project MIS
High percentage of participating farmers aware of financial impacts of adopting environmentally-responsible practices	% of farmers interviewed that are aware of impacts to them			50%	50%	Social Assessment and Economic Assessment
...OF OUTPUT						
Percentage of hectares in target areas where NMPs developed	# of hectares in target areas where NMPs developed	0	3,250 %TBD	5,200 %TBD	3,250 %TBD	MIS
Percentage of farms in target areas that have built, bought or secured access to recommended investments and equipment	# of farms	0	264 %TBD	422 %TBD	369 %TBD	MIS
Cost-effectiveness of project relative to similar projects in other countries	Judgement of consultants based on comparative study				+/-	Economic Assessment
Percentage of participating farms meeting technical performance standards			70%	70%	70%	LIT Investment Completion Reports, MIS, Social Assessment
PIU and LITs develop and then meet administrative performance standards	PIU service standards LIT service standards		+/-	+/-	+/-	MIS, Economic assessment

ANNEX 2

POLAND: RURAL ENVIRONMENTAL PROTECTION PROJECT

DETAILED PROJECT DESCRIPTION

A. OVERVIEW

1. **Project Goal and Objectives.** The project's objective is to significantly increase the prevalence of environmentally responsible practices among eligible farms in the target project areas. The global environmental objective is to demonstrate effective mechanisms for improving environmental practices in agriculture by reducing nutrients entering the Baltic Sea from agriculture in Poland.

2. The project will test the administrative structure for providing environmental advice and investment support to farmers. It will also test the beneficiaries' interest in, and willingness to pay for, improving their environmental management practices. The project will assist farmers to lower both the risks and the barriers that currently hinder them in adopting new practices, and is based on successful demonstration projects in Poland.

3. The project supports Poland's move towards compliance with national policy and international agreements. These include the Helsinki Convention and the environmental legislation of the European Union (EU), which Poland needs to implement as part of the process of joining the Union.¹ The Government plans to use the experience gained under this project to develop a national program to integrate environmental concerns into agricultural and rural development practices.

4. Project Components.

- **Component 1 - Farm Environmental Improvements.** This consists of environmental operational support and training for eligible farmers and financial support for recommended farm investments and equipment. The component will consider options for cropping, tilling, manure spreading, fertilizer application practices and constructed wetlands, as well as investments in manure storage, silage storage, buffer strips, etc.
- **Component 2 - Outreach and Management.** This will include (a) a public awareness program on issues concerning environmental management and pollution control in agriculture; (b) monitoring; (c) a strategy for replicating the project; and (d) project management.

These components have been identified in collaboration with the National Fund for Environmental Protection and Water Management (NFEP), the Ministry of Environmental Protection, Natural Resources and Forestry (MEP) and the Ministry of Agriculture and Food

¹ The most directly relevant requirement is the Council Directive on the Protection of Waters Against Pollution caused by Nitrates from Agriculture (91/676/EEC), known as the Nitrates Directive. This aims to reduce or prevent the pollution of water caused by application and storage of fertilizer and manure on farmland, and is intended to safeguard drinking water supplies and to prevent ecological damage from eutrophication. The directive requires member states to designate areas that are sensitive to pollution from nitrates and to establish plans for reducing that pollution. It includes requirements for storage of livestock manure and for application of fertilizers.

Economy (MAFE), as well as Polish NGOs, technical institutes, farmers' organizations and farmers themselves.

5. **Sites for Field Level Activities.** The project will be implemented in three rural areas around Elblag, Torun and Ostroleka/Lomza. Elblag borders the ecologically sensitive transboundary Vistula Lagoon that is shared by Poland and Russia. They were chosen because they have all undertaken successful demonstration projects and because their local governments expressed a strong interest in participating in and contributing to the project. Local farmers are already sensitized to the issues and interested in participating in ongoing activities and many have already prepared preliminary applications. Because several farms in the area have already begun adopting environmental practices and have invested in manure storage facilities, these areas provide excellent possibilities for site visits to see project interventions at the field level. These areas were also chosen because they are sensitive to nitrate pollution, representative of different farm types and soil types, and well distributed within the country. During implementation, depending on demand and local government support, the project may move to other areas in agreement with the World Bank, the Government of Poland and co-financiers, but at no time will it operate in more than three areas.

6. **Operational Handbook.** Project implementation will be based on an Operational Handbook, containing details of eligible areas, eligibility criteria for farm selection, levels of investment support, precise responsibilities of implementing agencies, guidelines for technical assistance, arrangements for project supervision and monitoring activities, procurement arrangements, disbursement arrangements and environmental procedures. This Handbook can be modified during project implementation, in agreement with the World Bank, the Government of Poland and the co-financiers. Experience with demand-driven, community-based projects, such as social funds, has shown that using a handbook of this type is an effective mechanism for learning from experience and maintaining flexibility during implementation.²

7. **Developing a National Program.** The Government of Poland intends this project to be the basis for developing a national program to improve environmental management in agriculture and to control non-point source pollution. Therefore, the project includes activities to support replication. At the mid-term review of the project, the Government and the Bank will decide whether to proceed with preparation of a national program and the principles on which such a program will be based.

**B. PROJECT COMPONENT 1: FARM ENVIRONMENTAL IMPROVEMENTS
(US\$13.8 MILLION)**

8. **Approach.** This component links specialized technical assistance and training with farm investments to support improved environmental management at the farm level. The component focuses on encouraging farmers to think of themselves as managers or stewards of the environment. It uses a participatory approach that includes the direct involvement of farmers in identifying environmental problems, developing site-specific solutions, evaluating new farming

² Social funds aim to provide funding to local organizations such as community-based groups, NGOs, and local governments in a flexible, transparent, and rapid manner. They are "demand-driven funding mechanisms." They do not identify projects in advance but instead respond to requests generated by local organizations. Social funds do not implement projects. They promote specific activities, appraise projects or subprojects for funding using strict selection criteria, supervise implementation, and monitor project effectiveness. They typically aim to meet basic social priorities for communities. This project is modeled on the social fund approach, but with environmental rather than social aims.

practices, and monitoring environmental quality. The farmers express their commitment to project objectives through participation in training activities and by their contributions in labor and cash for farm investments.

9. **Eligible Farms.** Eligibility criteria include ownership of a farm by a single family, financial viability, and possession of at least ten large animal units of stock. In addition, participating farmers will need to make a formal commitment to undertake measures to implement Good Agricultural Practices³ and operate and maintain small-scale infrastructure investments for at least five years. To be eligible, farmers also will have to agree to participate in follow-up surveys, social assessments and monitoring activities. Eligibility criteria are set out in detail in the Operational Handbook and can be changed in the light of implementation experience, in agreement with the World Bank and other co-financiers.

10. Farmers will first submit expressions of interest in participating in the project. If they are eligible, they will attend several training activities and work with agri-environmental advisors to develop a management plan for their farm. They will then complete an application form for support from the project, which will include preliminary design for environmental investments consistent with the plan.

Subcomponent A – Operational Support and Training for Farmers

11. **Working with Farmers.** The subcomponent will support advice and training for farmers to reduce non-point source pollution from agriculture. Farm environmental advisors will discuss with potentially eligible farmers the options for and economic and other benefits of improving environmental management at the farm level. They will also inform the farmers about the terms of the support offered by the project. An important activity will be regular farm field days for neighboring farmers to review activities and for outside parties to become familiar with the types of activities supported by the project.

12. Once farms have expressed interest in participating and have been considered eligible, they will receive various forms of technical assistance relating to environmental management on their farm. This will include reviews of the health risks to the farm family associated with organic pollution, and assessment of options for improving environmental management, including potential economic benefits. The farm environmental advisors will work with the farmer to prepare a farm management plan that fully incorporates environmental considerations. This plan will include an outline of necessary environmental infrastructure, recommendations for buffer strips along sensitive water bodies and constructed wetlands as appropriate, and equipment needed to implement the plan.

13. **Coordination with MAFE.** The project will coordinate its activities with the MAFE and its extension agents, the ODRs. This will include coordinating technical advice, particularly on methods, rates and timing for the field application of liquid and solid wastes. The project will ensure ODR participation in project-related training courses. The project will also coordinate with local farmers' chambers and other farming organizations.

14. **Community Involvement.** The subcomponent activities will directly involve farmers and rural communities within the project areas. The environmental advisors will focus their efforts on working directly with farmers, farmers' families and rural communities.

³ These include new methods for cropping, tilling and manure spreading.

15. **Sources of Expertise.** The farm environmental advisors will be from the project's Local Implementation Teams (LITs). The NFEP will contract the director of each LIT on a competitive basis from Government institutes, private sector firms, universities, farmers' chambers and/or nongovernmental organizations. A number of Government institutes and nongovernmental organizations have provided such support services under EU (Phare), Swedish and United States funded programs, and from their own resources. This means that there is an established base of experience within Poland to assist in implementing the proposed project. In addition, the Polish private consulting sector, university-based technical service organizations and revitalized farmers associations have rapidly developed, constituting important new sources of expertise. The LIT staff members will mostly be agricultural extension agents seconded to the project. In some cases, the project may contract other LIT staff, also on a competitive basis.

Subcomponent B – Farm Environmental Investments

16. **Investment Activities.** The project will channel financial support to eligible farmers to invest in facilities recommended by the farm management plan. These will include investments such as manure storage facilities, buffer strips, and specialized equipment. The project will provide such infrastructure through a contractor and will pay up to an estimated 70 percent of the total investment costs for each farm, up to an estimated total of US\$10,000 equivalent. The farmer's contribution is expected to contribute approximately 30 percent of the project cost in a mix of labor, materials and direct payments in some cases. The amount and terms of support will be detailed in the Operational Handbook and may be changed, in agreement with the World Bank and the co-financiers, over the course of project implementation. The project will cover up to 50 percent of the costs of specialized equipment to be owned, maintained and operated by groups of farmers. These levels of support are based on the experiences of previous demonstration projects.

17. **Farmer and Contractor Obligations.** The NFEP will adopt guidelines for small-scale infrastructure investments that are included in the Operational Handbook. Obligations of farmers and contractors will be spelled out in the agreement between the farmer and the NFEP, in the bidding documents and in the relevant contracts. The LIT will encourage farmers to group together and use the same contractor.

18. **Role of LITs.** Interested farmers will present expressions of interest to the LIT in their area. The LIT will screen these expressions of interest, and, if the farm meets the eligibility criteria, the LIT will instruct the environmental advisors to work with the farmer to develop a farm management plan and fill in an application for investment support. The farmer will then submit to the LIT a subproject application containing technical details, levels of support and contractual agreements. LIT staff will send the subproject applications in batches to the PIU. The PIU will assess the applications, and approve the subproject. Once they have approved it, the PIU or the NFEP will sign a legally binding subproject agreement with the farmer. The LIT staff will work with local government engineers to supervise civil works and their commissioning. LIT staff will inform the PIU when contractors have completed their work and the PIU will pay the contractors.

C. PROJECT COMPONENT 2: OUTREACH AND MANAGEMENT (US\$2.0 MILLION)

19. **Approach.** This Component supports complementary measures for (a) increased awareness of the importance of environmentally sound agriculture; (b) monitoring; (c) a replication strategy, and (d) project management.

Subcomponent A - Public Awareness

20. **Public Awareness.** The subcomponent will support the design and conduct of a public awareness program to broaden understanding of the importance of agriculture and environment issues in Poland. It will target both farmers and the general public and will focus both on project areas and other parts of the country to increase public support. The program will promote environmentally sound agricultural practices and highlight the critical role of the farmer as an environmental manager. These activities will be used to disseminate good practices, results from demonstrations, new approaches and information about incentive programs, through a variety of media including site visits, videos, leaflets, webpages, etc. The program will also disseminate lessons learned from the implementation process and facilitate project replication. The outreach program will be conducted at the national level by targeting farmers' organizations and the media. In the project areas, the outreach program will coordinate with the LITs to develop activities specifically designed to support local information needs. The program will stress the economic benefits of adopting environmental practices in agriculture and will acknowledge the contributions that each project stakeholder (local governments, agricultural extension agents, farmers' chambers, NGOs, etc.) has made to the project.

21. **Development and Implementation.** Public communications specialists will implement the outreach program, to ensure effective targeting and dissemination of information through a variety of traditional and new media available in rural Poland. This has proved an important factor in the success of recent Bank-supported projects involving environmental outreach in the Baltic Sea region. The communications specialists will coordinate design and conduct of the outreach program with representatives of the MEP, MAFE, Chambers of Agriculture and other Polish governmental and nongovernmental organizations concerned with agriculture and environment issues. Community-based groups in rural areas will take an active role in all stages of public awareness and environmental education activities.

22. **Coordination with Regional Initiatives.** The activities under this subcomponent will also be coordinated with the ongoing activities of the Working Group on Public Awareness and Environmental Education of the Helsinki Commission, which works at the regional level to support development of outreach programs concerning the use of Good Agricultural Practices and increased awareness of the need to control non-point source pollution from agriculture. This cooperation could include the use of printed and video materials prepared by the Working Group. The Working Group plans to share the experience from the project-supported outreach program with other countries in the region.

Subcomponent B - Monitoring

23. **Scope.** The NFEP will be responsible for monitoring and reporting on project performance, with support of the LITs, and short-term local and international consultants as appropriate. The project will include activities to evaluate project performance, assess the social impact and response of beneficiaries, and undertake detailed environmental monitoring.

24. **Project Performance Monitoring.** The project will be tracked against agreed indicators, such as awareness of the issues outside the project areas, farmer satisfaction, number of farmers implementing farm management plans properly two years after joining the project (see Annex 1). The information gathered under the performance monitoring program will be used to develop improved information concerning costs for typical services and infrastructure investments, which will form the basis for the cost-effectiveness analysis (see Annex 4).

25. **Social Assessment.** The project will include a social assessment to provide information about the needs and responses of beneficiaries and other community members regarding project initiatives. It will also conduct a baseline survey and assess progress against that baseline. The social assessment will continue throughout implementation, to provide feedback on project design, management and implementation. It will also evaluate project impacts on farmers and farm families, the roles of various cooperating parties in supporting beneficiaries, and the effects of outreach and training programs from the perspective of both the beneficiaries and the broader community. Project managers, consultants, contractors and stakeholder groups will all use this information. The social assessment will broaden participation of social scientists in environmental projects in Poland and allow for improved integration of social issues into the project design process. Terms of reference for the social assessment are included in the Operational Handbook.

