

Document of
The World Bank

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Report No: **41094-RO**

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF EURO 50 MILLION
(US\$68.1 MILLION EQUIVALENT)

AND

A PROPOSED TRUST FUND GRANT FROM THE
GLOBAL ENVIRONMENT FACILITY TRUST FUND

IN THE AMOUNT OF US\$5.5 MILLION

TO THE

GOVERNMENT OF ROMANIA

FOR AN

INTEGRATED NUTRIENT POLLUTION CONTROL PROJECT

October 3, 2007

Sustainable Development Department
Europe and Central Asia Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective August 31, 2007)

EUR 1	=	RON 3.39
2.62 RON	=	US\$1
US\$1.49	=	SDR 1
US\$ 1.36	=	EUR 1

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

ANAR	National Administration for Romanian Waters
APCP	Agricultural Pollution Control Project
BSEP	Black Sea Environment Program
BSSAP	Black Sea Strategy Action Plan
CFAA	Country Financial Accountability Assessment
CMR	Comprehensive Monitoring Report
COA	Romania Court of Account
CPS	Country Partnership Strategy
DA	Designated Accounts
EBRD	European Bank for Reconstruction and Development
ESC	Economic and Social Cohesion—EU PHARE Grant Program
EMP	Environmental Management Plan
EIB	European Investment Bank
EU	European Union
EPA	Environmental Protection Agency
GAP	Good Agricultural Practices
GEF	Global Environment Facility
IBRD	International Bank for Reconstruction and Development
IFI	international financial institution
IFR	interim financial report
ICA	Inter-Ministerial Committee for Application of the Nitrates Directive
INPCP	Integrated Nutrient Pollution Control
ISDS	Integrated Safeguard Data Sheet
ISPA	Instrument for Structural Policies for Pre-accession
JICA	Japan International Cooperation Agency
LEPA	Local Environmental Protection Agency
MARD	Ministry of Agriculture and Rural Development
MATRA	Dutch institution building and twinning program
MEF	Ministry of Economy and Finance
MESD	Ministry of Environment and Sustainable Development
MPH	Ministry of Public Health

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ND	Nitrates Directive
NEAP	National Environmental Action Plan
NEG	National Environmental Guard
NEPA	National Environmental Protection Agency
NGO	Non-governmental organization
NPV	Net Present Value
NVZ	Nitrate Vulnerable Zone
OECD	Organization for Economic Cooperation and Development
OSHPA	National Agency for Agricultural Consultancy
PCN	Project Concept Note
PDO	Project Development Objective
PHARE	Poland and Hungary: Assistance for Restructuring their Economies
PIC	Public Information Center
PID	Public Information Document
PMU	Project Management Unit
POPs	Persistent organic pollutants
REPA	Regional Environmental Protection Agency
RON	Romanian Lei
RVP	Regional Vice President
SAPARD	Special Accession Program for Agricultural Rural Development
SIL	Specific Investment Loan
SPIW	Strategic Priorities for International Waters (GEF)
SWAP	Sector Wide Approach
TDS	Training & Demonstration Site
WEFCF	Women in Europe for Common Future
TOR	Terms of Reference

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Country Manager/Director:	Anand Seth
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ROMANIA
Integrated Nutrient Pollution Control Project

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ROMANIA

INTEGRATED NUTRIENT POLLUTION CONTROL PROJECT

PROJECT DOCUMENT

EUROPE AND CENTRAL ASIA

ECSSD

Date: September 20, 2007	Team Leader: Karin Shepardson
Country Director: Anand K. Seth	Sectors: Animal production (20%); Sanitation (20%); Sewerage (20%); Solid waste management (20%); Crops (20%)
Sector Manager/Director: Juergen Voegele	Themes: Environmental policies and institutions (P); Pollution management and environmental health (P); Water resource management (P); Land administration and management (S); Rural services and infrastructure (S)
Project ID: P093775	Environmental screening category: Partial Assessment
Lending Instrument: Specific Investment Loan	
Global Supplemental ID: P099528	Team Leader: Karin Shepardson
Lending Instrument: Global Environment Facility (GEF) Grant	Sectors: Animal production (20%); Sanitation (20%); Sewerage (20%); Solid waste management (20%); Crops (20%)
Focal Area: I-International waters	Themes: Environmental policies and institutions (P); Water resource management (P); Pollution management and environmental health (P); Rural services and infrastructure (S); Land administration and management (S)
Supplement Fully Blended?: Yes	

Project Financing Data

[X] Loan [] Credit [X] Grant [] Guarantee [] Other:

For Loans/Credits/Others:

Total Bank financing (US\$m): 68.1

Proposed terms: Payable in 15 years, including 5 years of grace and level principal repayment, at six-month LIBOR for Euro plus variable spread for Variable-Rate Single Currency Loans, subject to any waiver of a portion of such interest as may be determined by the Bank from time to time.

Financing Plan (US\$m)

Source	Local	Foreign	Total
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT	59.0	9.1	68.1
GLOBAL ENVIRONMENT FACILITY	4.0	1.5	5.50
NATIONAL ADMINISTRATION FOR	1.1	0.0	1.1

ROMANIAN WATERS (ANAR)			
LOCAL COMMUNITIES	4.7	0.1	4.8
LOCAL GOVTS. (PROV., DISTRICT, CITY) OF BORROWING COUNTRY	1.6	0.5	2.1
Total:	70.4	11.2	81.6

Borrower:

Government of Romania

Responsible Agency:

Ministry of Environment and Sustainable Development
Bucharest 5
Romania
040129
silviu@mappm.ro
Lucia.Varga@mmediu.ro

Estimated disbursements (Bank FY/US\$m)									
FY	2008	2009	2010	2011	2012	2013	2014	0	0
Annual	2.90	11.55	19.04	18.09	11.15	4.36	1.01		
Cumulative		14.45	33.49	51.58	62.73	67.09	68.10		

GEF Estimated disbursements (Bank FY/US\$m)									
FY	2008	2009	2010	2011	2012	2013	0	0	0
Annual	0.04	0.20	0.29	1.33	1.83	1.19	0.62		
Cumulative		0.24	0.53	1.86	3.69	4.88	5.50		

Project implementation period: Start November 1, 2007

Expected effectiveness date: May 30, 2008

Expected closing date: December 30, 2013

Does the project depart from the CAS in content or other significant respects? <i>Ref. PAD I-C.</i>	[]Yes [X] No
Does the project require any exceptions from Bank policies? <i>Ref. PAD IV-G</i>	[X]Yes [] No
Have these been approved by Bank management?	[X]Yes [] No
Is approval for any policy exception sought from the Board?	[]Yes [X] No
Does the project include any critical risks rated “substantial” or “high”? <i>Ref. PAD III-E</i>	[X]Yes [] No
Does the project meet the Regional criteria for readiness for implementation? <i>Ref. PAD IV-G</i>	[X]Yes [] No

Project development objective <i>Ref. PAD II-B, Technical Annex 3</i> The overall development objective of the proposed project is to support the Government of Romania to meet the EU Nitrates Directive requirements by (a) reducing nutrient discharges to water bodies, (b) promoting behavioral change at the communal level, and (c) strengthening institutional and regulatory capacity.
Global Environment objective <i>Ref. PAD II-B, Technical Annex 3</i> To reduce over the long term, the discharge of nutrients into water bodies leading to the Danube River and Black Sea through integrated land and water management.

Project description [*one-sentence summary of each component*] *Ref. PAD II-C, Technical Annex 4*

The project will support four components: (i) a menu of investments focusing on Nitrate Vulnerable Zone-designated communes in ten river basins and eleven counties; (ii) capacity building within the Ministry of Environment and Sustainable Development (MESD) and their National Administration for Romanian Waters (ANAR), as well as other national, regional, and county agencies involved with the nitrates directive; (iii) broad public awareness and information campaign focused on investment replication and behavior change; and (iv) project management unit.

Which safeguard policies are triggered, if any? **Ref. PAD IV-F, Technical Annex 10**
Environmental Assessment (OP/BP 4.01) and Projects on International Waterways (OP/BP 7.50) Safeguard Policies are Triggered. The project meets conditions for a waiver of OP/BP 7.50, which has been granted by the RVP.

Significant, non-standard conditions, **if any**, for:

Ref. PAD III-F

Board presentation:

No Board conditions proposed.

Loan/GEF Grant effectiveness:

1. The MESD has established the PMU in a manner satisfactory to the Bank, assigning Project implementation responsibilities to the PMU, and has provided adequate office space to the PMU.
2. The GEF Grant Agreement has been executed and delivered and all conditions precedent to its effectiveness or to the right of the Borrower/Recipient to make withdrawals under it have been fulfilled.
3. The Loan Agreement has been executed and delivered and all conditions precedent to its effectiveness or to the right of the Borrower/Recipient to make withdrawals under it has been fulfilled.