26. **Environmental Monitoring.** The project will support environmental monitoring in each of the three project areas. This will include monitoring of representative small watersheds and support for farm monitoring at a selected number of locations. Given the planned extension of the project to other areas at a later date, monitoring will emphasize cost-effectiveness and potential for replication on a national basis. The environmental monitoring system activity will be undertaken in three phases:

- *Design of the Environmental Monitoring System.*
- *Development of the Environmental Monitoring System.* For a two-year period support will include: (a) training for environmental monitoring specialists; (b) data collection; (c) laboratory testing and intercalibration services; (d) quality assurance; and (e) environmental monitoring reports.
- *Transfer of the Environmental Monitoring System.* At the end of the two-year period, consistent with agreements negotiated by NFEP during the project implementation process, technical and financial responsibility for operation and maintenance of the environmental monitoring system will be transferred to national and/or local authorities.

Subcomponent C – Replication Strategy

27. The project has been designed as a model both for Poland and elsewhere. It is anticipated that, with adaptation based on implementation experience, the project will be expanded on a phased basis to cover the entire country. The project therefore includes funds to support preparation of a national strategy for replicating the activities.

28. The PIU will hire a consultant to review the experience of project implementation, with particular emphasis on the findings of the social and economic assessments, to understand the likely response of farmers if modifications are considered concerning the levels of grant support necessary for investment activities. The consultant will also assess potential areas for extension of the project during the next phases of implementation. The consultants will prepare a draft report that would be the subject of broad-based review meetings, including meetings with the

cooperating international funding organizations. On the basis of this consultation process, the consultants will prepare a revised report for further review and discussion by the NFEP, the Steering Committee and PIU.

Subcomponent D – Project Management

29. NFEP, a well-established specialized environmental finance institution, will manage the project, in coordination with MEP and MAFE. At the field level, LITs will be responsible for project coordination, including appraisal of subproject applications, supervision of implementation and performance monitoring. The project will finance preparation, advertisement, evaluation and awarding of contracts for procurement; management of project disbursement; maintenance and auditing of project accounts; consolidation of project reports; and monitoring and evaluation of project activities. In order to have an effective management structure, the project will finance staff training, particularly in areas such as program planning, monitoring, procurement and disbursement procedures, and the purchase of limited amounts of equipment.

Institutional Arrangements for the Project

30. The institutional arrangements are based on a decentralized approach that combines national level coordination and monitoring with local level implementation. The Operational Handbook for the project provides a detailed overview of the implementation arrangements and procedures. Project implementation will include the following multi-stakeholder structures:

- *Project Steering Committee.* At the national level, a Project Steering Committee (PSC) will coordinate the project. This will be chaired by the NFEP, and include representatives of the Ministry of Finance, MAFE, MEP, the Office of the Committee on European Integration, and representatives of Chambers of Agriculture from each of the project areas discussed below. The PSC will guide project management and coordinate project activities with related activities in Poland and other countries in the region.
- *Project Implementation Unit.* The NFEP will form a Project Implementation Unit (PIU) to manage the project. This will include a full-time project director, financial officer, project engineer, agri-environment specialist, procurement specialist, and possibly a budget officer and an assistant to the project director. They will benefit from short-term local and international expertise as necessary, particularly to help develop the technical assistance and training programs, and the project monitoring system; and to strengthen the existing MIS and accounting system. The PIU's main tasks will be to:
 - ◇ Establish and administer the Rural Environmental Protection Project
 - ◇ Appoint and supervise the LIT
 - ◇ Create technical training program for LIT supervisors and appoint trainers
 - ◇ Approve farm applications submitted in batches by the Local Implementation Team (LIT)
 - ◇ Procure civil works and award tenders, and train LITs staff in procurement issues
 - ◇ Develop modifications as needed to eligibility criteria and levels of support, in consultation with the World Bank, and submit these modifications for approval by the Steering Committee
 - ◇ Monitor project impact in cooperation with the MEP, and submit improvements to the Steering Committee for approval

- ◇ Disburse funds, maintain accounts and records and prepare quarterly and annual reports.
- *Local Implementation Team.* In each participating project area, the PIU will contract a LIT director who will work with agricultural extension agents seconded to the project. In some areas the PIU may also contract agri-environmental specialists to work in the LIT. Their main functions will be to:
 - ◇ Establish and administer the Rural Environmental Protection Project at the local level
 - ◇ Provide information about the project to farmers, in collaboration as appropriate with the public relations firm appointed by the PIU
 - ◇ Arrange field days on farms participating in earlier demonstration activities
 - ◇ Review farmers' expressions of interest in participating in the project, and, on the basis of the eligibility criteria, include eligible farms in the project
 - ◇ Help eligible farmers prepare farm management plans and develop formal applications, in collaboration with ODRs and following guidelines from the PIU
 - ◇ Receive formal applications from farmers and forward them in batches to the PIU for approval
 - ◇ Process approved applications
 - ◇ Work with the gmina construction supervisory engineers to ensure effective field supervision of ongoing construction activities in the gmina, or ensure that the PIU hires an engineer for those farms
 - ◇ Work with the farmer after the investments are completed to help him or her adopt the environmental practices included in the project.

Potential Administrative Changes

31. During the life of the project a new structure for regional and local government will be forming. In this case the composition and responsibilities of the various project management units may require adjustment. At any time the Operational Handbook may be revised to reflect these administrative changes with prior consensus of the Bank and other co-financiers.

ANNEX 3
POLAND: RURAL ENVIRONMENTAL PROTECTION PROJECT
ESTIMATED PROJECT COSTS (EXCLUDING TAXES)
(in millions of US\$)

<u>Project Component</u>	Local	FOREIGN	Total
	-----US \$-----		
1. Farm Environmental Improvements	11.3	0.4	11.7
2. Outreach and Management	1.0	0.6	1.6
Total	12.3	1.0	13.3
<u>Total Baseline Cost</u>	12.3	1.0	13.3
Physical Contingencies	1.2	0.1	1.3
Price Contingencies	0.9	0.0	0.9
<u>Total Project Cost</u>	14.4	1.1	15.5

ANNEX 4
POLAND: RURAL ENVIRONMENTAL PROTECTION PROJECT
COST-EFFECTIVENESS ANALYSIS SUMMARY
[For projects with benefits that are measured in monetary terms]

(Indicate currency, units, and base year)

	Present Value of Flows		Fiscal Impact	
	Economic Analysis	Financial Analysis ⁴	Taxes	Subsidies
Benefits				
Costs				
Net Benefits: IRR:				

Summary of Benefits and Costs:

Main Assumptions:

Sensitivity analysis / Switching values of critical items:

Note: During implementation, the project will evaluate the cost effectiveness of its interventions, including comparisons of similar projects in other countries in the region. Terms of reference for this analysis are included as an annex of the Operational Handbook

⁴ If the difference between the present value of financial and economic flows is large and cannot be explained by taxes and subsidies, a brief explanation of the difference is warranted, e.g., "The value of financial benefits is less than that of economic benefits because of controls on electricity tariffs."

ANNEX 5
POLAND: RURAL ENVIRONMENTAL PROTECTION PROJECT
FINANCIAL SUMMARY
In millions of US\$

	Implementation Period					Operational Period				
	1999	2000	2001	2002	Total	2002	2003	2004	2005	Total
<u>Project Costs</u>										
Investment Costs	0.3	5.2	5.6	3.3	14.4					
Recurrent Costs	0.2	0.5	0.5	0.2	1.4	0.2	0.2	0.2	0.2	0.8
Total	0.5	5.7	6.1	3.5	15.8					
<u>Financing Sources (% of total project costs)</u>										
IBRD	47.9%	15.9%	13.6%	14.9%	15.7%					
Co-financiers										
GEF	0.0%	0.0%	19.4%	50.9%	19.0%					
NEFCO	0.0%	0.0%	16.4%	0.0%	6.3%					
EU(Phare)	0.0%	48.7%	15.3%	0.0%	23.4%					
NFEP	40.6%	6.1%	5.2%	1.2%	5.7%					
Government	11.5%	5.1%	4.1%	4.1%	4.7%	40%	40%	40%	40%	40%
Beneficiaries (cash and in-kind contributions)	0.0%	24.2%	26.1%	29.0%	25.3%	60%	60%	60%	60%	60%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

ANNEX 6

POLAND: RURAL ENVIRONMENTAL PROTECTION PROJECT

PROCUREMENT AND DISBURSEMENT ARRANGEMENTS

Procurement Responsibility

1. Implementation of the project will require procurement of goods and works, and the selection and employment of consulting firms and individuals to carry out consulting and other technical assistance services. The Project Implementation Unit (PIU) within the National Fund for Environmental Protection and Water Management (NFEP) will be responsible for procurement. The PIU has gained substantial experience in Bank-financed procurement through the implementation of the Environment Management Project. The PIU will have a procurement specialist familiar with bank-financed procurement, additionally he/she will undergo training in Bank procurement guidelines, policies and procedures, if necessary. The main responsibilities of the procurement specialist will be to prepare and submit to the Bank all procurement documents for the Bank's prior review; carry out all procurement related activities; and prepare and submit to the Bank a detailed procurement schedule every year. The project launch workshop will be held at a date close to effectiveness and will dedicate adequate time to procurement to ensure that all implementation staff understand Bank procurement requirements. A General Procurement Notice was published in Development Business of the United Nations in May 1999.

Procurement Methods

2. The procurement of goods and works under the project will be conducted in accordance with the Bank's "Guidelines for Procurement under IBRD Loans and IDA Credits" published in January 1995 and revised in January and August, 1996 and September 1997. The project components not financed by the Bank, GEF and NEFCO will be procured in accordance with national regulations or the co-financing institutions' procurement regulations. The selection of consultants will be conducted in accordance with the "Guidelines - Selection and Use of Consultants by World Bank Borrowers", dated January 1997, as revised in September 1997. The Bank's Standard Bidding Documents for Goods, Small Works, and Letters of Invitation as well as Standard Form of Consultants' Contracts will be used. The project procurement arrangements are shown in Table A, and briefly summarized below. Details are included in the Procurement Plan.

3. **Goods (US\$0.96 million in the aggregate).** Off-the-shelf goods, estimated to cost up to US\$0.10 million per contract, will be procured through National Shopping (NS), based on comparison of quotations obtained from at least three suppliers. The project includes fourteen NS packages (US\$0.96 million in the aggregate).

4. **Civil Works (US\$3.18 million in the aggregate).** The project includes six NCB contracts for works, estimated to cost up to US\$0.7 million each (US\$3.142 million in the aggregate). Works estimated to cost US\$0.3 million equivalent or less per contract, up to an aggregate amount not to exceed the equivalent of US\$0.033 million, may be procured under lump sum, fixed price contracts awarded on the basis of quotations obtained from three qualified domestic contractors in response to a written invitation. The Invitation shall include a detailed description of the work, including basic specifications, the required completion date, a basic form of agreement and relevant drawings, where applicable. The award shall include a detailed description of the work, including basic specifications, where applicable. The award shall be made to the contractor who offers the lowest price quotation for the required work, and who has the experience and resources to successfully complete the contract. The project includes one MW contract (US\$0.033 million in the aggregate).

5. **Consultants' Services (US\$1.76 million in the aggregate).** Consultants' services will be procured through the Quality and Cost Based Selection (QCBS) procedure. Such contracts will be advertised in Development Business and in a national newspaper for expressions of interest, from which a shortlist will be drawn. The project includes two QCBS assignments at a total estimated cost of US\$0.59 million. For contracts estimated to cost less than US\$0.2 million, the shortlist may consist entirely of national qualified firms, at least three. Foreign firms, if interested, will be allowed to participate. The project will include five QCBS assignments based on national shortlists (US\$0.60 million in the aggregate), and eight contracts (US\$0.199 million in the aggregate) that will be selected through the Consultants' Qualification (CQ). Consultants' services for the assignment of auditing (estimated at US\$0.110 million in the aggregate) will be procured through the Least Cost Selection method (LCS).

6. Individual experts for Operational Support and Training for Farmers in the LITs (US\$0.262 million in the aggregate) will be selected in accordance with Part V of the Consultant Guidelines. Candidatures will be advertised, and selection will be made on the basis of comparison of qualifications and experience.

7. The utilization of funds allocated to meet various incremental operating costs, i.e. mileage, utilities and communication charges, maintenance of office equipment, etc. (US\$0.476 million in the aggregate) will be incurred in accordance with an annual budget subject to the Bank's prior approval.

Bank Review of Procurement

8. Procurement documents for the first NCB contract (draft bidding documents, evaluation report before contract is signed) will be subject to the prior review of the Bank. With respect to each consultants' contract estimated to cost the equivalent of US\$0.2 million or more, the procedures set forth in paragraphs 1, 2 (other than the third subparagraph of paragraph 2(a)) and 5 of Appendix 1 to the Consultant Guidelines shall apply. With respect to each consultant contract for firms estimated to cost less than US\$0.2 million but more than US\$0.1 million each, the procedures set forth in paragraphs 1, 2 (other than the second subparagraph of paragraph 2(a)) and 5 of Appendix 1 to the Consultant Guidelines shall apply. With respect to each contract for the employment of individual consultants estimated to cost the equivalent of \$0.015 million or more, the qualifications, experience, terms of reference and terms of employment of the consultants shall be furnished to the Bank for its prior review and approval. The contract shall be awarded only after the said approval shall have been given.

Disbursement Arrangements

9. The project is expected to be disbursed over a period of three years. The anticipated completion date is October 2002, and the closing date, April 2003. Disbursements will follow normal Bank and co-financiers' procedures and will be made against eligible expenditures.

10. **Allocation of Loan Proceeds:** Disbursements shall be made against the categories of expenditures indicated in Table B and C. The proceeds of the proposed loan and grant are expected to be disbursed over a period of three years.

11. **Special Account:** To facilitate disbursements against eligible expenditures, the NFEP will establish in a commercial bank three Special Accounts (SA), one for each tranche of the loan and one for the GEF grant, to be operated by the PIU under terms and conditions satisfactory to the Bank. While the Bank is disbursing under traditional disbursement methods under the loan, the Authorized Allocation will be set to US\$300,000 (equivalent). Initially the combined allocation will be limited to US\$200,000 (equivalent) until disbursements reach US\$600,000 (equivalent), at which time the full Authorized Allocation could be claimed. Under the grant, the Authorized Allocation will be set to US\$300,000 (equivalent). The initial deposit will be limited to US\$200,000 (equivalent) until disbursements have reached SDR430,000. Applications for the replenishment

of the Special Account will be submitted monthly or when 1/3 of the initial deposit has been utilized, whichever occurs earlier. The replenishment application will be supported by the necessary documentation, the Special Account bank statement, and a reconciliation of the bank statement.

12. **Use of Statements of Expenditures:** Withdrawal applications will be fully documented, except for expenditures under: (a) contracts for goods valued at less than US\$0.1 million each; (b) contracts for works less than US\$0.7 million each; (c) contracts for consulting firms costing less than US\$0.1 million equivalent, and contracts for individual consultants, including training, costing less than US\$0.015 million equivalent; and (d) expenditures under incremental recurrent cost. Full documentation in support of SOEs should be retained by the PIU and LITs for at least two years after the closing date of the loan.

13. **Retroactive Financing.** Retroactive financing of less than 10% of the Loan and Grant will be made available for expenditures incurred after February 1, 1999.

Table A: Project Costs by Procurement Arrangements

US\$ million equivalent
(figures in parentheses are IBRD and GEF contribution)

Expenditures	NCB	Other	Notes	N.B.F.	Total
A. Civil Works	3.14 (3.12)	0.03 (0.03)	a	8.02	11.20 (3.15)
B. Goods		0.96 (0.52)	b	0.09	1.05 (0.52)
C. Consultant Services		1.76 (1.35)	c	0.41	2.17 (1.35)
D. Recurrent Costs (LIT O&M costs)		0.92 (0.48)	d	0.46	1.38 (0.48)
<u>TOTAL</u>	<u>3.14</u> <u>(3.12)</u>	<u>3.67</u> <u>(2.38)</u>		<u>8.99</u>	<u>15.80</u> <u>(5.50)</u>

N.B.F. = Not Bank-financed; NCB = National Competitive Bidding; NS = National Shopping

a/ Includes six NCB contracts (aggregate amount US\$3.14 million) and one MW contract (aggregate amount US\$0.03 million)

b/ Fourteen NS contracts (aggregate amount US\$0.96 million)

c/ Individual contracts (aggregate amount US\$0.26 million), two QCBS contracts (aggregate amount US\$0.59 million), five QCBS contracts based on national shortlists (aggregate amount US\$0.6 million), eight CQ contracts (aggregate amount US\$0.199 million), one LCS contracts (aggregate amount US\$0.110 million)

d/ Amount for recurrent costs not submitted to procurement to be incurred in accordance with an annual budget subject to Bank's prior approval

Table B: Allocation of Loan Proceeds

Expenditure Category	Tranche of the Loan Allocated (expressed in US\$)	Tranche of the Loan Allocated (expressed in EUROS)	Percentage of the Expenditures to be financed
1. (a) Civil Works under farm contract	0.052	0.040	82%
1. (b) Equipment under farm contract	0.184	0.160	50%
2. (a) Equipment for LIT and Environmental Monitoring	0.054	0.050	82%
2. (b) Civil Works for Environmental Monitoring	0.014	0.010	93%
3. Consulting Services	0.360	0.310	76%
4. Audit	0.034	0.030	78%
5. Training	0.062	0.050	78%
6. LIT's Incremental Operating Expenses	0.238	0.200	78%
7. Fee	0.012	0.010	
8. Unallocated	0.240	0.240	
Total	1.250	1.100	

Table C: Allocation of GEF Financing

Expenditure Category	Amount in US\$ million Equivalent	GEF Financing as Percentage of Total Project Costs
1. Civil Works	2.700	100%
2. Equipment		
3. Consulting Services		
4. Recurrent Expenses		
5. Unallocated	0.300	
Total	3.000	

Project Procurement-Related Information and Plan in US millions (IBRD and GEF)

Section 1: Procurement Review							
Goods and Civil Works	ICB	NCB	IS	NS	Minor Works	Other methods	Percentage of loan amount and GEF grant subject to prior review
Procurement thresholds: individual and aggregate	n.a.	<0.700 (US\$3.12)	n.a.	<0.100 (US\$0.52)	<0.300 (US\$0.03)	n.a.	
Prior Review	n.a.	first (US\$0.52)	n.a.	n.a.	n.a.	n.a.	US\$0.52 million Or 14%
Consultants	QCBS	QBS	Fixed Budget	LCS	CQ	Individual	
Procurement method thresholds	n.a. (US\$1.19)	n.a.	n.a.	n.a. (US\$0.110)	n.a. (US\$0.199)	n.a. (US\$0.262)	
Prior Review	All (US\$1.19)	n.a.	n.a.	All (US\$0.110)	All (US\$0.199)	TORs for all contracts equivalent to US\$0.015 and above (US\$0.262)	US\$1.76 million Or 100%
Ex-post Review All other procurement packages	Explain briefly the ex-post review mechanism: All the remaining procurement packages will be subject to ex-post review. Each supervision mission will include a procurement specialist who would conduct ex-post reviews and provide his/her findings and recommendations, which will be included in supervision reports. Efforts would be made to achieve ex-post review up to 80% of the total procurement volume.						
Section 2: Capacity of the Implementing Agency in Procurement and Technical Assistance requirements							
The PIU will be responsible for implementing the project, including procurement. The NFEP has acquired some experience in procurement under Bank guidelines by implementing the Environmental Management Project. The NFEP also has significant experience with EU (Phare) procedures. The PIU staff will include a procurement officer familiar with Bank procurement.							
Country Procurement Assessment Report: March 15, 1996				Are the bidding documents for the procurement actions of the first year ready by negotiations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Section 3: Training, Information and Development on Procurement							
Estimated date of Project Launch Workshop 04/12/99	Estimated date of publication of General Procurement Notice 05/16/99	Indicate if there is procurement subject to mandatory SPN in Development Business Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Domestic Preference for Goods Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Domestic Preference for Works, if applicable Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Retroactive financing Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Explain: Retroactive financing of less than 10% of the Loan and Grant will be made available for expenditures incurred after February 1, 1999.					Advance procurement Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Explain:		
Explain briefly the Procurement Monitoring System: Procurement implementation progress will be monitored through progress reports and supervision missions. Each supervision mission will include a procurement specialist. She/he will be responsible for updating the procurement plan, and conducting ex-post reviews. His/her findings will be included in the supervision reports for monitoring their implementation.							
Co-financing: Explain briefly the procurement arrangements under co-financing: The Bank's procurement procedures will be applied to the civil works procured using the US\$1 million grant financed by NEFCO.							
Section 4: Procurement Staffing							
Indicate Name of Procurement Staff or Bank's staff part of Task Team responsible for the procurement in the Project: Name: Naushad Khan, Procurement Specialist, Ext. 32699							

PROCUREMENT PLAN

(million of US\$)										
No	Description	Type	Number of slices /items sub-packages	Estim. Cost US\$	Method	Estimated dates Pre-Qualified/SL 1. Invit. 2. GPN/SPN/Local 3. Eval. & Recom	(BD/RFP) Preparation	Bid 1. Invitation GPN/SPN/Local 2. Opening 3. Eval. And Recom.	Contract Signing	Contract completion
Farm Environmental Improvements										
1	Operational Support and Training**	CS	2	0.290	QCBS*	05/16/99	05/20/99	05/25/99 09/01/99 10/30/99	11/15/99	05/31/02
2	Operational Support and Training	CS	Several	0.262	IC			10/30/99	11/15/99	05/31/02
3	LIT equipment (PC, printer, software)	G	2	0.051	NS		11/30/99	12/10/99 12/20/99 01/05/00	01/15/00	02/15/00
4	LIT equipment (phone, fax, copy machine)	G	1	0.020	NS		11/30/99	12/10/99 12/20/99 01/05/00	01/15/00	02/15/00
5	Farm Environmental Investments (manure pads, slurry tanks, silos with silage tanks)	CW	6	3.142	NCB		03/06/00	04/01/00 05/01/00 05/10/00	05/30/00	10/31/02
6	Farm Environmental Equipment (manure spreading machines, no-tillage equipment)	G	10	0.817	NS		08/07/00	09/01/00 10/09/00 10/23/00	11/16/00	10/31/02
Outreach and Management										
7	Consulting Services (PR consulting firm)	CS	1	0.413	QCBS	05/16/99	09/30/99	11/02/99 01/15/00 01/30/00	02/15/00	04/31/02
8	Environmental Monitoring Consulting Services (design of the system, training, data collection, lab testing, quality assurance, reports)	CS	1	0.176	QCBS	05/16/99	09/01/99	10/30/99 11/30/99 12/15/99	12/20/99	10/31/02
9	Drilling of Groundwater Monitoring Wells	CW	1	0.033	MW		03/01/00	03/15/00 04/15/00 05/01/00	05/10/00	08/30/00
10	Environmental Monitoring Equipment (water testing stations)	G	1	0.075	NS		03/01/00	03/15/00 04/15/00 05/01/00	05/10/00	08/30/00
11	Social Assessment	CS	1	0.100	QCBS*	05/16/99	10/01/99	10/06/99 12/20/99 01/15/00	02/10/00	04/31/02
12	Economic and Financial Assessment	CS	1	0.100	QCBS*	05/16/99	10/01/99	10/06/99 12/20/99 01/15/00	02/10/00	04/31/02

No	Description	Type	Number of slices /items sub-packages	Estim. Cost US\$	Method	Estimated dates Pre- Qualified/SL 1. Invit. 2. GPN/SPN/ Local 3. Eval. & Recom	(BD/RFP) 1.Preparation	Bid 1. Invitation GPN/SPN /Local 2. Opening 3. Eval. and Recom.	Contract Signing	Contract completion
13	Replication Strategy	CS	1	0.113	QCBS*	08/01/00	08/15/00	11/30/00 12/15/00 01/15/01	02/02/01	04/31/02
14	Audit	CS	1	0.110	LCS		10/15/99	11/30/99 12/17/99 01/10/00	02/06/00	04/31/03
15	Training and Study Tours	CS	8	0.199	CQ		08/15/99	08/30/99 09/15/99 10/15/99	10/30/99	04/31/02
	Recurrent Costs (O&M for LIT)			0.476						
	Total			6.377						

Note:

a. Based on the selection of the individuals within the Borrower's country.

b. According to an annual budget pre-approved by the Bank.

* QCBS based on shortlists of national consultants

** For two geographical regions (LIT) covering different periods

CW = Civil Works

ICB = International Competitive Bidding

G = Goods

CS = Consultants' Services

TR = Training

IS = International Shopping

NS = National Shopping

QCBS = Quality and Cost-Based Selection

LCS = Least Cost Selection;

Q = Qualification Based Selection

IC = Individual Consultants.

ANNEX 7

POLAND: RURAL ENVIRONMENTAL PROTECTION PROJECT FINANCIAL MANAGEMENT ASSESSMENT

INTERNAL MEMORANDUM

TO: JULIA BUCKNALL
FROM: ZBIGNIEW REKUSZ
SUBJECT: FINANCIAL MANAGEMENT REVIEW OF RURAL ENVIRONMENTAL
PROTECTION PROJECT
DATE: 7 NOVEMBER 1998/UPDATE ON 11 DECEMBER 1998

During the period from 14 September 1998 till 8 October 1998 I performed an institutional review of the National Fund for Environmental Protection ("NFEP," "The Fund") and participated in finalizing the financial management arrangements for the Rural Environmental Protection Project ("project"). The institutional review included review of the Fund's legal status and constitution, principal objectives, organization and staffing, operations, financial performance and financial standing as well as forecasts. The financial management arrangements for the project included accounting systems, internal controls, budgeting, financial reporting, staffing as well as independent auditing arrangements. The report below presents the major observations and conclusions from the review.

1. Summary conclusions

The objective of the review was to determine whether the project has in place an adequate financial management system as required by the Bank under OP/BP 10.02. The review was based on the Bank's guidelines for "Review of Financial Management System" and focused on the assessment of the project's accounting system, internal controls, planning, budgeting and financial reporting system, selection of an auditor as well as the format and contents of the Project Management Report to be submitted by the borrower in support of withdrawal applications.

Based on the review, the project has in place a project financial management system that can provide, with reasonable assurance, accurate and timely information on the status of the project required by the Bank.

Based on the discussions with the representatives of NFEP, the Fund is ready and is willing to accept the financing from the Bank on LACI rules.

However, taking into account the time required to fully implement in NFEP the project's financial reporting systems under LACI procedures, time required to strengthen internal control functions, and potential practical problems of implementation of LACI in the early months of 1999, in order

to avoid possible delays (due to above factors) of the project it is recommended that the financing in the first half of 1999 be based on SOE rules, and starting from July 1999 based on LACI. This proposal has been suggested to NFEP and they in principle have agreed to it, provided that the transition into LACI would take place no later than 1 July 1999. They have agreed that the transition to LACI and the related dates should be included in the loan agreement. The issue has been further explained in paragraph 3.8 below.

During the review a number of inadequacies in the system have been identified but they are not serious enough to withhold a certification of compliance of the borrower with the Bank's requirements. These weaknesses have been described in detail in the report.

2. Institutional review of the Fund

2.1 Legal status and constitution

NFEP was established on 1 July 1989 based on the Act on Environmental Protection dated 27 April 1989 ("Act"). NFEP was established by a merger of two funds: Environmental Protection Fund and Water Management Fund. As the Act granted the Fund a legal entity status it has not been registered in the Court Commercial Registrar of Companies. The Fund's activities are governed by the following legal acts: Water Law Act, Geological and Mining Law Act and Environmental Protection Law.

2.2 Principal objectives

NFEP's mission is to execute tasks resulting from the government's environmental protection policy. These tasks have been defined in the Government Ecological Policy Executive Plan till the year 2000. The objectives are to improve environmental conditions through direct financing of specific projects as well as to establish solid foundations for future environmental protection and development by financing and providing technical assistance to environmental protection projects.

2.3 Organization and staffing

The principal governing bodies of NFEP are the General Assembly of Shareholders, the Supervisory Board and the Management Board. The Management Board consists of four members and the chairman. Each of the four members of the Management Board is responsible for the following departments:

- accounting and administration,
- finance, loan control and settlements as well as electronic data processing,
- environmental protection, research and development,
- international cooperation, capital investments and water protection.

The Chairman of the Board, Mrs. Maria Zajączkowska, is responsible for strategic planning, legal department, internal control section, human resources and training department.

2.4 Operations

NFEP's activities concentrate on various forms of financial and technical assistance to projects related to environmental protection and water management. NFEP can finance environmental projects in the following forms:

- Donations
- Preferential loans
- Subsidies to loans
- Capital investments.

The principal form of financing environmental protection projects is through loans issued at preferential terms. The preferential terms may take the form of low interest rates, an extended grace period of repayment or partial write-off of the principal amount of the loan. Donations constitute another form of financing. They are granted to budget entities and other public organizations to finance monitoring and education on environmental protection. Subsidies for preferential loans issued by the Bank for environmental protection cover the difference between the market commercial interest rate and the preferential interest rate offered by NFEP. The Fund facilitates financing environmental protection projects also through capital investments. It is a shareholder of a number of commercial enterprises operating in the sector of environmental protection.