Covenants applicable to project implementation:

Financial Management Covenants:

4. The Borrower/Recipient, through MESD, shall maintain or cause to be maintained a financial management system in accordance with the provisions of Section 5.09 of the General Conditions.
5. The Borrower/Recipient, through MESD, shall prepare and furnish to the Bank not later than forty-five (45) days after the end of each calendar semester, interim un-audited financial reports for the Project covering the semester, in form and substance satisfactory to the Bank.
6. The Borrower/Recipient, through MESD, shall have its Financial Statements audited in accordance with the provisions of Section 5.09 (b) of the General Conditions. Each audit of the Financial Statements shall cover the period of one fiscal year of the Borrower/Recipient. The audited Financial Statements for each such period shall be furnished to the Bank not later than six (6) months after the end of such period.

Withdrawal Conditions; Withdrawal Period

7. Notwithstanding the provisions of Part A of Section IV of the Loan Agreement, no withdrawals shall be made:

- (a) from the Loan Account until the Bank has received payment in full of the Front-end Fee;
- (b) for payments made prior to the date of this Agreement, except that withdrawals up to an aggregate amount not to exceed Euro ten million (EUR 10,000,000) of the Loan amount may be made for payments made prior to this date but on or after September 17, 2007 for Eligible Expenditures under Categories (1) through (4); and
- (c) for payments under a contract or for Incremental Operating Costs which the Bank has financed or agreed to finance under the GEF Grant Agreement.

8. Notwithstanding the provisions of Part A of Section IV of the GEF Grant Agreement, no withdrawal shall be made:

- (a) for payments made prior to the date of this Agreement; and
- (b) for payments made prior to the date of this Agreement, except that withdrawals up to an aggregate amount not to exceed USD one million and one hundred thousand (USD 1,100,000) of the Grant amount may be made for payments made prior to this date but on or after September 17, 2007 for Eligible Expenditures under Categories (1) through (4); and
- (c) for payments under a contract or Incremental Operating Costs which the Bank has financed or agreed to finance under the Loan Agreement.

9. The Closing Date is December 31, 2013.

Other Implementation Covenants:

10. The Borrower/Recipient, through MESD, shall assign the responsibility for overall oversight of the Project to the Inter-Ministerial Committee for Application of the Nitrates Directive (ICA), and shall maintain said Committee during Project implementation.

11. (i) The Borrower/Recipient, through MESD, shall maintain the PMU during Project implementation with adequate staffing and resources satisfactory to the Bank, and the PMU shall have overall responsibility for day to day implementation and management of the Project, including, but not limited to: (a) preparation of semi-annual work programs and implementation plans for Project implementation, (b) preparation of bidding and contract documents under the Project, (c) maintenance of the Project financial records and accounts and arranging for the audit thereof, (d) preparation of the Project Reports referred to in Section II.A of this Schedule, and (e) supervision of progress of Project implementation.

(ii) Not later than three (3) months after the Effectiveness Deadline, the Borrower/Recipient, through MESD, shall hire, in addition to the key staff of the PMU, such specialists as required for effective implementation of the Project and as shall be reasonably determined by the Borrower/Recipient and the Bank.

12. Not later than February 1, 2008, the Borrower/Recipient, through the MESD, shall cause the first six (6) selected Water Basin Directorates to hire one or two staff to work on Project implementation at the regional level, in coordination with the PMU. Within the next six months the remaining Water Basin Directorates shall hire one or two staff to work on Project implementation at the regional level, in coordination with the PMU.

13. The Borrower/Recipient, through MESD, shall: (i) take all necessary measures to implement the Project in accordance with the Operational Manual and the EMP, and shall not amend, suspend, abrogate, repeal or waive any provisions of the Operational Manual and the EMP without prior approval of the Bank; (ii) ensure that all measures necessary under the EMP are carried out in a timely manner; and (iii) ensure that adequate information on the implementation of the EMP is suitably included in the Project Reports referred to in Section II.A of this Schedule.

14. The Borrower/Recipient shall ensure that appropriate budget allocations are made available yearly for the Project implementation purposes, throughout the Project life.

15. For the purposes of implementation of Part I of the Project, the Borrower/Recipient, through MESD and PMU, shall:

- (a) select the Beneficiaries and Sub-projects based on the selection criteria set forth in the Operational Manual;
- (b) provide funds from the Loan proceeds to selected Beneficiaries for eligible Sub-projects on terms and conditions satisfactory to the Bank;
- (c) enter into contractual arrangements with Beneficiaries for provision of funds for Sub-projects which shall set forth the terms and conditions for these funds, cost-sharing arrangements, environmental requirements and implementation arrangements;
- (d) ensure that Sub-projects shall be implemented in accordance with the Operational Manual and the EMP.

16. Not later than thirty (30) months after the Effectiveness Deadline, the Borrower/Recipient, through the MESD, shall carry out jointly with the Bank, a midterm review of the progress made in carrying out the Project (hereinafter referred to as the Midterm Review). The Midterm Review shall cover, amongst other things:

- (a) progress made in meeting the Project's objectives; and
- (b) overall Project performance against Project performance indicators.

17. The Borrower/Recipient, through the MESD, shall prepare, and at least four (4) weeks prior to the Midterm Review, furnish to the Bank, a separate report describing the status of implementation of each component of the Project and a summary report of Project implementation generally.

18. The Borrower/Recipient, through the MESD, shall, not later than two (2) weeks after the Midterm Review, prepare and submit to the Bank an action program, acceptable to the Bank, for the further implementation of the Project having regard to the findings of the Midterm Review and, thereafter, implement such action program.

19. The Borrower/Recipient, through MESD, shall monitor and evaluate the progress of the Project and prepare Project Reports in accordance with the provisions of Section 5.08 of the General Conditions and on the basis of indicators agreed with the Bank. Each Project Report shall cover the period of one calendar semester, and shall be furnished to the Bank not later than forty-five (45) days after the end of the period covered by such report.

I. STRATEGIC CONTEXT AND RATIONALE

A. Country and sector issues

1. Romania's accession to the European Union January 1, 2007 represents a tremendous achievement; it also poses an immense challenge. Environmental compliance demands high investment costs as well as the strengthening of related administrative structures and competencies. Romania closed negotiations on the environment chapter of the *Acquis Communautaire* in November 2004, with detailed time-based agreements for adoption and implementation of regulations either by accession or within specified implementation periods for more costly and difficult areas. Compliance with the environment *acquis* is estimated at a net present value (NPV) of Euro 17 billion over a period of 11 years—the highest for any accession country. EU grants are expected to cover around 25 percent of the costs, with the rest requiring government and private funds. The most significant efforts will be required in the water sector, where annual investment needs beyond expected EU funds are in the range of Euro 600-800 million per year. Agreements with the EU for improved water management include addressing nitrate pollution from agricultural sources. Through the proposed IBRD Loan and GEF (Global Environment Facility) Grant, the World Bank has been requested to support the Government of Romania with investments and technical assistance for the implementation of the EU Nitrates Directive through an integrated program demonstrating links with other environment investments, especially sanitation and waste management. The proposed project design builds directly upon earlier World Bank and GEF support that helped pilot and test actions the government would like to scale up, as reflected in agreed EU Directive implementation plans.

2. *Many small farms with livestock.* Romanian agriculture is dominated by individual or household farms, with around four million agricultural holdings, varying from less than 1 ha to 2,000 ha.¹ Households in the NVZs (Nitrate Vulnerable Zones) have on average 2.2 hectares of arable land together with livestock, typically one or two cows, pigs, chickens, and even sheep, that are housed close to the family dwelling in sub-standard buildings. Practices for animal manure collection, handling, and storage vary depending on tradition; however, the vast majority of households do not have controls to prevent direct seepage of effluent into soil. Privatization of farmland has contributed to farmers keeping livestock on site (in the NVZs, 96% of the cattle and 62% of the pigs are in households), which exacerbates nutrient pollution problems in groundwater. In some regions, animal waste is disposed through open dumping onto fields, often along waterways with little consideration for its value as fertilizer or the threats to human health and the environment. Solid waste in rural households typically lacks a formalized collection and disposal service, and is often co-mingled with animal and other wastes. With the use of chemical fertilizers limited by high prices (application of NPK averages 36kg/ha, or about a quarter of previous levels), inappropriately handled organic manures are the main source of nitrate discharge on arable land. However, with prices of agricultural commodities increasing, it is also critical to ensure that chemical fertilizers do not contribute to water pollution in the future.

¹ Some 45% are smaller than 1 hectare, and about 80% of all farms qualify as subsistence holdings.

3. *Lack of knowledge of environmental impact.* Small and medium-sized farms² typically do not take into account impacts on the environment, and awareness of alternatives for meeting Nitrates Directive compliance—required to receive farm subsidy payments in Nitrate Vulnerable Zones (NVZs)—is still low. Private land owners, farmers and agro-processors require incentives and broader knowledge of economic benefits to adopt technology for improved land management to reduce nutrient loads. Significant EU grants (Agriculture—CAP Pillar 2) will be available to help private farms make necessary on-farm capital investments. Hence, best practice demonstrations, farmer training, and awareness must be scaled up and spread geographically in parallel with promoting demand for these desired changes to occur.

4. *Historically, rural water supply and sanitation have been low government priorities.* Current water and wastewater service provision in Romania is low compared with other European countries. Of the 10 million people living in rural areas, 33% are estimated to have access to a piped water system, although fewer are presumed to benefit from such service, as many systems do not function properly due to poor maintenance and/or lack of funds. Approximately half the rural population is served by public or private wells and the remaining 17% are served by public standpipes with varying travel distances to obtain potable drinking water. Many water systems are not in compliance with the EC Drinking Water Directive. The level of sanitation is even lower: only 12.9% of rural households are served by a sewerage network, and only 10% of rural households have their wastewater treated (approximately 94% of the sewers in Romania are in urban areas). The remaining rural areas depend, at best, on septic tanks or cesspits, usually poorly built and maintained. Rural households and public buildings (schools, community centers and local public administration) commonly lack indoor toilets and running water for immediate hand washing.

5. *The combination of underdeveloped sanitation, poor livestock management, and a large number of small farms* results in significant nitrate and microbial contamination of shallow groundwater—the main source of potable water in rural areas. The effects of this are observed in high concentrations of nitrates, an indicator of general pollution and contamination affecting both the environment and public health, and reported incidences of acute infantile methaemoglobinæmia—blue baby disease. In 2005, 241 cases of blue baby disease were reported by the Institute of Public Health in 24 of the 41 counties, which in some cases were linked to nitrate levels well in excess of 100 mg/l. Community well testing programs in Romania indicate the problem is likely to be more widespread than official monitoring data shows. Pilot programs in Romania have shown that behavior can be modified through a combination of targeted public awareness programs and demonstration investments, ultimately raising demand and farmers' willingness to invest their own resources.

6. Romania has progressively begun investing in improved environment infrastructure with the support of EU pre-accession funds, and will expand coverage of these investments into the next decade and beyond with continued substantial support from the Structural and Cohesion Funds. Government strategies support solid waste service regionalization at the county level with transfer stations eventually extending out to reach the rural areas recognized as most significant to achieving targets for lowering organic content in the national waste stream.

² Large farms have other specific environment requirements such those annexed under the EU Integrated Pollution Prevention Control (IPPC) Directive.

Similarly, the government strategy for water and sewerage provision emphasizes regionalization as a priority to improve cost effectiveness and service quality. Thus, the strategy focuses on large to medium-sized cities and towns that would later act as hubs for extended services. Prospects of converging investment in NVZs to achieve improvements therefore vary substantially depending on the location and context of county-level planning. A lack of funds and capacity for feasibility study design is a further barrier to attracting investments to rural areas. Specific interventions and greater awareness are thus required to help promote the convergence of investments in NVZs.

7. Environment investments demand an extensive and improved capacity for inter-governmental coordination. The Romania Water Authority through its River Basins has been designated to lead coordination of the Nitrates Directive implementation and reporting at both the River Basin and County levels through inter-agency working groups. Core administrative structures for environment at the national, regional and local levels similarly play a critical role in ensuring adequate environmental compliance and enforcement, raise awareness of legal requirements, promote appropriate technical solutions, and support transparent and cost-effective decision making through collection and wide dissemination of data and information.

8. *Regional Context.* Over the past decades, the Black Sea has suffered severe environmental damage due to eutrophication, resulting from increased nutrient runoff from agriculture, coastal erosion, insufficiently treated sewage and inadequate resource management that has led to long-term ecological deterioration. Black Sea Environmental Program (BSEP) studies revealed that 58% of the nitrogen and 66% of the phosphorous flowing in dissolved form into the Black Sea come from the Danube River Basin. Romania has the largest land drainage area of the 13 countries comprising the Danube Basin (29%) and the largest population share (27%). Its location at the bottom of the Basin presents special challenges in terms of managing waterways with pollutant waste loads from upstream countries, but it also means that Romania's land-based actions, particularly for nutrient management, have the most direct effects on the Black Sea. Therefore, actions taken in Romania to stem nutrient pollution flow into the Danube and the Black Sea are critically important and would result in benefits to other riparian states.

9. Reducing nutrient runoff (nitrogen and phosphorous from agriculture) into the Danube River and the Black Sea is an integral part of the country's environmental strategy as well as the Black Sea and Danube River Basin Strategic Action Plans. The Government of Romania has assumed international obligations under the Bucharest Convention, the Odessa Ministerial Declaration on the Protection of the Black Sea, and the Danube River Protection Convention to reduce nutrient discharge to the Black Sea. To meet the EU Water Framework Directive requirements, the 13 Danube Basin Countries are cooperating to develop a River Basin Management and Action Plan by 2009-2010 that requires country-specific data and inputs from all riparian states.

10. *The GEF Danube–Black Sea Strategic Partnership Program.* The Ministry of Environment and Sustainable Development (MESD) is nearing completion of a GEF-funded Agricultural Pollution Control Project (APCP), under the umbrella of the Black Sea–Danube Strategic Partnership/Nutrient Reduction Investment Fund. The APCP represents the World Bank and GEF's earliest efforts to mainstream environment and nutrient reduction

considerations into agriculture, and served as a pilot for Romania and many other countries in the two Basins that replicated similar interventions. The 5-year APCP made significant progress in demonstrating reductions in discharge of nutrient pollution in water bodies in the project area, meeting its global objectives of reducing nutrient pollution in Romania's water bodies. Outcomes in the pilot county included (a) an increase in the percentage of households with livestock using village and household manure storage facilities and segregating waste, from less than 5% to 52% by December 2006, which is in excess of the original 45% target by mid-2007; (b) an increase in afforestation of erosion-prone locations to about 75%; and (c) an increase in the number of farms using appropriate nutrient management (reduced chemical fertilizer application and increased organic manure) from one or two farms at the start to over 30% of the arable area, meeting the overall expectation at the start of the project. This single county pilot helped to demonstrate both environmental and quality of life benefits through a concerted program of action (See Annex 1). Although actions toward implementation of the EU Nitrates Directive were initiated under APCP, a significant amount of work remains for comprehensive implementation on a national scale.

B. Rationale for Bank and GEF involvement

11. The nitrates reduction investments were identified as an urgent priority by the Ministry of Environment and Sustainable Development and were highlighted in a Memorandum of Understanding between the Prime Minister, the Ministry of Public Finance and the MESD as a high priority for IBRD funds. The GEF has also cleared eligibility of a concept for approximately US\$5.5 million under the Danube Black Sea Strategic Partnership to provide incremental support for nutrient control measures under the proposed project. Implementation of the EU Nitrates Directive addresses government priorities for action in the context of EU accession commitments, and nitrates-reducing investments will help address key environmental issues with known human health risks affecting primarily poorer rural areas. Investments addressed through the project fall largely on the government budget and are unlikely to attract the interest of other IFIs operating on more commercial terms (e.g. EBRD), or those with less lending experience in this field (EIB and Council of Europe).

12. Romania is committed to improving water quality and reducing nutrient pollution over its entire territory as agreed under the Danube River and Black Sea Conventions and has embedded this in EU accession agreements for the Nitrate and Water Framework Directives. The government did not request a transition period for the EU Nitrates Directive, which means that in preparation for accession, Romania is expected to: (a) establish an operational monitoring system for soil, ground and surface waters; (b) prepare and adopt a unified set of monitoring guidelines and standards for soil and water; (c) designate waters affected by pollution, including the criteria for identification and designation; (d) create and update a Code of Good Agricultural Practices; (e) designate Nitrate Vulnerable Zones (NVZs) and prepare remedial Action Plans for each of the agro-ecosystems. Total costs of compliance with this directive have been estimated at 2.5 billion Euros. Early efforts are underway with the support of a World Bank–Dutch Grant, and a long-term investment program of actions is being developed that this Loan and grant would help support in the INPCP's initial years. To meet the EU Nitrates Directive, an initial 251 localities were designated as "nitrate vulnerable zones" (NVZs) using (a) data for sources of nitrate pollution (primarily livestock waste and fertilizers), and (b) soil characteristics that determine the

movement of nitrates to water bodies. Together, these form the basis for prioritization of initial actions to reduce nitrate levels in waters. World Bank-Dutch trust funds are being used to prepare specific NVZ “actions plans” (required by the Nitrates Directive for prioritizing mitigation measures to be implemented in the NVZs) for these designated localities, and, in line with the Nitrates Directive’s progressive approach, help re-assess and refine the methodology used for NVZ designation.