2.5 Financial performance and financial standing

The income statements for the years 1995, 1996, 1997 present a steady increase in profits, both in zloty terms and in US\$ terms, from 185 million zloty or US\$75 million in 1995 to 250 million zloty or US\$80 million in 1997. When analyzing the numbers one has to take into account the fact that the annual audited accounts are significantly distorted by transactions, which are reserve accounted for in the balance sheet and not taken to income statements first. A better picture of the financial performance and the financial standing could probably be obtained by analyzing the increase in net assets value. This has increased from 1,765 million zloty or US\$715 million in 1995 to 2,973 million zloty or US\$846 million in 1997.

In order to present an impact of the transactions accounted for in the balance sheet instead of the income statements, the accounts prepared for the period from 1 January 1998 till 31 August 1998 have been adjusted. As a result of these adjustments the profit for the period more than doubled from 148 million zloty or US\$44 million to 305 million zloty or US\$90 million. The adjustments include an increase in provision for doubtful debts in the amount of 237 million zloty or US\$70 million, which to a large extent relates to the period before 1 January 1998. To the extent this provision relates to the periods before 1 January 1998, the profit for the period from 1 January 1998 till 31 August 1998 would be greater. The financial data indicate a stable and sound financial condition of NFEP in the period from 1995 till the end of the period under investigation.

2.6 Financial reporting

The accounting system currently used by NFEP enables timely weekly and monthly reporting within ten days after the end of each month. The current reporting system includes weekly reporting to the Management Board. It contains very basic information about the balance sheet and the cash position of NFEP. The information it contains can hardly be regarded as an appropriate

basis for any decision-making process. The information required by the Management Board for decision making is usually produced on an ad-hoc basis.

3. Financial management arrangements for the Project

I have reviewed the financial management system relating to this project. The objective of the review was to determine whether the project has in place an adequate financial management system as required by the Bank/IDA under OP/BP 10.02.

My review, which included visits to the project implementing NFEP, was based on the Bank's guidelines for "Review of Financial Management System." It focused on the assessment of the project's accounting system, internal controls, planning, budgeting and financial reporting system, selection of an auditor as well as the format and contents of the Project Monitoring Report (PMR) to be submitted by the borrower.

Based on my review, I am of the opinion that the project is in the process of establishing a financial management system that can provide, with reasonable assurance, accurate and timely information on the financial status of the project as required by the Bank/IDA. The following actions need to be completed before the financial management system can be considered as adequate and satisfactory:

- The foreign department and the PIU itself should be included in the scope of investigation of the internal control function and overall, the internal audit function has to be strengthened by employing more personnel with appropriate skills and experience.
- Design and implementation of a satisfactory computerized financial reporting system, as proposed in appendices to this report, must be completed.

I have detailed below in this report a summary of the proposed financial arrangements.

3.1 Summary statement for Project Financial Management

Financial management arrangements for the project are detailed in paragraphs 3.1 to 3.8 and are summarized below. The project financial management system ("FMS") conforming to the Loan Administration Change Initiative ("LACI") benchmarks is being established and could be ready before commencement of the project. The FMS will cover the following aspects:

- Flow of funds
- Accounting system and internal control mechanisms
- Chart of accounts
- Financial reporting (including formats of financial management reports)
- Auditing arrangements
- Budgeting
- Organization and staffing for financial management functions.

Disbursements under the project would be made using LACI procedures. Disbursements would be made based on quarterly project management reports. The financial management reports would be generated from the FMS. Actions which need to be completed are listed below:

- a) Appointment of the Chief Financial Officer by March 31, 1999
- b) Appointment of Accounting Assistant by April 30, 1999
- c) Completion of the development of the computerized accounting system by June 30, 1999
- d) Completion of testing of the computerized accounting software by July 31, 1999
- e) Commencement of use of the computerized accounting system by the PIU by August 15, 1999
- f) Shortlist of Auditors prepared by March 31, 1999.

3.1 Accounting for the Project

NFEP has a history of successful implementation of a number of projects financed by different international parties, including the IBRD. It currently manages a few projects, financed by PHARE, Finnish grants and EPA. It has also successfully implemented an IBRD project in the past. The experience in managing the projects combined with reasonably well organized controls and experienced staff indicates that NFEP is adequate to meet the financial requirements to implement the project.

PROJECT ACCOUNTING SYSTEM

NFEP would be responsible for overall project financial management and accounting. NFEP would maintain books of accounts for the project, prepare and disseminate financial statements and financial management reports, and ensure timely audit of the financial statements. The overall principles for project accounting are outlined below:

- Books of accounts for the project would be maintained by NFEP on double-entry bookkeeping principles. Project accounts would be maintained using the computerized accounting system that has been presented under a separate heading below. The computerized system is a networked system connecting all departments in NFEP.
- Project accounting would cover all sources of project funds (including beneficiary contributions) and all utilization of project funds. This would include payments made to and expenditures incurred by NFEP. All project-related transactions (whether involving cash or not) would be accounted for in the books of accounts in accordance with the accrual concept of accounting. It would also include contributions-in-kind made by the beneficiaries. Disbursements made by the World Bank and the Special Account would also be included in the project accounting system. Funds received from different sources—World Bank and beneficiaries—would be identified separately and reflected in the project accounts and financial statements.
- Project related transactions and activities would be recorded in separate and independent accounts. An identifiable Trial Balance for the project capturing all project-related receipts, expenditures, and other payments under the project would be prepared. This distinction would be effected at data-capture stage. A chart of accounts for the project has been prepared. The chart of accounts conforms to the classification of expenditures and sources of funds indicated in the project documents (Project Appraisal Document). The chart of accounts enables data to be captured in a manner as to facilitate financial reporting of project expenditures by project components, expenditure categories, disbursement categories and financing parties.

- Project financial statements would be fully prepared based on the project books of accounts. All financial management information system reports would also be generated from the financial accounting system.

COMPUTER SOFTWARE

NFEP currently uses Polish accounting software, "Celand." The software was designed in 1992 and each year an updated version of the software is prepared and installed in the Fund. The system maintains ledger accounts, books of prime entries, memorandum accounts and is sufficiently flexible to set up different main and sub accounts and different financial reports.

The software is not capable to handle the "Year 2000 problem". Based on information from the chief accountant next year the software company will produce an updated version in which this problem will be eliminated. Taking into account generally a minor awareness of the significance of the problem in Poland this issue should be watched closely in the future as a part of the ongoing process of monitoring the financial performance of the borrower.

The software can maintain multi-currency ledgers appropriate for the accounting for the project. It is recommended that project accounting be maintained in the software currently used by NFEP and that it form a part of the accounting system of NFEP. The accounts can be opened in the system both in Polish and English. Any reports can easily be defined in the software. This can facilitate an automatic production of the reports in the format required for the project.

TOTAL PROJECT COSTS

Details of the project costs by major category and by each financing party are presented below (all amounts in US\$ million)

	IBRD	GEF	NEFCO	PHARE	NFEP	LOCAL GOVERNMENT	FARMERS	TOTAL
COMPONENT 1								
FARM ENVIRONMENTAL IMPROVEMENTS								
LIT	0.46					0.50		0.96
Farm env. Investments	0.13	3.00	1.00	3.7			3.35	11.18
Farm env. Equipment	0.40						0.41	0.81
Recurrent costs	0.47					0.19	0.25	0.91
Subtotal for Component 1	1.46	3.00	1.00	3.7		0.69	4.01	13.86
COMPONENT 2								
OUTREACH AND MANAGEMENT								
Public awareness	0.32				0.09			0.41
Project monitoring	0.38				0.06	0.04		0.48
Replication strategy	0.09				0.02			0.11
Project management	0.24				0.22			0.46
Recurrent costs					0.50	0.01		0.51
Subtotal for Component 2	1.03				0.89	0.05		1.97
TOTAL FUNDS	2.49	3.00	1.00	3.7	0.89	0.74	4.01	15.8

Flow of funds

There will have to be separate bank accounts opened for each financing party, including Special Accounts in a reputable local bank, acceptable by all financing parties. Separate bank accounts will facilitate tracking inflows of funds and expenditures from contributions provided by the individual financiers. The timing of flows of funds from individual financiers has been presented in the table below.

	Year 1999	Year 2000	Year 2001	Year 2002	TOTAL
Component 1					
IBRD disbursements	0.181	0.391	0.428	0.460	1.461
GEF disbursements			1.181	1.819	3.000
NEFCO disbursements			1.000		1.000
EU disbursements		2.769	0.931		3.700
NFEP contribution					
National and Local Government	0.052	0.241	0.243	0.139	0.684
Farmers contribution		1.376	1.592	1.036	4.004
<i>Subtotal</i>	<i>0.233</i>	<i>4.786</i>	<i>5.375</i>	<i>3.455</i>	<i>13.849</i>
Component 2					
IBRD disbursements	0.044	0.514	0.399	0.071	1.028
GEF disbursements					
NEFCO disbursements					
EU disbursements					
NFEP contribution	0.191	0.346	0.317	0.041	0.896
National and Local Government	0.002	0.037	0.009	0.009	0.057
Farmers contribution					
<i>Subtotal for Component 2</i>	<i>0.238</i>	<i>0.897</i>	<i>0.725</i>	<i>0.121</i>	<i>1.981</i>
Total					
IBRD disbursements	0.226	0.905	0.827	0.531	2.489
GEF disbursements			1.181	1.819	3.000
NEFCO disbursements			1.000		1.000
EU disbursements		2.769	0.931		3.700
NFEP contribution	0.191	0.346	0.317	0.041	0.896
National and Local Government	0.054	0.288	0.252	0.147	0.741
Farmers contribution	0.000	1.376	1.592	1.036	4.004
TOTAL FUNDS	0.471	5.684	6.099	3.575	15.830

Based on the information in the table above in the first year of the project, 48 percent of total funds will be provided by IBRD. In the year 2000, 49 percent of total project costs will be incurred with EU being the principal financing party in that year, providing half of total funds required. In the year 2001, 38 percent of total project costs will be incurred. In the year 2002, 23 percent of total project costs will be incurred.

IBRD, GEF, NEFCO and EU financing will be provided through direct transfer of funds into the bank accounts opened specifically for each financing party. NFEP, farmers as well as the government will provide their share of financing through contributions-in-kind or by paying the costs of the project directly from their own bank accounts. These contributions will be closely recorded and monitored by the accounting system of the project.

Disbursements of Funds

Disbursement of funds provided by the World Bank, GEF and NEFCO will be made by transfers into a bank account held with a reputable local bank, acceptable to the financiers. The transfers of IBRD/GEF funds will be done on semi-annually on the basis of Project Management Reports following LACI procedures.

Disbursement of funds from EU will have to follow EU procedures and their requirements for financial reporting.

3.2 Arrangements for the Project at the Project Implementation Unit (PIU) level and Local Implementation Teams (LIT) level

PIU level

- PIU responsibilities would include organization of the project, supervision of LITs, review and approval of the agreements with the suppliers and farmers, accounting and settlement of payments of the project.
- PIU costs to a large extent would be financed by the Fund. No separate bank account would be required to record disbursements of funds by NFEP for the project. To enable an easier form of accounting and to have better control, it would be desirable for NFEP to provide the project with dated debit notes and monthly statements showing the amounts charged. This system should be followed for staffing and for equipment purchases. As regards NFEP's share of financing of consultancies and studies, the amounts due should be paid in as cash contributions in the years in which they are due.
- PIU would consist partly of employees of NFEP. Those employees would be delegated by the Fund to work in the PIU for a specific period of time.
- The basis for PIU use of premises and equipment of the Fund, including rooms, telephones, photocopier machines should be agreed in writing before the commencement of the project. The decision should be made whether any of these costs would constitute the NFEP's contributions to the costs of the project. Any agreements in respect of these issues should be written down in order to avoid later discussions.
- The equipment purchased by PIU for the project would become the property of NFEP at the end of the project. This should be agreed and written down in order to avoid later questions about ownership rights. In exchange the Fund could be obliged to bear insurance and maintenance costs of the equipment. Such an arrangement could lower the costs of the project.
- Other details of the relationship between NFEP and the PIU to be agreed at negotiations include: the seconding of NFEP staff for full or part-time PIU work; the participation of some NFEP staff in a supervisory capacity; the provision of infrastructure facilities by NFEP for the PIU; and the basis of charging the project for any of the above aspects.

LIT level

- LITs would have separate sub accounts in the accounting system of the project. All documentation and invoices relating to LITs would have to be placed with the PIU. Each LIT would form a part of the accounting system of the project.
- People in LITs should be employed on the basis of "special order contract" (umowa zlecenie) as it could save social security costs related to employment contracts. Alternatively, an employment contract for a defined period should be considered.
- Remuneration costs should be paid out of grant financing because in such a case they would constitute tax-exempt remuneration for the employees. This could again lead to substantial cost savings as the basis for negotiations with the employees would be the net amount of their salaries.

- No bank accounts would be opened for individual LITs as it would increase banking and monitoring costs as well as significantly increasing the risk of misappropriation of assets.
- Costs incurred by LITs could be divided into two categories: salaries of the employees and other employee related costs. Salaries should be paid by PIU with direct transfers into individual bank accounts at the end of the month. Other costs incurred by LITs would have to be either advanced on a monthly basis to the head of LIT (i.e. travel costs, daily allowances, etc.) or reimbursed subsequently (i.e. mileage) by the PIU after inspection of the legitimacy of the costs incurred. The head of the PIU would have to settle the advance from the previous month and get approval from PIU in order to obtain the advance for the following month. The risks of advancing a lump sum to the head of LIT could be mitigated by limiting the maximum amount outstanding to złoty equivalent of US\$1,000. More expensive items would either have to be reimbursed subsequent to control by the PIU (mileage) or they would have to be invoiced to the PIU and paid via bank transfer.
- The problem of evaluation of the contribution by the farmer could be resolved by the involvement of outside experts. The protocol should be prepared including the name of the farmer, timing and description of the work performed by the farmer, then a gmina construction supervision inspector should assess the value of that work based upon standard rates used in the construction sector locally. The protocol should be signed by the technical expert, by the farmer and by the representative of LIT and approved by the PIU.

3.3 Project financial reporting

Under the project NFEP will be required to implement an extensive financial reporting system in order to accurately and timely monitor information regarding project resources and expenditures. The formats of the financial reporting system for the project are included in the operational handbook. The reports will have to be prepared by the CFO of the project on a quarterly basis and they will have to be sent to the World Bank by the end of month following the end of the relevant quarter.