13. The Bank has considerable experience with projects related to reduction and management of nutrient pollution from agriculture in Poland and the Black Sea region, as well as in East Asia, and has played an important role in promoting exchange of best practices across countries through the Danube-Black Sea Strategic Partnership Program. Moldova, Georgia, Turkey, Croatia, Serbia, and Bulgaria are all currently implementing or preparing investments under the Black Sea-Danube partnership, and have benefited from Romania’s early demonstration successes. The Romania experience has been disseminated internationally to exchange practices with countries as far away as China. Romania’s committed efforts towards EU accession, the favorable political climate and the recognition of the links between sustainable agriculture and the environment provide an excellent window of opportunity for the Bank and GEF to assist the country in undertaking a nutrient reduction program as part of its EU mandated Water Framework Directive, Nitrates Directive and agri-environment program. GEF involvement will help ensure that countries in the wider region and internationally continue to learn from Romania’s efforts to scale up to the national level with significant state funds; and will help promote integration of other investments such as wastewater treatment, sanitation, and biogas with earlier tested actions.

14. *GEF Eligibility.* The project is consistent with Operational Program 8, the Waterbody-based Operational Program as support will be provided to measures that reduce pollution to the Black Sea and Danube Rivers. The project targets Strategic Priority 1 - *Catalyzing Financial Resources for Implementation of Agreed Actions* as the proposed intervention will help stimulate follow-on investments at the community and farm levels, and support institutions to promote action. This project would be the first GEF-supported up-scaling effort, stemming from an earlier nutrient pollution reduction pilot. GEF help in testing up-scaling within an EU context can provide a framework for other countries in the future, and will demonstrate the benefits of investing substantial national funds.

C. Higher level objectives to which the project contributes

15. The project will assist the Government of Romania in its obligations as a member of the EU. The project will help promote sustainable development by promoting good agricultural practices among farmers that improve land productivity in a more sustainable manner. It will contribute to regional integration and rural development by promoting environmentally friendly farming technologies, and will help improve human health by targeting a reduction of nitrates and other nutrients in drinking water.

16. Recognizing the need for a sustainable environmental sector to improve the competitiveness of the agricultural and rural sectors, and to facilitate compliance with the obligations of membership laid out in the *Acquis Communautaire*, the World Bank Country

Partnership Strategy (CPS) for Romania confirms that the environment remains a priority area for Bank assistance. The Bank's 2004 Romania Country Economic Memorandum includes a section on the environment and identified the following key challenges of the environment *acquis*; (a) strengthening institutional, administrative, and operational capacity for implementation of the environment *acquis*; (b) ensuring the fiscal space for and lowering the costs of meeting proposed environmental investments; (c) development of mechanisms to improve affordability and address social costs of improved environmental services; and (d) accelerating the capacity of the private sector (and other non-government parties) to meet EU Environment standards in line with improving market competitiveness.

17. The project is directly supporting these objectives through a comprehensive focus on institutional capacity strengthening, which will lead up to and test inter-agency reporting to the EU under the Nitrates and Water Framework Directive. The project will take a highly participatory approach to investment planning at the local level so that it can integrate the specific social and public health needs of local stakeholders into investment plans. The project will promote the adoption of the Code of Good Agricultural Practices for farmers receiving EU-supported subsidy schemes so that they can meet "cross-compliance" conditions and take advantage of the availability of these funds for private investments. The project will also link to the GEF Black Sea Regional project, Danube Convention-supported dissemination activities and the GEF-funded IW Learn initiative. In this regard, the project will include setting up a Project website consistent with the GEF IW: LEARN guidance, participation of project staff in IW: LEARN activities, participation in GEF International Waters portfolio conferences, and participation in Black Sea coordination meetings.

II. PROJECT DESCRIPTION

A. Lending instrument

18. The project will be financed by a Specific Investment Loan (SIL) of 50 million Euros and a GEF Grant of US\$5.5 million. A SIL was considered the most appropriate instrument for these investments because of the type of activities being supported, the client's experience with Bank procedures, and the ease of combining funds with GEF grant resources. The Borrower has selected a Loan denominated in Euros.

B. Project development objective and key indicators

19. The overall development objective of the proposed project is to support the Government of Romania to meet the EU Nitrates Directive requirements by (a) reducing nutrient discharges to water bodies, (b) promoting behavioral change at the communal level, and (c) strengthening institutional and regulatory capacity. Towards this, the project will provide both technical assistance and specific investments to increase the use of environmentally friendly agricultural practices as well as manage animal and human wastes to reduce nutrient loads to surface and ground waters in Romania.

20. *Project Global Environment Objective.* The global environment objective of the project is to reduce over the long-term, the discharge of nutrients (nitrogen and phosphorous) into water

bodies leading to the Danube River and Black Sea through integrated land and water management. Project activities are directly linked to the GEF-funded Strategic Action Plan for the Protection and Rehabilitation of the Black Sea (BSSAP). The project will also contribute to development of the future Danube River Water Basin Management Plan through practical field based experiences. The proposed interventions will build on the successes of a pilot activity in Calarasi County and help to implement priority actions identified in the Black Sea–Danube Strategic Partnership/Nutrient Reduction Investment Fund, the Danube River Strategic Action Plan, and the Danube River Basin Pollution Reduction Program supported by GEF.

21. The following key outcome indicators are proposed. More specific plans for monitoring these as well as sub-component indicators are described in Annex 3.

- At least 80% of targeted NVZs show 10 percent reduction in nutrient discharge to water bodies.
- Around 50 percent of the population in the project area adopting preventative and remedial measures to reduce nutrient discharges.
- Improved inter-governmental coordination and capacity to assess, monitor and report on progress with implementation of the EU Nitrates Directive.
- Favorable EU assessment of Romania's progress towards meeting EU Nitrates Directive.
- Increased awareness of linkages between local actions and impact on Black Sea and Danube River water quality.

C. Project components

22. The Project will comprise the following four components to be implemented over five years: (i) Commune-based Investments in approximately 91 NVZs; (ii) Institutional Strengthening and Capacity Building; (iii) Public Awareness and Replication Strategy; and (iv) Project Management.

23. **Component 1 – Commune-based Investments in Nitrate Vulnerable Zones (NVZ) (45.9 million Euro, of which 39.4 million Euro is IBRD, and US\$2.1 million is GEF).** The project will support a menu of investments focusing on the NVZs' designated 91 communes in ten river basins. Initially, in the first eighteen months, the project will support the creation of eleven Training and Dissemination Sites (TDSs).³ Selection of the counties was on the basis of maximum number of NVZs, the proximity of the county to the River Basin headquarters so as to facilitate participation of the River Basin authorities in the implementation process, and the willingness of the County Council to participate in the project. In addition, TDS communes have been selected against a number of criteria including the level and sources of nutrient pollution, willingness of the local administration and commune to finance part of the investments, proximity to major water bodies, and compatibility of the proposed project interventions with the County's plans for waste management and water supply. Subsequent project investments will be rolled out to another 80 NVZs/communes in the 23 remaining counties so that the project will

³ Target counties are: Arges county (Arges-Vedea River Basin), Buzau (Buzau-Ialomita River Basin), Valcea county (Olt River Basin), Iasi county (Prut-Barlad River Basin), Bacau and Neamet counties (Siret river basin), Cluj county (Somes-Tisa river basin), Timis county (Banat River Basin), Bihor county (Crisuri River Basin), Mures county (Mures river basin) and Dolj county (Jiu river basin).

support investments in a total of 91 NVZ/commune (see Annex 4 for data on the eleven counties and NVZs, and selection criteria). The menu of eligible investments from which communes will prepare sub-project investment programs is set out below.