3.4 Internal controls

The review of internal controls concentrated on organizational risks of NFEP. It did not cover country risks. The organizational review concentrated on the assessment of skills and experience of accounting staff, clear delegation and segregation of duties, authorization and processing procedures with particular emphasis on cash and bank accounts' reconciliation, planning and budgeting as well as financial reporting and the internal audit function.

The following weaknesses have been noted in the report issued by Mr. K. Arichandran on Financial Management Review dated 18 September 1998:

- Accounting treatment of the projects administered by NFEP in the past
- Unrestricted access to the accounting records
- Back-up procedures of computer files
- Processing of bank payment order requests.

The above issues have been further investigated during the appraisal phase and the following conclusions have been drawn:

- It has been determined during the appraisal mission that NFEP will not at any stage become a legal owner of assets financed by the funds of the project, i.e. expenditure will not be capitalized as assets in the balance sheet. This means that all information concerning the expenditure related to the project should be properly recorded in appropriate headings of the Statement of Sources and Uses of Funds in a manner facilitating an easy audit trail.
- Currently all accounting staff have unrestricted access to information in accounting software. This may impose a risk of leakage of confidential information and unauthorized change in the accounts by an unauthorized person. The recommendation is to differentiate between the accounting staff to provide access only to the information required to perform their daily duties.
- The back-up procedures have been discussed with the head of the EDP (Electronic Data Processing) department. Every night a copy of all files is made and placed in a safe. A copy from each Friday is secured till the end of the year. The copy from the last day of each month is kept for 5 years. These copies are kept in a banking safe. Data from the last day of the year are recorded on CD and they are kept in a safe. The basic rule is that none of the employees is allowed to record any information on the hard disk of his computer. All information should be recorded into the computer network. There is a two level password protection. There are individual passwords of access to the computer network. Then each user has a password to his files. All password are changed every six weeks. Generally the back-up and security procedures can be regarded as appropriate.
- NFEP processes basically all of its payment transactions through bank transfers. In the current system five signatures are required on the payment request order, accounting entries are made when the payment request orders are returned from the bank stamped and blank payment request orders are not pre-numbered. These practices followed by NFEP generally could be regarded as weaknesses as they could be perceived as either over-controlled (too many signatures), under-controlled (lack of pre-numbering of payment orders) or bad practices (recording of payment request upon their receipt from a bank). However as they follow the normal Polish standards and the PIU has indicated that they would feel uncomfortable to implement changes, taking into account the limited risk involved, the recommendation is to leave them in place in their current form.

3.5 Staffing

The assessment of staffing requirements should determine whether the personnel proposed for the PIU have appropriate skills and experience sufficient to perform effectively the tasks envisaged in the project. The current proposal envisages the employment of six people, including: a Project Director ("PD"), an Assistant to PD, a Chief Engineer, a Chief Financial Officer, a procurement specialist and an environmental specialist. As far as accounting staffing is concerned, Mr. Pawel Witkowski has been identified as a candidate for Chief Financial Officer. Based on the intensive two week contact with him one can conclude that he possesses sound credentials and an appropriate number of years experience in accounting of similar projects. He is also experienced in producing financial reports for projects financed by international institutions. The project would nevertheless mean a challenge to him because of the complexity of accounting resulting from a large number of co-financing parties. Taking into account the volume of work to be involved in the financial part of the project and additional tasks related to inspection of large volume of LITs costs

there would seem to be a need to employ a second officer to assist the CFO. A problem of appropriate segregation of duties may arise as substantially all of the financial aspects of the project would be concentrated in the hands of the CFO. This issue however could probably not be resolved by employing a second officer assisting the CFO as he would still be reporting to the CFO. It would neither be resolved by employing an assistant to the Project Director who occasionally helps the CFO as by nature that assistant would not be able to exercise any control over the CFO. The issue of a segregation of duties in this respect is inherent to any small organization with a limited number of staff and it could only be resolved by proposing a different structure of the team, i.e. the CFO and two financial officers underneath him or an independent controller reporting directly to the Project Director. This proposal in turn would mean more administrative overhead costs for the project. As usual the incremental costs would have to be measured against incremental benefits in the form of better control.

My recommendation would be that at the beginning of the project an assistant to the CFO should be employed for a defined period of time, say three or six months. The assistant would help with all the preparatory work at the initial stage of the project. If during that time the project develops well and the related work burden increases then a contract with the assistant officer should be extended. If after the period of those few months there seems to be no need for such a person, then the contract is not extended. Such a solution would minimize the costs of solving the issue of assistance to the CFO.

The issue of segregation of duties should be resolved by overall control of the project by the Project Director, an internal audit control function within NFEP, external auditors and periodic inspections by the financing parties of the project.

3.6 External audit

NFEP is subject to audits of various external entities, including the Supreme Chamber of Supervision and Parliamentary commissions, statutory annual audits of the financial statements and ongoing supervision of the internal audit division. The audits of the financial statements in the previous years were completed within three months after the end of the year, for example the audit report for 1997 was issued on 14 March 1998. Statutory annual audits of the financial statements in the last few years have been performed by a Polish auditing firm. One of the "big five" firms, KPMG has been appointed as NFEP's auditor for 1998. Appointment of KPMG may indicate a greater awareness of the Fund's governing bodies about a better quality audit. Their scope of engagement covers an audit of the annual financial statements under Polish accounting standards and preparation of a statutory audit report. The scope of the audit does not cover specifically the project's accounts. They will be audited as part of the accounting system of NFEP but only to the extent the auditor would consider them material to the consolidated accounts of NFEP or the auditor would raise suspicions about the possibility of a fraud in those accounts.

Consequently, although employment of KPMG should increase the value of the financial information about the borrower, it would probably have limited use to those parties particularly interested in the project's accounts. Terms of reference for the external auditors are presented in the operational handbook.

3.7 Internal audit

The internal audit function within NFEP is currently rather weak. At present, an internal audit section with only one employee reports directly to the Chairman of the Management Board. NFEP plans to strengthen internal audit functions by employing more qualified staff. This issue has been

discussed with the chief accountant of NFEP, Mr. Gajos. NFEP has agreed with the recommendation. The importance of strengthening the internal audit function, and controlling every department and all activities of NFEP should be stressed to the President of NFEP, as she is in charge of the internal audit department. The scope of supervision should be increased by including the activities of the foreign department as well as the PIU. The following areas should be covered in particular: the adequacy and effectiveness of the systems, procedures and related internal controls, the effectiveness and efficiency of the various operations of the project, the compliance with the Loan/Grant related agreements and Government or institutional policies and regulations, accounting for the safeguarding and resources of the project.

3.8 Recommendations

The more important recommendations presented extensively above in the report have been listed below with the suggested actions to be followed in order to implement them.

- (i) It is recommended that in the period till the end of June 1999 the financing of the project take place on SOE rules. During the first few months of 1999 the full financial, physical and monitoring reporting system under LACI rules would be developed in NFEP with the help of the external financial consultant from the World Bank, as suggested by Julia Bucknall and welcomed by NFEP. During that time NFEP would be able to strengthen its internal control function by setting up a department and employing appropriate staff. It is important that the transition to LACI type financing take place no later than July 1999. Taking into account a large number of small value invoices in the period from August/September 1999 and the administrative work involved, continuing with the old SOE type financing in the second half of 1999 would not guarantee timely payments of those invoices. It would also increase the workload in the World Bank associated with verification of those small value invoices.
- (ii) An internal audit function should be strengthened in NFEP and the foreign department and the PIU itself should be included in the scope of internal control. The issue has been presented in paragraph 3.7 above. The discussion with the chief accountant suggests that some progress has been made in this respect. A new Team for Controlling and Budgeting has been established and it is under the process of organization. However, NFEP has not to date succeeded in employing additional staff experienced in internal audit. It is very difficult to estimate the time required to establish a strong internal audit function in NFEP, primarily due to lack of appropriately skilled and experienced personnel, but reasonably one could expect that the process of hiring staff and organization of an department should be completed by June 1999.
- (iii) Considering the current weak reporting systems existing in NFEP, implementation of Project Financial Reporting Completion may prove to be difficult for the CFO of the project. This task should therefore be discussed with the CFO and if necessary additional help and/or review of the work done should be performed in order to avoid later complications. The suggestion from Julia Bucknall about additional help in this respect from the World Bank's consultant in February 1999 has been welcomed by the representatives of NFEP.
- (iv) As explained in detail in paragraph 3.2 above a number of specific arrangements on the PIU and LIT level should be implemented in order to reduce the expenditure related to project management.

- (v) As detailed in paragraph 3.1 above the issue of non-compliance of the current computer system with the year 2000 exists. Although the management is aware of the problem and claims it will be resolved in 1999 by replacing the current version of the software with a new one by the same supplier, this issue should be closely monitored. The accounting system for the project forms an integral part of the computer system of NFEP and any failure in it would have a significant impact on the reporting of the project.

**Report on the Assessment of Project
For PMR-Based Disbursement**

Project Title: Republic of Poland – Rural Environment Protection Project
Project ID: PL-PE-50660 and PL-PE-59613

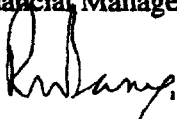
Part I – Financial Management System:

I have reviewed the preparation for financial management system relating to this project. The objective of the review was to determine whether the project has in place an adequate financial management system as required by the Bank/IDA under OP/BP 10.02.

My review, which included reviewing the reports of consultants on preparation of the project implementation agency; and discussions with the project team leader, was based on the Bank's guidelines for "Reviewing of Financial Management System" and focused on the assessment of the steps being taken to establish and implement the project's accounting system, internal control, planning, budgeting and financial reporting system, selection of auditor as well as the format and contents of the Project Management Reports (PMRs) to be submitted by the Borrower in support of Withdrawal Applications.

I confirm that the project satisfies the Bank's minimum financial management requirements. However, in my opinion, the project does not yet have in place an adequate project financial management system that can provide, with reasonable assurance, accurate and timely information on the status of the project (PMRs) required by the Bank/IDA, although steps are being taken to introduce such a system during the first year of the project by implementing the actions recommended in the consultants report.

Signed by:
Financial Management Specialist



Ramendra Basu, TFC
December 10, 1998

Part II - Procurement/Contract Management System

This project was appraised before the requirement to undertake Procurement Capacity Assessment. The Project Procurement Specialist will conduct such an assessment before the project is approved for conversion to PMR based disbursements under the LACI guidelines.


Part III - Physical/Monitorable Indicators and Overall Assessment

This will be completed before the project is approved for conversion to PMR based disbursements under the LACI guidelines.

Part IV - Concurrence of LOA for Eligibility of Project for PMR-Based Disbursements

I have conducted a reasonableness review of the process followed by the task team in assessing the project, and I concur with its recommendation that this project is not yet eligible for PMR-based disbursements. Final eligibility will be determined when the borrower has completed the steps outlined in the attached Financial Management Review.

Joseph Formoso, Senior Disbursement Officer
December 18, 1998



Amador, LOAEL.

March 31, 1999.

ANNEX 8 **POLAND: RURAL ENVIRONMENTAL PROTECTION PROJECT** **PROJECT PROCESSING BUDGET AND SCHEDULE**

A. Project Budget (US\$000)	<u>Planned</u> (At final PCD stage)	<u>Actual</u>
GEF and IBRD spent to Dec. 1998		\$206,000
B. Project Schedule	<u>Planned</u> (At final PCD stage)	<u>Actual</u>
Time taken to prepare the project (months)	<u>19</u>	<u>29</u>
First Bank mission (identification)	<u>06/1997</u>	<u>06/1997</u>
Appraisal mission departure	<u>10/1998</u>	<u>10/05/1998</u>
Negotiations	<u>11/1998</u>	<u>02/02/1999</u>
Planned Date of Effectiveness	<u>02/1999</u>	<u>12/15/99</u>

Prepared by: NFEP

Preparation assistance: EU (Phare) for the technical and financial assessment; USDA and USEPA

Bank staff who worked on the project included:

Name	Specialty
Julia Bucknall	Task Team Leader
Jorge Barrientos	Senior Operational Specialist
Ramendra Basu	Financial Management Specialist
Phil Brylski	Environmental Reviewer
Michele de Nevers	Sector Leader, Environment
Joseph Formoso	Senior Disbursement Officer
Tony Garvey	Water Resources Specialist and Peer Reviewer
Katherin Golitzen	Projects Assistant
Naushad Khan	Procurement Specialist
Zoe Kolovou	Lawyer
Srish Kumar	Economist/Financial Analyst
Barbara Letachowicz	Environmental Engineer
Stephen Lintner	Principal Environmental Specialist
Alexandre Marc	Social Fund Expert and Peer Reviewer
Dinah McLeod	Social Fund Specialist
Milena Messori	Deputy Task Team Leader
Norval Stanley Peabody	Social Scientist
Kamal Siblini	MIS Specialist

ANNEX 9
POLAND: RURAL ENVIRONMENTAL PROTECTION PROJECT
DOCUMENTS IN THE PROJECT FILE*

A. Operational Handbook

Armenian Social Investment Fund, Operational Manual, February 1997.
Farm Waste Storage: Guidelines for Construction. CIRIA, London. Report 126, 1992.
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ANNEX 10
POLAND: RURAL ENVIRONMENTAL PROTECTION PROJECT
STATEMENT OF LOANS AND CREDITS

Project ID	Fiscal Year	Borrower	Purpose	Original Amount in US\$ Millions			
				IBRD	IDA	Cancel.	Undisb.
PL-PE-8582	1991	REPUBLIC OF POLAND	EMPLOYMENT PROMOTION	100.00	0.00	20.00	5.38
PL-PE-8576	1991	DISTRICT HEATING ENTITY	HEAT SUPPLY RESTRUCT	285.00	0.00	82.50	12.10
PL-PE-8571	1991	REPUBLIC OF POLAND	PRIVATIZN & RESTRUCT	280.00	0.00	47.28	63.75
PL-PE-8599	1993	REPUBLIC OF POLAND	ROADS	150.00	0.00	0.00	2.00
PL-PE-8610	1994	GOVT. OF POLAND	FORESTRY DEVELOPMENT	146.00	0.00	42.00	2.46
PL-PE-8614	1995	KATOWICE DISTRICT HEATING	KATOWICE HEAT SUPPLY	45.00	0.00	0.00	24.44
PL-PE-8604	1996	POLISH POWER GRID CO	POWER TRANSMISSION	160.00	0.00	0.00	96.93
PL-PE-8595	1996	BIELSKO-BIALA AQUA S.A.	BIELSKO-BIALA WATER	21.50	0.00	0.00	11.79
PL-PE-36061	1997	GOVERNMENT OF POLAND	PORT ACCESS & MGMT.	67.00	0.00	0.00	50.64
PL-PE-53796	1998	GOVT. OF POLAND	FLOOD EMERGENCY	200.00	0.00	0.00	160.51
PL-PE-35082	1998	BISE AND PBK	MUNICIPAL FINANCE	22.00	0.00	0.00	19.86
PL-PE-8593	1998	MINISTRY OF TRANSPORT	ROADS II	300.00	0.00	0.00	285.63
PL-PE-57957	1999	GOVERNMENT OF POLAND	HARD COAL SECAL	300.00	0.00	0.00	291.13
PL-PE-55988	1999	GOVERNMENT OF POLAND	WHOLESALE MKT. II	11.12	0.00	0.00	10.63
PL-PE-8616	1999	POMORSKIE HURTOWE CENTRUM	WHLSLE MARKETS PRJ I	15.90	0.00	0.00	7.17
Total				2,103.52	0.00	191.78	1,044.42