- *Communal Storage and Handling systems to promote better management of livestock and household waste.* Financing will be provided for the installation of improved livestock and household waste storage facilities at village and household level, and equipment for waste collection and field application of manure in the selected commune (NVZ). Provision for investment at village/commune level reflects the concentration of livestock in the household yards (See Annex 4 for investments by year and organizational arrangements).
- *Planting of Buffer Strips and Pastures' Rehabilitation.* The Project would support the planting of vegetative buffer strips where water bodies require protection from nutrient discharges and on communal land not suitable for grazing, and the rehabilitation of small areas of communal pastureland when requested by the commune.
- *Water & Sanitation.* The project would finance rehabilitation or extension of *small-scale sewage collection and treatment* at two to three sites, where pollution is imminent due to households having septic tanks from which effluent leaks directly into the groundwater.
- *Promotion of Code of Good Agricultural Practices.* The Project would encourage farmers to adopt the Code of Good Agricultural Practices, which has been prepared and updated under the APCP, in their management of crop and livestock enterprises. Investments would cover the promotion of nutrient management practices including crop rotation, manure management, maintaining soil cover and crop nutrient management with soil testing, as well as organic farming, following the Code of Good Agricultural Practices that farmers will be obliged to apply in the NVZs. A training program for advisory staff and farmers would be funded by the project with an on-farm demonstration program as the basis for disseminating results of improved practices.
- *Feasibility Studies.* The Project would finance up to 100 feasibility studies for improving water and wastewater services, with the aim of attracting external (EU) financing for investments. Priority would be given to communes that have an impact on trans-boundary waters and would not be limited to communes in the eleven counties selected for project investments. Within the project, GEF funds will also be provided to test and demonstrate the feasibility of biogas/energy co-generation of manure/organic household waste through anaerobic digestion in one commune. Initially, the latter will be retained as a pilot activity, since GEF funds are limited and there is a need to obtain experience under Romanian climatic conditions and using waste from the communal platforms. If the initial experience is successful, it will be promoted for scaling up through an application to future EU funds. Special attention will be given to promotion of cost effective solutions and plans to sustain operating and maintenance costs.

24. **Project Component 2 – Support for Institutional Strengthening and Capacity Building (5.3 million Euro, of which 3.9 million Euro is IBRD, and US\$2.7 million is GEF).** This component will focus on building capacity within the Ministry of Environment and

Sustainable Development (MESD) and their National Administration for Romanian Waters (ANAR), as well as other national, regional and county agencies involved in implementing the Nitrates Directive (i.e., Public Health, Agriculture, etc.). Technical assistance would be provided to MESD/MARD to ensure that legislation is fully in line with EU regulations related to the EU Nitrates Directive and selected measures under the Water Framework Directives, with an emphasis on clarifying implementation and coordination responsibilities across agencies. Furthermore, the possibilities for strengthening legislation and enforcement to provide ex-ante mitigation strategies for dealing with livestock waste in the Romanian situation would be assessed, and options for introducing such measures during the life of the project explored. Second, the project will help build capacity within the ANAR (subordinated to the MESD), as the designated lead for inter-agency working groups at the river basin and county levels for the Nitrates Directive, including coordinating efforts of the different agencies, and reporting to the EU through MESD on progress. As part of this capacity building, ANAR will be provided with around an additional 50 new monitoring wells and funds to repair an additional number of wells, auto-labs, other small equipment, and training facilities, to cope with the new and increased monitoring responsibilities following EU accession. Additional support may be provided to institutions forming the Inter-Ministerial Committee for Application of the Nitrates Directive (ICA). Third, the project will support a comprehensive training program for staff of relevant national, regional and county level agencies that are members of the Nitrates Working Groups. The support for ANAR and staff training will be directed at building the capacity required to meet the monitoring and reporting requirements of the Nitrates Directive. Finally, the project will support training activities and technical assistance for developing an institutional mechanism to enable beneficiaries and relevant national institutions to access EU funds, including preparation, implementation and management of projects.

25. Project Component 3 – Public Awareness and Replication Strategy (2.6 million Euro, of which 2.5 million Euro is IBRD, and US\$0.2 million is GEF). A broad public information campaign of the project's activities and benefits will be undertaken at the local, river basin, national and regional levels to achieve replication of project interventions in other similar areas within Romania (NVZ-designated communes in non-focus counties) as well as other Black Sea riparian countries and EU candidate countries. In particular, the component will promote improved rural sanitation in the NVZs, and implementation of good agricultural practices, such as composting, conservation tillage, crop rotation, etc.

26. Project Component 4 – Project Management (5.6 million Euro, of which 4.2 million Euro is IBRD, and US\$0.5 million is GEF). The Project Management Unit (PMU) will be located within the Ministry of Environment and Sustainable Development (MESD), and will be set up and staffed with ministry employees and consultants to serve as the implementation unit of the proposed project. The Water Basin Authority in each of the ten river basins will provide one or two dedicated staff for supervising and coordinating the implementation of project activities at the commune level.

D. Lessons learned and reflected in the project design

27. Some key lessons learned from past investments that have been included in this project's design include:

- Early and continuous involvement of local administrations and communities in project preparation and implementation is essential to ensure ownership and make the project successful.
- Mitigation measures to reduce nutrient discharge should yield tangible results for the key stakeholders, specifically local communities, to ensure adoption. For example, commune manure stores (platforms) would need to demonstrate their use to all residents for them to continue to want to sustain and operate this.
- Training and demonstration activities are crucial in achieving the dissemination of the project results and the ensuring replicability of the project interventions.
- Dissemination of information through a wide public awareness campaign is critical to the widespread adoption of new technologies and practices. Furthermore, information is needed early in the project cycle to overcome the considerable lack of understanding of the health and environmental benefits from improved waste management, and achieve significant participation levels' in project activities.
- To achieve environmental, social and financial sustainability, project activities must be site-specific and address local issues and needs.
- Effective monitoring and evaluation mechanisms need to be developed and applied to measure project impact and feed lessons learned into project design.
- In spite of livestock waste being the most important source of nutrient discharge, the nitrates problem cannot be addressed through agricultural measures alone. An integrated program to improve rural water and sanitation and solid waste management must be tackled.

E. Alternatives considered and reasons for rejection

28. Early discussions with the Ministry of Environment and Sustainable Development considered one large project targeting three key technical areas: nitrates; contaminated lands/persistent organic pollutants (POPs); and Nature Protection. The aim was to consolidate support for several environment *acquis* elements under a single programmatic approach to achieve synergies from shared capacities on the implementation and fiduciary aspects, and better manage administrative costs. During project preparation, it became clear that contaminated lands and nature protection aspects would require more time based on changing institutional arrangements for nature protection and the need for a wider strategic framework for contaminated land interventions. In addition, the scope and scale of each investment area make it less practical to combine them. A separate Nutrient Pollution Control Project was thus agreed so it could immediately benefit from practical ongoing experience and could be adopted quickly to help meet Romania's commitments of for accession.

29. A broader policy and administrative strengthening Loan was also initially considered (including strengthening the central policy unit, considering the evolving role of the environment fund, and more systemically supporting institutional reform across all environment themes) but was scaled back as the Loan identification process proceeded. The fast pace of change related to EU accession, the large environment agenda and dynamic and growing state of the institutions and players, made work on a comprehensive system wide level very difficult at this stage. It is likely that needs will remain and in future years, more focused attention on systemic policy and regulatory strengthening will continue to be required (areas where many OECD countries continually strive to improve). In the interim, the government is programming EU grant funds to

start to tackle most critical tasks. The current project design retains a priority on policy and administrative issues through the technical area of intervention, and prioritizes strengthened inter-governmental coordination with other ongoing programs.

30. The project concept meeting recommended the team consider a Sector Wide Approach (SWAp) given Romania's progression and destined path to converge with EU fiduciary systems. A SWAp was seen as a way to simplify loan disbursements and focus more Bank client support on technical rather than administrative and fiduciary issues. It was similarly in line with the Ministry's original request for Bank programs to promote consolidation of administrative capacity. However, during more detailed discussions of this approach, the client clearly articulated their desire to rely on a more traditional Bank loan structure valued precisely for the strong fiduciary controls. Although the SWAp notion was dropped the current project design builds on the advancement of the Romanian fiduciary systems. The works under the Loan are mostly small and will follow procurement practices that meet both Bank and Romanian standards, while financial management systems will be adapted to a great extent to country systems. Similarly, the project relies on Romanian practices for cultural and environment review. The core project implementation team will be located within the Ministry reporting directly to the State Secretary for Waters. The implementation structures fully integrate up to 20 water authority staff in project implementation. As the EU is not providing grants for similar project investments, no joint pooling of funds with EU was considered. However, replication efforts would focus on future extension to other counties building on Water Basin Expertise developed through the project.

31. Alternative implementation arrangements were also considered with a view to reducing the dispersion of efforts, particularly whether to take a regional approach and work through the Regional Environmental Protection Agencies. However, it was concluded that since activities were very much focused at the commune-level, the project would need the support of the county-level agencies, but with the Water Basin Authorities to provide for integration of activities, which is precisely their role in implementing the Nitrates Directive.