	Active Projects	Closed Projects	Total
Total Disbursed (IBRD and IDA):	829.39	2,038.56	2,867.95
of which has been repaid:	148.20	509.60	657.80
Total now held by IBRD and IDA:	1,763.54	1,582.39	3,345.93
Amount sold :	0.00	0.00	0.00
Of which repaid :	0.00	0.00	0.00
Total Undisbursed :	1,044.42	53.43	1,097.85

ANNEX 11

POLAND RURAL ENVIRONMENTAL PROTECTION PROJECT

COUNTRY AT A GLANCE

POVERTY and SOCIAL	Poland	Europe & Central Asia	Upper-middle-income		
1998					
Population, mid-year (millions)	38.7	473	588		
GNP per capita (Atlas method, US\$)	3,900	2,190	4,860		
GNP (Atlas method, US\$ billions)	150.9	1,039	2,862		
Average annual growth, 1992-98					
Population (%)	0.1	0.1	1.4		
Labor force (%)	0.8	0.6	2.0		
Most recent estimate (latest year available, 1992-98)					
Poverty (% of population below national poverty line)	24		
Urban population (% of total population)	65	68	77		
Life expectancy at birth (years)	73	69	70		
Infant mortality (per 1,000 live births)	10	23	27		
Child malnutrition (% of children under 5)		
Access to safe water (% of population)	79		
Illiteracy (% of population age 15+)	0	4	11		
Gross primary enrollment (% of school-age population)	96	100	108		
Male	97	101	..		
Female	96	99	..		
KEY ECONOMIC RATIOS and LONG-TERM TRENDS					
	1977	1987	1997	1998	
GDP (US\$ billions)	147.9	157.5	
Gross domestic investment/GDP	24.7	27.0	
Exports of goods and services/GDP	25.7	20.7	
Gross domestic savings/GDP	20.4	18.7	
Gross national savings/GDP	20.4	22.6	
Current account balance/GDP	-2.9	-4.4	
Interest payments/GDP	0.9	1.1	
Total debt/GDP	27.0	30.5	
Total debt service/exports	7.9	..	
Present value of debt/GDP	24.2	..	
Present value of debt/exports	110.7	..	
	1977-87	1988-98	1997	1998	1999-03
(average annual growth)					
GDP	..	3.6	6.8	4.8	5.2
GNP per capita	..	3.5	6.7	5.3	5.0
Exports of goods and services	..	13.5	12.2	9.2	8.4

Development diamond*

Life expectancy

GNP per capita

Gross primary enrollment

Access to safe water

Poland

Upper-middle-income group

Economic ratios*

Trade

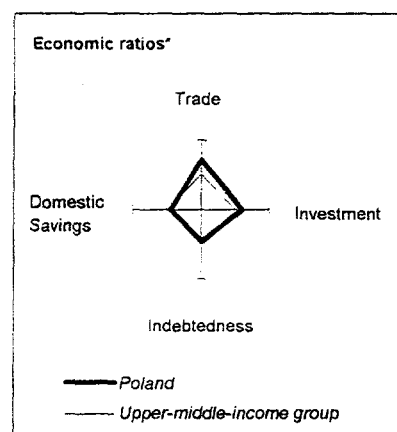
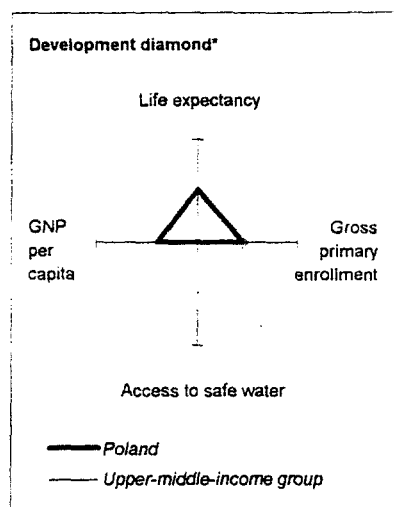
Domestic Savings

Investment

Indebtedness

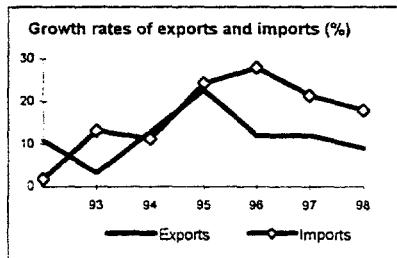
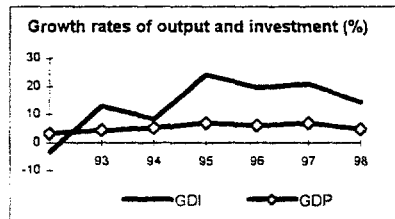
Poland

Upper-middle-income group



STRUCTURE of the ECONOMY

	1977	1987	1997	1998
(% of GDP)				
Agriculture	5.6	..
Industry	37.5	..
Manufacturing	22.5	..
Services	56.9	..
Private consumption	63.5	..
General government consumption	16.1	..
Imports of goods and services	30.0	..
(average annual growth)	1977-87	1988-98	1997	1998
Agriculture	..	-1.0	0.6	..
Industry	..	4.4	10.8	..
Manufacturing
Services
Private consumption	..	4.2	6.9	4.2
General government consumption	..	2.6	3.5	..
Gross domestic investment	..	8.9	20.8	14.1
Imports of goods and services	..	18.8	21.4	17.9
Gross national product	..	3.7	6.8	5.4

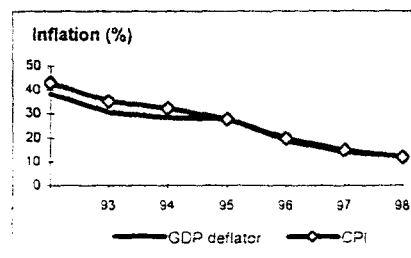


Note: 1998 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

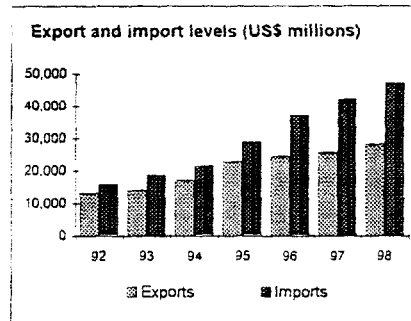
PRICES and GOVERNMENT FINANCE

	1977	1987	1997	1998
Domestic prices				
(% change)				
Consumer prices	14.9	11.8
Implicit GDP deflator	14.0	12.0
Government finance				
(% of GDP, includes current grants)				
Current revenue	24.1	23.0
Current budget balance	-1.0	-0.7
Overall surplus/deficit	-2.7	-2.4



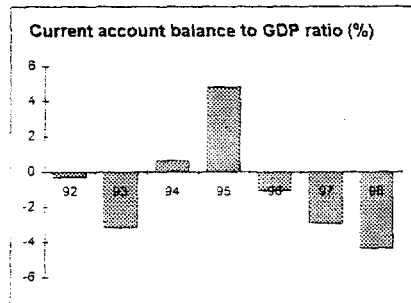
TRADE

	1977	1987	1997	1998
(US\$ millions)				
Total exports (fob)	25,751	28,229
n.a.
n.a.
Manufactures	20,040	22,905
Total imports (cif)	42,308	47,054
Food	2,894	2,968
Fuel and energy	3,710	2,964
Capital goods	6,485	7,356
Export price index (1995=100)	122	130
Import price index (1995=100)	126	129
Terms of trade (1995=100)	97	101



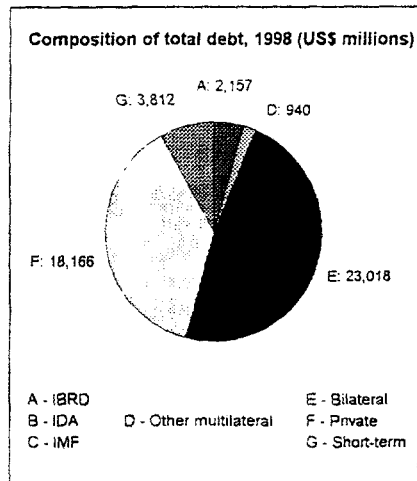
BALANCE of PAYMENTS

	1977	1987	1997	1998
(US\$ millions)				
Exports of goods and services	30,953	33,799
Imports of goods and services	41,968	48,028
Resource balance	-11,015	-14,229
Net income	-458	-567
Net current transfers	1,150	1,942
Current account balance*	-4,312	-6,858
Financing items (net)	7,902	12,566
Changes in net reserves	-3,590	-5,708
Memo:				
Reserves including gold (US\$ millions)	20,670	27,382
Conversion rate (DEC, local/US\$)	3.2	3.5



EXTERNAL DEBT and RESOURCE FLOWS

	1977	1987	1997	1998
(US\$ millions)				
Total debt outstanding and disbursed	..	42,603	39,889	48,093
IBRD	..	0	2,078	2,157
IDA	..	0	0	0
Total debt service	..	2,060	2,562	..
IBRD	..	0	297	321
IDA	..	0	0	0
Composition of net resource flows				
Official grants	..	0	431	..
Official creditors	..	-232	-140	..
Private creditors	..	-246	934	..
Foreign direct investment	..	12	4,908	..
Portfolio equity	..	0	945	..
World Bank program				
Commitments	..	0	0	20
Disbursements	..	0	239	153
Principal repayments	..	0	155	174
Net flows	..	0	84	-21
Interest payments	..	0	142	147
Net transfers	..	0	-58	-168



Environmental Data Sheet

ENVIRONMENTAL DATA SHEET FOR PROJECTS in the IBRD/IDA Lending Program		
Country:	Poland	Project ID No: PL-PE-50660
Project Name:	Rural Environmental Protection Project	Project Cost: US\$15.6
Appraisal Date:	October 1998	Task Team Leader: Julia Bucknall
Board Date:	Approval by RVP, March 1999	Sector: Environment
Managing Divisions:	ECSSD	Status: B.
Lending Instruments:	Learning and Innovation Loan (LIL)	Date Assigned: 6/1/98
Date (est) for receipt of EA by Bank:	N/A	
EA Category (A/B/C):	B	
<i>Date Sheet Prepared/Updated</i> April 6, 1998 (Please do not leave any items blank: use "N/A" or "To be developed" when appropriate)		
<i>Major Project Components:</i> (presents description of project components) The proposed Project aims to increase the prevalence of environmentally responsible practices among eligible farmers in target project areas. It includes two complementary components (a) Farm Environmental Improvements; (b) Outreach and Management. The project will provide training and technical assistance to help farmers develop an environmentally-sensitive farm management plan. It will also provide partial financing for environmental investments consistent with that plan. The Project will support Poland implement the provisions of the Convention on the Protection of the Marine Environment of the Baltic Sea (Helsinki Convention), European Union Environmental Directives, especially the Nitrates Directive (91/676/EEC), and national legislation concerning water quality.		
<i>Major Environmental Issues:</i> (describes major environmental issues identified or suspected in project) None. The proposed project is focused on measures to promote improved environmental management in rural areas.		
<i>Other Environmental Issues:</i> (describes environmental issues of lesser scope associated with project) The environmental issues concern: (a) development and adoption of guidelines for design and siting of manure pads and slurry tanks and for the use of their contents; and (d) development and adoption of guidelines for the development of buffer strips.		
<i>Proposed Actions:</i> (describes actions proposed to mitigate environmental issues described in project) The Operational Handbook for the proposed project will include technical environmental guidelines for each of the major types of intervention. All civil works that the project will support will be subject to review and approval by the local environmental authorities. The project will train extension workers in preparation of site specific environmental reviews of environmental management practices and improvements. Each farm supported by the project will have help to prepare a farm management plan, which includes a thorough review of environmental considerations, as part of the application procedures. Project implementation will focus on the effectiveness of the environmental aspects of the farm management plans, and this will also be a focus of the mid-term reviews, the replication strategy and the ICR		

Justification/Rationale for Environmental Category: (reasons for environmental category selected & explanation of any changes from initial

The potential environmental impacts associated with the proposed project are limited in their scope and can be effectively addressed by the use of environmentally sensitive guidelines.

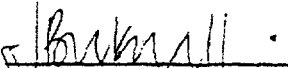
Status of Category A Environmental Assessment: (presents EA start-up date, EA first draft, and current status)

N/A

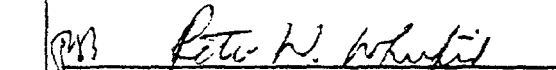
Remarks: (gives status of any other environmental studies, lists local groups and local NGOs consulted, tells whether borrower has given permission to

The proposed project is being prepared in cooperation with the National Fund for Environmental Protection and Water Management; the Ministry of Environmental Protection, Natural Resources and Forestry; and the Ministry of Agriculture and Food Economy. Local NGOs, including the Water Supply Foundation of Poland, and the Foundation for the Development of Polish Agriculture, have been consulted concerning the proposed project. The United States Environmental Protection Agency (USEPA), the United States Department of Agriculture (USDA), and the Swedish Agricultural University, who have all supported cooperative programs on rural environmental management in Poland, have been actively involved in project preparation. This is a learning and innovation loan that includes an ongoing social assessment throughout project implementation to ensure that the project meets the needs of farmers and rural communities and to suggest changes in project design and management over the course of implementation.

Signed by:


Program Team Leader, ECSRE

Signed by:


Michele de Nevers, Environment Sector Leader, ECSRE

date:

ANNEX 13

POLAND: RURAL ENVIRONMENTAL PROTECTION PROJECT INCREMENTAL COST ANALYSIS

Global Environmental Goal

1. The long-term goal of the project is to demonstrate effective mechanisms for improving environmental practices in agriculture through a project designed to reduce nutrients entering the Baltic Sea from agriculture in Poland. Project activities are directly linked to the implementation of the Baltic Sea Joint Comprehensive Environmental Action Program which provides a framework for regional cooperation for protection of this important international water body. GEF funding will help remove institutional, financial and knowledge barriers that currently serve as disincentives to farmer adoption of environmentally sustainable agricultural practices. The GEF alternative would be US\$21.2 million against a baseline without GEF support of US\$18.2 million.