III. IMPLEMENTATION

A. Partnership arrangements (if applicable)

32. The Government of Romania in the post-accession phase will take full responsibility for management, programming and administration of EU funds. Therefore, while coordination with the EU is important and is being done for the purpose of preparing this Loan and GEF Grant, it is expected that direct coordination with the EU during project implementation will become less important. The use of the ICA to provide project oversight, promote inter-agency co-ordination, and endorse actions if project adjustments are needed mid-way, will help facilitate this integration.

B. Institutional and implementation arrangements

Project Coordination

33. Project activities will be overseen at the National level by an existing Inter-Ministerial Committee for Application of the Nitrates Directive (ICA), which is chaired by the Secretary of State for Waters, Ministry for Environment and Water Management (MESD).⁴ ICA's role is one of providing overall policy guidance, approving sub-project investment plans, overseeing quality of the application of the Nitrates Directive in Romania, and dealing with implementation issues that may arise. Within MESD the Office of the Secretary of State for Waters and the Directorate for Water Resources Management (subordinated to the Secretary of State) will have key oversight and management responsibilities for the project (see Annex 6, Figure 1 for overall Project organization).

Project Administration

34. *National level.* The Project Management Unit (PMU) will be located within the MESD premises to ensure integration with other Ministry functions. This unit would comprise an estimated 15 staff to carry out core implementation activities. These staff would include Director, Financial Manager, Accountant, Financial Assistant, three Procurement Officers, three Technical/Monitoring & Evaluation Specialists, Secretary, Translator/Secretary, and three Drivers. Office space for the PMU will be provided by the MESD.

35. The PMU would have overall responsibility for the day-to-day implementation of the Project and would contract as necessary with competent Romanian institutions (both public and private) for carrying out specific activities. Prior to launching each year's investment program, the PMU will agree with the County Councils, concerned communes and each of the contracted agencies the targets, final design/implementation program and budget for the year ahead. Annual work plans and budget will be submitted to ICA for approval. The project management unit will have responsibility for overall project monitoring and for the procurement and financial management aspects of the project. Training would be provided by the project to shift responsibility for these aspects to the local level over time. The Loan and Grant Agreements would be signed between the World Bank (IBRD) and Romania, represented by the Ministry of Economy and Finance (MEF).

36. At midterm, the Borrower and the Bank will review the recommendations of the study for development of an institutional mechanism to coordinate responsibilities and enable beneficiaries and relevant institutions to access, implement and manage EU funds. The review will be reflected in a decision on potential adjustments to be made in project implementation arrangements.

⁴ The current membership comprises: President - Secretary of State for Waters, MESD; vice-presidents - Director General, Department of Water Management, MESD, Director, Department of Land Improvement, MARD; 3 representatives MESD, 3 representatives MARD; 2 representatives of the Ministry of Public Health and Family.

37. *Basin level.* It was agreed that each Water Basin Directorate would appoint one or two new staff to work on the coordination and implementation of project activities under the direction of the PMU. In addition to supporting project investment activities in the targeted counties, these staff would strengthen the capacity of the Working Groups that coordinate the implementation of the Nitrates Directives across institutions in their respective Water Basins. Job descriptions have been prepared, the new staff will be appointed by February 2008 for the first six WBDs, and before August 2008 for the other five WBDs. The project will provide each basin with a vehicle and incremental operating costs related to their activities in project implementation.

38. *County/Commune level.* The PMU would work through County Councils and communes with agreements to be drawn up specifying the cost sharing (expected to include clearly specified in-cash and/or in-kind contributions) and commitments of each party.

39. *Monitoring Water Quality.* The National Administration for Romanian Waters (ANAR), which reports to MESD, is responsible for reporting progress on applying the Nitrates Directive to the EU. ANAR will also be responsible for all sampling and analyses for water quality, for obtaining relevant data from other agencies, e.g., Public Health Authority and Environmental Protection Agency (subordinated to MESD); for providing the baseline water quality data in the project areas, and for helping to develop a project-specific monitoring network as required to complete the necessary data collection needs. ANAR will also chair the Water Basin (Water Directorate) and County (Water District) level Nitrates Directive working groups.

C. Monitoring and evaluation of outcomes/results

40. The project has established an outcome and results monitoring framework which will be linked as possible to the MESD's system for reporting on EU funds and progress monitoring to for environment *acquis* commitments. Project monitoring and evaluation would be the responsibility of the PMU, which has M&E capacity built during the implementation of APCP. M&E will be based on both survey and administrative data sources. The main indicators will be collected using the baseline, mid-term and end-of project surveys commissioned by the PMU as well as using the data collected by ANAR to analyze water quality and estimate nutrient concentrations in water bodies. The PMU will also use proxy methods to estimate reductions in nutrient releases in water bodies from project interventions, and will refine and disseminate methodology and results. The M&E capacity of ANAR will be strengthened through the Institutional and Capacity Building component of the project, at both central and regional level. A mid-term review will be carried out to assess overall progress. Lessons learned, recommendations for any improvements, and stakeholder feedback would be used in restructuring the project, if necessary. The results of M&E activities will be fed back into the implementation process as improved practices. (See Annex 3 for M&E Plan.)

D. Sustainability and Replicability

41. *Sustainability.* To promote institutional sustainability, the project will build capacity within the Ministry of Environment and Water Management, the Ministry of Agriculture and Rural Development, the National Administration for Romanian Waters, and Water Basin

Directorates, County Councils, communes, as well as other relevant national institutions, to prepare and implement measures under the EU Nitrates Directive and to absorb EU funds for investments after accession. A study will also be done for developing an institutional mechanism to coordinate responsibilities for preparation, implementation and management of projects under EU funds. To ensure social sustainability, the project will emphasize early involvement of all relevant key stakeholders in its preparation and implementation, including policy makers, local public officials and institutions, community leaders, farmers, their associations, and NGOs. Romania has shown a strong commitment to ensure that past GEF activities are sustainable, by providing budget and institutional resources. Counterpart funds in IBRD loans have also been provided on a timely basis.

42. Romania has expressed its full commitment to comply with the provisions of the Directive 91/676/EEC on Water Protection against Pollution caused by Nitrates from Agricultural Sources in agreements with the European Union. The Directive was fully transposed, through the adoption of several national acts, and some of the requirements have been met to date. By developing integrated nutrient management pilot projects in each of the selected communes, the project will promote regionally tailored low-cost environment-friendly agricultural practices that will be of interest to the farming community. Over time, the EU is expected to channel funds through the Regional Development Agencies and the project will share knowledge with these agencies through the Public Awareness component.

43. *Replicability.* The project is designed to promote replication of nutrient reduction investments on a national scale within Romania as well as the Danube and Black Sea basin as a whole. Activities in each of the representative ten river basins will serve as pilots for the entire country and will provide benchmarks for good practices. As part of its replication strategy, the project will develop and maintain a website focusing on the project's objectives, activities, progress and impact as well as clearly demonstrating how it is achieving the objectives of the Partnership Program. Romania is already playing a leadership role in the region in undertaking actions aimed at reducing the discharge of the nutrient load into the Romanian ground water and surface waters, and will continue supporting regional replication efforts. Knowledge dissemination will be an integral part of the component and, towards this, the project will earmark funds for participation in IW-Learn workshops as well as other similar regional and international meetings and conferences, where exhibits will be presented/ demonstrated for the benefit of participants undertaking or embarking on similar nutrient reduction projects.

E. Critical risks and possible controversial aspects

Risk	Mitigation	Risk Rating with Mitigation
Farmer willingness to accept environmentally friendly agricultural practices may vary.	Benefits of compliance with good agricultural practices will be widely disseminated through Training and Demonstration Sites. Links of this program will be established with the EU paying agency which will be monitoring cross-compliance of the nitrates directive and EU farm payments	M
Timing of introduction of Regional Waste Systems may be out of sync with plans for	Maintain flexible platform designs and allow options; modularize where possible. County	M

waste platforms to be linked in.	environment agency involvement in approvals.	
Administrative arrangements may continue to evolve in line with decentralization and other ongoing reforms especially for the agriculture advisory services and the local EPAs.	Project will maintain a strong coordination at the county level to include the Prefect and specific line agencies. The project will have design flexibility to adapt to future changes.	N
The latest European Commission's Romania Comprehensive Monitoring Report reveals that corruption remains a serious and widespread problem that affects many aspects of society.	Tighter internal control framework with additional procedures for the project; Smaller procurement packages and greater prior review; Greater transparency and explicit disclosure policy; Gradual increased reliance on internal audit departments as they develop; Operational review by Court of Accounts or independent auditors on acceptable terms.	S
Risk that the project pre-financing by the Borrower will not be ensured appropriately	Loan Covenant: The Borrower will ensure that appropriate budget allocations are made available yearly for the project implementation throughout the project life.	S
Failure of ANAR to fulfill its obligations for carrying out the project.	ANAR staffing is a condition of disbursement and the project will provide substantial training of ANAR staff.	M
Risk that equipment provided for manure management platforms are not used for the intended purpose.	Sub-projects would be required to establish an operations and maintenance plan to include before the ownership of the equipment is fully transferred to the commune.	M
Risk that the elderly who comprise a large part of the rural population are not willing or able to change former practices.	Project will include special efforts to involve elderly in all public participation activities. Tariff regimes and collection services should consider the special needs of the elderly.	S
Overall risk rating		M

Risk Ratings: H = High; S = Substantial; M = Modest; N = Negligible

F. Loan/credit conditions and covenants

Condition for Loan/Grant Effectiveness.

44. The MESD has established the PMU in a manner satisfactory to the Bank, assigning Project implementation responsibilities to the PMU, and has provided adequate office space to the PMU.

45. The GEF Grant Agreement has been executed and delivered and all conditions precedent to its effectiveness or to the right of the Borrower/Recipient to make withdrawals under it have been fulfilled.

46. The Loan Agreement has been executed and delivered and all conditions precedent to its effectiveness or to the right of the Borrower/Recipient to make withdrawals under it has been fulfilled.

Financial Management Covenants

47. The Borrower/Recipient, through MESD, shall maintain or cause to be maintained a financial management system in accordance with the provisions of Section 5.09 of the General Conditions.

48. The Borrower/Recipient, through MESD, shall prepare and furnish to the Bank not later than forty-five (45) days after the end of each calendar semester, interim un-audited financial reports for the Project covering the semester, in form and substance satisfactory to the Bank.

49. The Borrower/Recipient, through MESD, shall have its Financial Statements audited in accordance with the provisions of Section 5.09 (b) of the General Conditions. Each audit of the Financial Statements shall cover the period of one fiscal year of the Borrower/Recipient. The audited Financial Statements for each such period shall be furnished to the Bank not later than six (6) months after the end of such period.

Withdrawal Conditions; Withdrawal Period

50. Notwithstanding the provisions of Part A of Section IV of the Loan Agreement, no withdrawals shall be made:

- (a) from the Loan Account until the Bank has received payment in full of the Front-end Fee;
- (b) for payments made prior to the date of this Agreement, except that withdrawals up to an aggregate amount not to exceed Euro ten million (EUR 10,000,000) of the Loan amount may be made for payments made prior to this date but on or after September 17, 2007 for Eligible Expenditures under Categories (1) through (4); and
- (c) for payments under a contract or for Incremental Operating Costs which the Bank has financed or agreed to finance under the GEF Grant Agreement.

51. Notwithstanding the provisions of Part A of Section IV of the GEF Grant Agreement, no withdrawal shall be made:

- (a) for payments made prior to the date of this Agreement; and
- (b) for payments made prior to the date of this Agreement, except that withdrawals up to an aggregate amount not to exceed USD one million and one hundred thousand (USD 1,100,000) of the Grant amount may be made for payments made prior to this date but on or after September 17, 2007 for Eligible Expenditures under Categories (1) through (4); and
- (c) for payments under a contract or Incremental Operating Costs which the Bank has financed or agreed to finance under the Loan Agreement.

52. The Closing Date is December 31, 2013.

Other Implementation Covenants.

53. The Borrower/Recipient, through MESD, shall assign the responsibility for overall oversight of the Project to the Inter-Ministerial Committee for Application of the Nitrates Directive (ICA), and shall maintain said Committee during Project implementation.

54. The Borrower/Recipient, through MESD, shall

- (e) maintain the PMU during Project implementation with adequate staffing and resources satisfactory to the Bank, and the PMU shall have overall responsibility for day to day implementation and management of the Project, including, but not limited to: (i) preparation of semi-annual work programs and implementation plans for Project implementation, (ii) preparation of bidding and contract documents under the Project, (iii) maintenance of the Project financial records and accounts and arranging for the audit thereof, (iv) preparation of the Project Reports referred to in Section II.A of this Schedule, and (v) supervision of progress of Project implementation.
- (f) hire, in addition to the key staff of the PMU, such specialists as required for effective implementation of the Project and as shall be reasonably determined by the Borrower/Recipient and the Bank, not later than three (3) months after the Effectiveness Deadline.

55. Not later than February 1,2008, the Borrower/Recipient, through the MESD, shall cause the first six (6) selected Water Basin Directorates to hire one or two staff to work on Project implementation at the regional level, in coordination with the PMU. Within the next six months the remaining Water Basin Directorates shall hire one or two staff to work on Project implementation at the regional level, in coordination with the PMU.

56. The Borrower/Recipient, through MESD, shall: (i) take all necessary measures to implement the Project in accordance with the Operational Manual and the EMP, and shall not amend, suspend, abrogate, repeal or waive any provisions of the Operational Manual and the EMP without prior approval of the Bank; (ii) ensure that all measures necessary under the EMP are carried out in a timely manner; and (iii) ensure that adequate information on the implementation of the EMP is suitably included in the Project Reports referred to in Section II.A of this Schedule.

57. The Borrower/Recipient shall ensure that appropriate budget allocations are made available yearly for the Project implementation purposes, throughout the Project life.

58. For the purposes of implementation of Part I of the Project, the Borrower/Recipient, through MESD and PMU, shall:

- (a) select the Beneficiaries and Sub-projects based on the selection criteria set forth in the Operational Manual;
- (b) provide funds from the Loan proceeds to selected Beneficiaries for eligible Sub-projects on terms and conditions satisfactory to the Bank;

- (c) enter into contractual arrangements with Beneficiaries for provision of funds for Sub-projects which shall set forth the terms and conditions for these funds, cost-sharing arrangements, environmental requirements and implementation arrangements;
 - (d) ensure that Sub-projects shall be implemented in accordance with the Operational Manual and the EMP.
59. Not later than thirty (30) months after the Effectiveness Deadline, the Borrower/Recipient, through the MESD, shall carry out jointly with the Bank, a midterm review of the progress made in carrying out the Project (hereinafter referred to as the Midterm Review). The Midterm Review shall cover, amongst other things:
- (a) progress made in meeting the Project's objectives; and
 - (b) overall Project performance against Project performance indicators.
60. The Borrower/Recipient, through the MESD, shall prepare, and at least four (4) weeks prior to the Midterm Review, furnish to the Bank, a separate report describing the status of implementation of each component of the Project and a summary report of Project implementation generally.
61. The Borrower/Recipient, through the MESD, shall, not later than two (2) weeks after the Midterm Review, prepare and submit to the Bank an action program, acceptable to the Bank, for the further implementation of the Project having regard to the findings of the Midterm Review and, thereafter, implement such action program.
62. The Borrower/Recipient, through MESD, shall monitor and evaluate the progress of the Project and prepare Project Reports in accordance with the provisions of Section 5.08 of the General Conditions and on the basis of indicators agreed with the Bank. Each Project Report shall cover the period of one calendar semester, and shall be furnished to the Bank not later than forty-five (45) days after the end of the period covered by such report.

IV. APPRAISAL SUMMARY

A. Economic and financial analyses

63. The project will have clear benefits in addressing key elements in nutrient pollution of the Black Sea from poor agricultural practices in the Romanian catchments that drain into the Danube River. Besides improvements in the quality of ground and surface waters, project benefits also include: (i) progress towards compliance with the EU Nitrates Directive and increased absorption capacity of future EU funds for water and sanitation; (ii) sequestering carbon in the grasslands, croplands and forests; (iii) improvements in health as there will be an improvement in the drinking water, sanitation and general hygiene of the population; (iv) additional farm income from effective use of organic waste, crop rotations, organic products and improved livestock grazing practices and improved agricultural productivity through better agricultural practices, low input use and better farm management; and (v) increased capacity building of local institutions.

64. An economic analysis used a cost-effectiveness approach where appropriate, while a financial analysis was used for financing operation and maintenance costs, and assessing affordability for waste platforms, rural water infrastructure, and biogas digestion. More details are described in Annex 9. The estimated CE ratios/kg for Livestock and Household Waste Management and Afforestation vary between 10 USD/kg and 40 USD/kg. Comparing these ratios with those achieved in the Chesapeake Basin of the USA and with similar unit costs achieved in EU countries, it was concluded that investments are cost effective. Tariffs for animal and household waste collection of previous interventions vary between 4 and 30 USD per household per year, depending on the type of waste and the collection system applied, and in communes with similar socio-economic profiles were affordable. The communes contribute to the O&M costs, through their regular local budgets, and also from compost sales revenues.