Context and Broad Development Goals

2. **Eutrophication.** Eutrophication of international water bodies is a major environmental problem in many parts of the world, including the Adriatic Sea, Baltic Sea and Black Sea. The common symptoms of eutrophication, which is caused by over enrichment of water by nutrients, are increased plant biomass in the form of algae, oxygen deficiency in water bodies, the formation of hydrogen sulfide and remineralization of the biomass. These processes disrupt the balance of freshwater, coastal and marine ecosystems and cause changes in their structure and function. Excessive nutrient loads to the Baltic Sea affect the entire ecosystem; the work of the Helsinki Commission has identified nitrogen as the substance of highest transboundary concern. Impacts associated with eutrophication in Baltic coastal and marine waters have been a shift in the composition of marine vegetation in many coastal areas, repeated large scale algal blooms, disruption of reproductive cycles of some fish species, declines in some fish stocks and increases in others. Summer algal blooms have periodically necessitated the closing of many bathing beaches throughout the region with an adverse affect on their recreational use and tourist value.

3. **Important Role of Agriculture.** Nutrient pollution from agriculture is a major cause of this problem. The Helsinki Commission estimates that non-point source pollution from agriculture contributes 30-40 percent of the current nitrogen, and 10 percent of the current phosphorus loading entering the Baltic Sea, as well as pesticide residues. This issue is particularly relevant to Poland because the country has approximately 40 percent of the agricultural land in the Baltic Sea drainage basin and the largest rural population in the region. The main issues are improper storage and application of animal waste, rather than excessive application of artificial fertilizers. Less than 10 percent of Poland's two million farms are thought to have adequate facilities for storing manure or slurry. Reports prepared by the Helsinki Commission and the Polish Ministry of Environment have identified the following Polish coastal areas as being most subject to impacts from eutrophication: the Vistula Lagoon which is shared with the Russian Federation, the Gulf of Gdansk adjacent to the mouth of the Vistula River, and the Odra Lagoon which is shared with Germany.

4. **A Major Challenge.** Because agricultural pollution is caused by a large number of dispersed sources and because the agricultural sector is traditionally conservative, the problem has been particularly difficult to tackle in most countries. Establishing mechanisms to provide incentives to farmers to change their agricultural practices and to make farm investments to control non-point source pollution have proven to be difficult. This is because the benefits of these

activities are long-term and because the farmers themselves only reap part of the overall benefits of their actions. This has been a particular problem in the countries in economic transition in the eastern and southern portions of the Baltic Sea drainage basin where the restructuring of the agricultural sector has needed to address a diversity of issues beyond environmental management. The proposed project will test mechanisms for providing incentives to farmers and the level of support required to develop effective actions that could be replicated elsewhere within Poland and in other countries.

5. **Bank Strategy.** The World Bank has an established commitment to support improved environmental management in the Baltic Sea Region. Since 1990 it has worked closely with the Helsinki Commission and the cooperating countries in the development and implementation of the Baltic Sea Joint Comprehensive Environmental Action Program. In this context it has supported a series of environmental projects to address priorities established under this strategic action program in Estonia, Latvia, Lithuania, Poland and the Russian Federation. Consistent with this regional approach, the Country Assistance Strategy (CAS) for Poland includes a strategy for helping Poland increase the focus on reducing pollution from non-point sources, and move towards compliance with EU directives and international conventions and protocols in a cost-effective manner. To address this issue, the Government of Poland is going to adopt legislation that will require farm facilities to provide storage for liquid manure with a capacity of at least six months, and has already supported several internationally financed pilot activities.

Baseline Scenario

6. **Agricultural Sector.** Poland has a rural population of about 15 million, representing 40 percent of the whole population, with farmland covering about 65 percent of the total land area. The agricultural sector provides 25 percent of the country's employment, although only 6 percent of GDP. Unusual for an economy in transition, Poland has retained a large number of small family farms, and still has 1.4 million farms with an average size of 12-15 hectares. Some areas of the country, predominantly to the north and west, were farmed as state farms, but 90 percent of this land has since been privatized or leased out. Livestock accounts for 42 percent of Poland's agricultural production, mostly cattle and pigs.

7. **Environmental Management.** At the national level, Poland is committed to manage and conserve its water resources and coastal zone, and in the nine years since transition to a market economy has made significant progress through a sustained commitment to environment as an integral element of its national priorities. The policy framework is strongly supportive of activities to reduce pollution from agriculture, for three reasons:

- *Domestic policy.* The 1990 National Environmental Strategy states an objective of reducing pollution entering the Baltic Sea from Polish rivers by 80 percent by the year 2020. As part of this policy, Poland has prepared a draft law aiming to reduce non-point source pollution that will, among other things, require farmers to invest in proper manure and slurry storage.
- *European Union requirements.* Much of the domestic policy agenda is currently driven by Poland's need to move into compliance with EU environmental regulations, one of which specifically addresses pollution from agriculture (the "Nitrates Directive"). In addition, the

European Union has published a draft "Framework Directive for Community Action in the Field of Water Policy" which includes requirements for improving water quality.⁵

- *Helsinki Convention.* The 1992 "Baltic Sea Joint Comprehensive Environmental Action Program" and the 1998 "Recommendations for Strengthening and Updating" of the Program, which have been adopted by the Contracting Parties to the Helsinki Convention, identify measures for the management of non-point source pollution from agriculture and rural settlements as a top priority. For GEF purposes, these constitute the top priority transboundary water problem in the Baltic. In addition, the proposed "Amendments to Annex III of the Helsinki Convention Concerning Regulations on Prevention of Pollution from Agriculture" are currently under review and are anticipated to be approved in March 1999.

8. **Recent Activities.** Poland has had an ongoing interest in addressing non-point source pollution from agriculture. The Ministry of Agriculture and Food Economy (MAFE), the Ministry of Environmental Protection, Natural Resources and Forestry (MEP), and the National Fund for Environmental Protection and Water Management (NFEP) have actively participated in a series of recently completed demonstration projects which tested a wide range of technical, education and investment activities directly with farmers in various parts of the country. These demonstration activities have been successfully implemented and were designed to serve as the basis for developing full-scale investment projects. They included the project "Promoting Environmentally Friendly Agriculture on Individual Farms in the Bug-Narew Basin" supported by the European Union (Phare) (ECU1.3 million); "Demonstration Farms and Advisory Service Project" supported by the Baltic Agriculture Run-Off Action Program (BAAP) of Sweden (Phase I US\$600,000); and the "Agriculture and Water Quality Project" supported by the United States (\$1,550,000). The World Wide Fund for Nature also coordinated development of management plans for the Vistula Lagoon and Odra Lagoon supported by the European Union (Life) and Sweden (US\$500,000) which address non-point source pollution measures for these sensitive areas. The Water Supply Foundation, a major Polish nongovernmental organization, has also undertaken a small number of field-based activities in this area with limited funding from domestic and international sources.

9. **Ongoing activities.** Ongoing projects include the second phase of the BAAP project which supports development of extension services for control of non-point source pollution (US\$400,000), the second phase of the management planning process for the Vistula Lagoon and Odra Lagoon supported by Denmark and Sweden (US\$400,000), and the project "Promoting Sustainable Rural Development in Central and Eastern Europe" financed by the Netherlands (US\$1,500,000). In addition, a number of ongoing activities are being implemented with domestic and international resources to strengthen the planning capacity of the Regional Water Management Boards which have a strategic role in addressing non-point source pollution.

10. **Impact of the Odra River Flood.** The severe economic and social impacts from the catastrophic Odra River flood in the summer of 1997 have had broad ramifications for the investment program of the Polish Government and many activities which were well prepared have been either delayed or reduced in their scope. Support for investments for improved environmental management has not been exempted from budget reallocations required for the massive reconstruction effort in southwestern Poland. However, even under these constraints, the Polish

⁵ A recent study conducted in the upper Odra basin by Warsaw Technical University concluded that, however much Poland spent on reducing pollution from point sources, it would not be able to meet its current standards for water quality without addressing pollution from non-point sources.

Government remains prepared to support development and implementation of a first phase project to address non-point source pollution from agriculture which would provide the basis for a larger country-wide project in the medium term. Given these serious short-term constraints, Poland has adopted a strategy that focuses on provision of personnel drawn from Government agencies to support the preparation and implementation of such a project, other types of services in-kind, and use of Government land, while seeking support for investment activities from the independent National Fund for Environmental Protection and Water Management and from international sources.

11. **Importance of International Assistance.** Without international assistance, Poland is unlikely to address these issues comprehensively in the next few years. This will cause a disruption in the progress achieved to date through the successful demonstration projects and delay the valuable opportunity to proceed with a full-scale investment project that will undertake an operational program of interventions. In addition, since Poland has the most advanced level of field-based knowledge in conducting non-point source pollution activities among the countries in economic transition, the added benefit of having a model project that could be replicated elsewhere in Central and Eastern Europe will be lost. Identification and dissemination of lessons learned will also be delayed, an important loss for parties planning to develop similar projects in the greater region.

12. **Baseline Scenario.** Donors previously involved in these activities are phasing out their funding, and there is no major new donor activity other than that leveraged by this project. It is assumed that the baseline will include the ongoing activities listed above plus the Rural Environmental Project, but without GEF support. The total cost of Baseline Scenario investments for the Government of Poland and the donors is US\$18.2 million. This cost includes environmental advice to farmers on Good Agricultural Practices (US\$2.1 million); farm investments to support storage of manure and slurry, construction of buffer strips and wetlands (US\$12.0 million); incremental costs for the operations of the Local Implementation Teams (US\$0.9 million); public awareness (US\$0.4 million); project impact monitoring (US\$1.6 million); replication strategy (US\$0.1 million); project management (US\$0.5 million); and recurrent costs (US\$0.6 million). Implementation of the Baseline Scenario will result in a limited reduction of nutrients into a small number of local water bodies in Poland. Reduced coverage on farms would limit the number of opportunities for demonstration on different types of farms and in different environmental conditions. Furthermore, there would be no program to estimate and communicate the benefits of improving environmental practices on farms.

13. **Current Situation.** The current situation, the Baseline Scenario, will result in non-point source pollution from agriculture in Poland and the adjacent countries contributing significant and excessive loads of nutrients to the Baltic Sea, that will lead to widespread eutrophication and the ecological damage and economic losses associated with this process. The long-term implication will be continued degradation of a globally significant element of international waters and its associated biodiversity in the shared coastal and marine environment of the Baltic Sea. The GEF Alternative would go beyond the Baseline Scenario by allowing the project to establish a mechanism for coordinating the approach, funding and geographic location of activities designed to reduce non-point source pollution in Poland. This would overcome the risk of the current course of action, under the Baseline Scenario, that Poland's effort to reduce nutrient flow in the Baltic Sea will have limited effect due to a lack of coherence in strategy.

14. **Demonstration of a Replicable Mechanisms.** The global environmental objective of the project is to demonstrate effective mechanisms for improving environmental practices in agriculture through a project designed to reduce nutrients entering the Baltic Sea. The role of the

GEF, the other donors and the IBRD in this project would be to buy down the risks to farmers of adopting these techniques. It would also be to calculate, demonstrate and disseminate the benefits of improved environmental practices in agriculture. It would assist in making the internalization of costs, which in GEF terms are incremental, broadly recognized over the long term as economically beneficial to farmers, communities and the global environment. The GEF Alternative would accelerate, coordinate and expand field-tested technologies and approaches and link them with a major outreach and communications program. The GEF Alternative would build on the Baseline Scenario, increase the coverage of the mechanisms to be tested in Poland and provide a model for potential use in other Central and Eastern European countries. Links with the work of the European Union, GEF partners, Helsinki Commission, international financial institutions and donors will assist in sharing and replication of successful practices within the region. Because of the potential for replication in other countries, and because of its transboundary implications, the GEF Alternative has leveraged approximately US\$5.0 million in grant contribution from other donors and at least \$100,000 in kind contribution from the US Government.

15. **Scope.** The GEF Alternative has been developed to accelerate the opportunity provided by the project in Poland to become a model which, with adjustment for local conditions, could be replicated in other countries. The addition of GEF resources would reduce the threshold for the Polish Government to proceed with a project whose success in turn would reduce the risk of other countries in undertaking similar initiatives. It would build on the Baseline Scenario in four ways:

- Allow additional investments in farm infrastructure in selected project areas, all of which are sensitive to pollution from nitrates and have an impact on the Baltic Sea. The increased coverage will provide greater environmental benefits and augment the demonstration potential of the exercise.
- Expand the public awareness program to effectively explain the benefits of improved environmental practices at the farm level.
- Allow the development of a strategy for replication of the project within Poland and internationally.
- Help to coordinate the testing and operationalization of a number of mechanisms to address the challenge of controlling non-point source pollution under the Baseline Scenario.

16. **Participatory Approach.** This project builds on the successful demonstration and planning activities outlined above, which were based on a participatory approach. These activities were developed and implemented through a range of partnerships between the Polish Government, local authorities, domestic and international nongovernmental organizations, the European Union, World Bank and a range of bilateral donors. The project will follow the model of these pilots by taking a participatory approach, involving farmers and their families in investment planning and monitoring, and undertaking extensive outreach campaigns. Project implementation will include the participation of nongovernmental organizations. The project preparation process has been undertaken collaboratively with the Helsinki Commission and members of its Program Implementation Task Force, United States Environmental Protection Agency and United States Department of Agriculture, the European Commission and the Nordic Environmental Finance Corporation. Project design has benefited from consultations with Coalition Clean Baltic and long-term cooperation with the World Wide Fund for Nature (WWF) and the European Commission.

Costs

17. **Cost of the GEF Alternative.** The total cost of the GEF alternative is estimated at US\$21.2 million, detailed as follows:

- *Component 1 - Farm Environmental Improvements:* (a) Operational and Training Support for Farmers - US\$2.1 million (same as baseline); (b) Farm Environmental Investments - US\$15.0 million (*GEF financing US\$3.0 million*); (c) Incremental Recurrent Costs for the operations of the Local Implementation Teams – US\$0.9 million (same as baseline).
- *Component 2 - Outreach and Management:* (a) Public Awareness - US\$0.4 million (same as baseline); (b) Project Impact Monitoring - US\$1.6 million (same as baseline); (c) Replication Strategy - US\$0.1 million (same as baseline); (d) Project Management - US\$0.5 million (same as baseline); (e) Recurrent Costs – US\$0.6 million (same as baseline).

Benefits

18. **Domestic and International Benefits.** Poland's successful experience in serving as a lead party in work on agriculture and environment issues at a regional level, in the context of the Helsinki Commission and the pilot initiatives sponsored by the Swedish and United States governments and EU (Phare), represents a good start for regional cooperation and commitment to reducing agricultural pollution in the Baltic Sea. Under the Baseline Scenario, over the long term, a variety of domestic benefits would indeed accrue, such as cleaner surface and ground water, and improved farm productivity. However, because of the dispersed nature of the benefits and the long time horizon, the more substantial effort as proposed in the GEF Alternative would be necessary for the benefits of this first phase project to be realized more broadly within Poland and the region. The most valuable domestic benefits that will come from the project are associated with increased public awareness and adoption of improved farm environmental management. Internationally, the most important benefits will come from development of a replicable model for addressing this important transboundary issue and the dissemination of lessons learned from project implementation.

Incremental Costs

19. **Baseline vs. GEF Alternative.** The difference between the cost of the Baseline Scenario (US\$18.2 million) and the cost of the GEF alternative (US\$21.2 million) is estimated at US\$3.0 million. This represents the incremental cost of achieving environmental benefits through adoption of environmentally responsible practices by farmers. The GEF Alternative would allow the Project to secure additional co-financing from the implementing agency to cover public awareness; outreach; and developing, strengthening, monitoring and testing replicability of the project to improve the quality of the Baltic Sea. Discussions are ongoing with interested donors regarding co-financing possibilities. It is anticipated that the European Union (Phare) will contribute EUR 3.5 million, the Nordic Environment Finance Corporation (NEFCO) has approved a grant of US\$1.0 million, and IBRD is completing preparations for a loan of US\$2.5 million. The National Fund for Environmental Protection and Water Management has agreed to contribute approximately \$1.0 million equivalent.

Incremental Cost Analysis

Component	Cost Category	US\$m	Domestic Benefit	Transboundary Benefit
1. Farm Environmental Improvements				
(a) Farm Environmental Advice	Baseline	2.1	Long run productivity on participating farms. Sustainable use of manure storage facilities	Farmers' increased understanding of economic benefits from improved practices creates an economic incentive to take actions that more rapidly reduce agricultural non-point source pollution.
	With GEF	2.1		
	Incremental	0		
(b) Farm Environmental Investments	baseline	12.0	Improved local quality of surface water in participating watersheds. Improved quality of groundwater over long run	Increased coverage of manure storage in project areas. Demonstration of effective mechanisms to reduce pollution from agriculture. Reduced pollution of the Baltic Sea from agricultural sources.
	with GEF	15.0		
	incremental	3.0		
(c) Recurrent Costs	baseline	0.9		
	with GEF	0.9		
	incremental	0		
2. Outreach and Management				
(a) Public Awareness	baseline	0.4	Limited increased farmer awareness of importance of environmental management	Wider understanding among Polish farmers and public of issues involved
	with GEF	0.4		
	Incremental	0		
(b) Project Impact Monitoring	Baseline	1.6	Provision of information concerning response to project supported interventions at the national level that allows for establishment of trends and more effective national and local level management actions.	Provision of information concerning response to project supported interventions at the regional level that allows for establishment of trends and more effective regional level management actions by Helsinki Commission, European Union and other bodies.
	with GEF	1.6		
	Incremental	0		
(c) Replication Strategy	Baseline	0.1	Potential for national replication	Accelerate development of a strategy for replicating project both within Poland, Baltic Sea region and in other Central and Eastern European countries.
	with GEF	0.1		
	Incremental	0		
(d) Project Management	baseline	0.5	Increased capacity for project management and awareness of agricultural pollution	
	with GEF	0.5		
	incremental	0		
(e) Recurrent Costs	baseline	0.6		
	with GEF	0.6		
	incremental	0		
Total	baseline	18.2		
	with GEF	21.2		
	incremental	3.0		

ANNEX 14
POLAND: RURAL ENVIRONMENTAL PROTECTION PROJECT
TRANSBOUNDARY ANALYSIS

1. **Strategic Action Program.** The management of nutrient pollution from agricultural non-point sources is a problem common to all the countries in the Baltic Sea Region, with impacts on the shared coastal waters and marine environment. The need to address agricultural inputs to international waters has been highlighted as a major priority in the "Baltic Sea Joint Comprehensive Environmental Action Program (Program)," the strategic action program for the region, which was prepared under the coordination of the Helsinki Commission by a broadly representative high level task force. Since the Ministers of Environment adopted the Program in 1992, many field-based demonstration activities have been undertaken in the countries in economic transition in the eastern and southern portion of the Baltic Sea drainage basin. These activities were designed to establish a basis for preparation and implementation of operational projects that support long-term measures required to incrementally reduce non-point source pollution of the coastal and marine environment. Implementation of operational programs was not possible in the early 1990s due to political changes in these countries which resulted in a complete reorganization of the agricultural sector as the shift from planned to market economies took place.

2. **Updated Strategic Action Program.** The Ministers of Environment in 1998 adopted the "Recommendations for Updating and Strengthening" of the Program. This document noted that agriculture contributes an estimated 30-40 percent of the nitrogen and 10 percent of the phosphorous loading entering the Baltic Sea and that increased efforts should be made to address control of non-point source pollution from agriculture and rural settlements. A review, conducted as part of the "updating and strengthening" process, assessed the status of the demonstration activities. The review concluded that measures to initiate operational projects to control non-point source pollution from agriculture in the countries in economic transition would be possible in the next phase of Program implementation due to increased stability in the sector and resolution of many issues concerning land ownership. The importance of rapidly proceeding with a cooperatively based project in Poland was specifically identified in the document. This is justified by the high level of transboundary impacts from its extensive agricultural sector, the opportunity to introduce Good Agricultural Practices as part of the restructuring process, and the considerable potential for success given the commitment of the Polish Government and the positive results from the cooperatively funded demonstration projects. The report also recognized that a project could be rapidly developed, given the advanced state of preparation of the Polish Government and nongovernmental institutions, and their positive experience with the use of participatory approaches.

3. **Assessment of Transboundary Impacts.** The Helsinki Commission, working in cooperation with the signatory countries, has prepared three Pollution Load Compilations, in 1987 (PLC-1), 1990 (PLC-2) and 1995 (PLC-3). A fourth PLC is currently being prepared. These compilations have aimed to amass information on the inputs of important pollutants entering the Baltic Sea from different sources on the basis of harmonized monitoring methods. They have been complemented by a series of Periodic Assessments that review trends in the Baltic Sea environment. The PLCs also included special studies on non-point source pollution from agriculture at the regional level, selected country level studies, and local studies prepared to support demonstration activities in Estonia, Latvia, Lithuania, Poland and Russia. Efforts are currently underway to upgrade the quality and comparability of monitoring data and to develop a series of indicators that can be used to assess trends. In addition, regional meetings were held to review progress in addressing agriculture and environment issues in the eastern and southern

portion of the drainage basin in Vilnius (1993) and Warsaw (1996). This issue was also the subject of the 1996 Royal Colloquium chaired by H.M. King Carl XVI Gustaf of Sweden on "The Baltic Sea Region: Agriculture and Sustainability."

4. **Eutrophication.** Eutrophication of international water bodies is a major environmental problem in many parts of the world, including the Adriatic Sea, Baltic Sea and Black Sea. The common symptoms of eutrophication, which is caused by over enrichment of water by nutrients, are increased plant biomass in the form of algae, oxygen deficiency in water bodies, the formation of hydrogen sulfide and remineralization of the biomass. These processes disrupt the balance of freshwater, coastal and marine ecosystems and cause changes in their structure and function. Excessive nutrient loads to the semi-enclosed Baltic Sea affect the entire ecosystem; the work of the Helsinki Commission has identified nitrogen as the substance of highest concern. Eutrophication from nutrients and organic matters is a top priority transboundary water problem. Impacts associated with eutrophication in Baltic coastal and marine waters have been a shift in the composition of marine vegetation in many coastal areas, repeated large scale algal blooms, disruption of reproductive cycles of some fish species, declines in some fish stocks and increases in others. Summer algal blooms have periodically necessitated the closing of many bathing beaches throughout the region with an adverse affect on their recreational use and tourist value.

5. **Eutrophication Trends.** The symptoms of eutrophication, such as increased plant biomass and oxygen deficiency in the bottom water, have decreased in some coastal areas while in others they have stayed the same. Improvements have occurred in some portions of the western and northern part of the region due to a reduction of nutrient inputs resulting from construction of wastewater treatment plants and measures to control pollution from agriculture. However, in open sea areas no clear changes have been observed. With respect to long-term variations, there were no major differences in the dominance of phytoplankton species reported in the Periodic Assessments on the state of the Baltic Sea. In fact there are indications that the frequency and spatial coverage of harmful algal blooms in the Baltic Sea may have increased. This may be partially due to changes in seasonal availability and relative proportions of nutrients. Information available on macrophytobenthos strongly suggests that general changes have taken place during the recent decades along the coasts of virtually the whole of the Baltic Sea area. The depth distribution of perennial macrophytes, attached to the seabed, has decreased, and short-lived filamentous or thin-bodied epiphytic or drifting algae have become increasingly prevalent in recent times. These changes are most commonly explained by the high inputs of nutrients during the early 1990s.

6. **Massive Blue-Green Algal Blooms in 1997.** The summer of 1997 brought about exceptional blue-green algal blooms in different parts of the Baltic Sea. According to studies by the Finnish Institute for Marine Research, the surface accumulations of blue-green algae during this period were the most extensive ever recorded in the whole Baltic Sea area. Toxic blooms were found in the entire Baltic Sea. Large amounts of blue-green algal biomass drifted ashore, particularly along the northern coast of the Gulf of Finland and in the Archipelago Sea between Finland and Sweden. The large-scale blooms have been attributed to the high nutrient load in the Baltic Sea, with exceptionally sunny weather serving as an effective catalyst for starting the blooms. In Helsinki, the extensive blue-green algal blooms forced the city to close many of its beaches for most of the swimming season. During the summer several cases of cyano-bacterial toxicosis were reported both in humans and animals in Finland. This event caused widespread demands from politicians and the public for intensified action to reduce nutrient loading to the Baltic Sea from all types of sources to avoid such large scale transboundary impacts.

7. **Transboundary Pollution in Sensitive Coastal Areas.** The eastern and southern portion of the Baltic Sea includes a number of semi-enclosed bays and large coastal lagoons that are

critical elements of the regional ecosystem and require special management efforts. These areas include portions of the Gulf of Finland (Estonia, Finland, Russia); Haapsalu and Matsalu Bays (Estonia); Gulf of Riga (Estonia, Latvia); Kursiu Lagoon (Lithuania, Russia); Vistula Lagoon (Poland, Russia); Gulf of Gdansk (Poland); and the Oder/Odra Lagoon (Germany, Poland). They provide extensive habitat for aquatic and terrestrial species, support important fisheries and are of recreational and tourism value. In particular, the coastal lagoons and their associated wetlands serve as nutrient traps that reduce the impacts on the greater Baltic Sea by concentrating these substances. The Program has identified the need to take priority actions to strengthen management of, and reduce the discharge of nutrients to these sensitive areas. Because most of these areas are transboundary, special measures should be taken through the Helsinki Commission to promote development of cooperative management plans and to support actions for investments to control both point and non-point sources of pollution. Special monitoring programs and indicators are currently being developed for use in the Vistula Lagoon and Odra Lagoons. It is important to note that while the Gulf of Gdansk is within Poland, the current pattern in the Baltic carries its waters to coastal areas of Russia (Kaliningrad Oblast) and Lithuania, making its management a transboundary concern as well.

ANNEX 15
POLAND: RURAL ENVIRONMENTAL PROTECTION PROJECT
STAP REVIEW



GREAT BARRIER REEF
MARINE PARK AUTHORITY

Mr Stephen Litner
World Bank

Dear Stephen

Thank you for forwarding me the relevant annexes of the Polish Rural Environmental Protection Project. I have had an opportunity to read the materials and offer this hastily prepared commentary.

The project clearly is one of substantial importance in the context of international waters and the specific situation applying to the Baltic.

Successfully conducted, this project should make a significant contribution which would have a significant in other areas suffering the same widespread problem.

My major comment on the papers are that the linkage between the complementary activities:

1. Technical assistance to farmers concerning good agricultural practices and
2. Support to farmers to invest in the construction of manure and slurry storage facilities is not clearly drawn.

I infer that the agronomic benefits to farmers are that by storing slurry for substantial periods they are able to withdraw it from storage and apply it to crops at times when there will be maximum benefits in terms of conversion of nitrate and phosphate to plants in the crops.

They thus achieve an agronomic, economic benefit and the community at large receives an environmental benefit because those nitrates and phosphates are locked up and do not reach the water courses as non-point source pollution.

It seems to me that if this is the case the project should seek to monitor and demonstrate the economic benefits which flow to farmers from the adoption of these practices. This would provide the greatest probability of the costs which in GEF terms are incremental becoming eventually recognised as economically

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beneficial to the farmers and communities and thus being internalised in the longer run.

Having said that, I reaffirm that the project is one of substantial importance. I note that the Polish government is in the process of legislating to support this measure and thus reduce non-point source pollution from agriculture. I note also that Poland is regarded as the country in economic transition which has the most advanced level of field-based knowledge in conducting non-point source pollution activities. These factors add to the possibility of a successful outcome.

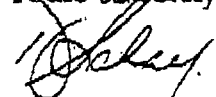
It is not clear to me from the material which I have received, to what extent synthetic fertilisers play a role in the non-point source pollution burden flowing from Polish agricultural lands. They may not be a significant factor. However, if they are used there could be a potential to demonstrate economic substitutability if farmers use stored manure slurry instead of synthetic fertiliser. This may well be an attractive demonstration of cost efficient environment management.

With regard to the incremental cost analysis, it seems to me that the trans-boundary benefit under 1 b) would go beyond the increased coverage of manure storage to reflection of the global benefit of reduced pollution reaching the international waters of the Baltic. In the case of outreach and management, if we assume that the project will include a demonstration of the economic benefit to farmers of the adoption of the technology, then the trans-boundary benefit goes beyond wider understanding among farmers to an economic incentive to farmers to take up the technology and thus more rapidly reduce the flow of non-point source pollution to the water courses.

The trans-boundary analysis is clear and frightening in its implications. It provides strong support to the case for the project to be conducted.

I reiterate that these comments are made in some haste, I hope that they are helpful to you in progressing the project to implementation. Please do not hesitate to contact me if you require further information.

Yours sincerely


R A Kenchington
Executive Director

14 May 1998

MAP SECTION