65. For water and sanitation interventions, the cost effectiveness considered investment costs per capita. As such, it is expected that communes with at least 4000 people are likely to be cost effective, as per capita costs in smaller communes would be excessively high, and affordability and willingness of the consumers to meet the operational and maintenance costs unlikely. Based on the affordability analysis, eligibility criteria for investment support should be least cost, and per capita cost should not exceed 400 Euro for full collection and treatment schemes, or 150 Euro for enhancement / construction of treatment facilities. These costs are comparable with similar per capita costs achieved in wastewater schemes throughout Romania and neighboring countries. Sanitation schemes must not only be affordable but within customer willingness to pay criteria. Prior to a scheme being approved, an adequate feasibility study will be prepared which will include a customer survey looking at community preferences in technology, mechanisms through which the community will pay, and the likely uptake for different service levels. A scheme will only be approved if there is a customer agreement to the level of service to be provided and a proven acceptance by the community of adequate service charges to sustain the scheme. TORs for feasibility studies on biogas investments have been developed to address economic and financial analysis including estimated return on the investments.

B. Technical

66. The following key technical issues have been addressed in the project design.

- (1) Appropriate co-financing requirement for commune based investments. A minimum co-financing percentage of 5% (which is also the EU norm) has been proposed after taking into account feedback from consultations with county and commune representatives. Letters of agreement to participate at the level were subsequently received from all focus counties and T&D communes.
- (2) Coordination of commune investments with county plans. In some cases, it may be possible to co-locate the commune manure platforms with a proposed waste transfer station that are part of regional waste management facilities. Therefore a check against county plans will be required as part of all manure management investment plans. The project has flexibility to adjust site-specific designs as needed to promote integration. The limited number of wastewater investments would also be coordinated with county level water master plans to either ensure no overlaps with larger investments or to provide linkages if appropriate.
- (3) Promotion of on-farm investments. Although on-farm investment in proper animal waste management is critical for Nitrates Directive compliance, it is not directly supported under

the project because EU Grant funds under CAP Pillar 2 will be available. However the project will help promote demand for use of these EU funds through testing and demonstration activities, public awareness and training, and will help establish a national monitoring and evaluation system. A proposed Farm Restructuring Project is helping support an information system for the Paying Agency to monitor Nitrates Directive Compliance linked to Agriculture Subsidy Payments. The ICA coordinating the project will help ensure synergies across project.

C. Fiduciary

67. Procurement. Romania's public procurement system is aligned with the EU's regulatory framework. However, the public procurement system still needs to be strengthened in the major area of applying the new regulatory framework in practice. Hence, it is crucial to the project's success to have the project management unit (PMU) within the MESD and staffed with experienced people. The plan is to recruit someone with experience in implementing the APCP project to kick start INPCP implementation and to assume responsibility for the procurement and financial management aspects of the project. The project includes procurement of works, goods and consulting services. All goods and works contracts to be financed by the Bank will be undertaken in accordance with the procedures set forth in the Bank's "Guidelines – Procurement under IBRD Loans and IDA Credits" dated May 2004 (the Procurement Guidelines). Similarly, the selection and employment of consultants shall be governed by the "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004 (the Consultant Guidelines). Further details on procurement arrangements are provided in Appendix 8.

68. Financial Management. Financial management arrangements for the project are assessed to be acceptable to the Bank. The project will rely extensively on several elements of financial management country systems, as follows:

- Implementing entity – the project will be implemented by the MESD through a properly staffed Project Management Unit (PMU) supplemented with additional staff;
- Funds flow – the project expenses will be pre-financed by the State Budget (except the GEF grant) and the loan proceeds will be used for reimbursing eligible expenditures;
- Payments – Treasury will execute all local currency payments and a commercial bank will be used for foreign currency payments and letters of credit;
- Internal control – the project will use the existing internal control framework within MESD with additional procedures developed for the project;
- Internal audit – as the internal audit departments within MEWM continue to develop, the project will rely to the extent possible on this for the internal audit of the project;
- External audit – the Romanian Supreme Audit Institution, Court of Accounts will perform an operational review of the project;
- Accounting and reporting system – the project will rely on the existing systems.

As of the date of this report, the Borrower is in compliance with its audit covenants of existing Bank-financed projects. Formats of the interim financial reports (IFRs) and of the audit terms of reference have been agreed upon and are attached to the minutes of negotiations.

69. The 2003 Country Financial Accountability Assessment (CFAA) deemed the overall fiduciary risk associated with the Public Financial Management (PFM) system moderate. In the

areas of accounting, financial reporting, and internal control, the fiduciary risk was considered significant, partly due to the heavy dependence on manual accounting and reporting processes, weak arrangements for management accountability, and the absence of modern internal audit capabilities. Considering the introduction of program budgeting, the generally reliable cash distribution facilities provided by the Treasury system and the Court of Accounts capacity, the fiduciary risk was considered moderate in the fields of budgeting, treasury, cash management and external audit and parliamentary oversight. The fiduciary risk related to World Bank investment operations was considered low.

70. In response to the recommendations of the 2003 CFAA, the Government has taken action to improve coordination and management of PFM reform and strengthen internal control, financial reporting, and auditing systems. An Inter-Ministerial Committee, headed by a State Secretary of the MFP endorsed a PFM Strategic Development Plan (SDP) in July 2005 and is now monitoring its implementation. It is expected that the high visibility of PFM reforms will ensure a balanced and coordinated development of different aspects of the PFM system. A number of the CFAA recommendations have been addressed by the Government, including in the areas of treasury management, harmonization of accounting standards and practices, decentralization and rationalization of ex-ante financial control and strengthening of internal audit functions. The organization and effectiveness of the Court of Accounts has also been improved. While the introduction of a Medium Term Expenditure Framework (MTEF) and program budgeting has enhanced budget management, budgets lack realism.

71. The implications of the CFAA for the project have been addressed by the following actions: (i) a detailed review of the systems for the implementing entity; (ii) distinct project-specific accounting ledgers to be set up by the implementing entity; (iii) appointment of project accounting staff by the implementing entity; (iv) development of project budgets to be approved yearly by the implementing entities; (v) project financial statements to be audited by an independent auditor annually.

72. *Risk assessment and mitigation measures.* The overall financial management risk for the project is substantial before mitigation measures, and with adequate mitigation measures agreed, the financial management residual risk is rated moderate. A table detailing these risks is presented in Annex 7.

D. Social

73. *Incentives and opportunities arising from the social and institutional context.* Despite the sustained economic growth in the last 5 years, rural areas of Romania remain at high risk of poverty. Rural poverty is 1.6 higher than the national average, while access to water and sanitation in rural areas remain very low. The high vulnerability of rural areas together with the agreements with the EU regarding environmental actions to be undertaken by Romania create a supportive institutional and political environment for project implementation at both central and local level.

74. *Stakeholders' participation in preparation and implementation.* During preparation, several consultation meetings were held at regional and central level with stakeholders, including County Councils representatives, mayors of NVZ communes, Water Basins Committees,

members of NGOs with activities in the field of environment protection, and representatives of other institutions relevant for project design and implementation. The consultations provided inputs for decisions related to project implementation, with focus on the sources for financial local contribution, criteria to select the communes participating in the project, implementation arrangements, and ways to adapt the intervention to particular conditions of target communes. During implementation, the community members will be involved through participation in decision-making with respect to communal waste platforms, sewage collection and set up of the waste collection O&M service. Every sub-project proposal will have to be accompanied by minutes of consultations.

75. *Relevant social issues, potential risks, and monitoring.* Three types of risks and ways to mitigate them were identified through the social analysis carried out during preparation. The first one refers to the risk of inequities in accessing the benefits of the project, generated by the low capacity of communes to provide co-financing. While co-financing is a proven means to ensure sustainability and accountability, in the context of a low financial capacity of communes, it could lead to dependency of communes on county council financial support (grants), which in turn could be influenced by political affiliation. This risk will be mitigated by using a transparent selection process of beneficiary communes and a commonly agreed set of relevant indicators. The diagnosis of pollution severity at the commune level that will be available in the spring of 2007 will provide reliable information to be used in this respect. A second risk identified refers to the resistance of changes in behavior of particular groups, especially the elderly. This risk will be mitigated through targeted awareness campaigns, as well as public meetings with strategies to include and involve the elderly. To avoid the risk of involuntary resettlement, all communes to be involved will formally agree that the works under the project are required to take place on the land owned by the public administration and be without encroachments. Social impacts will be monitored through periodic surveys (including beneficiary assessment modules), which are part of the project M&E.

E. Environment

76. The project is rated as a category “B”. The safeguard policy, OP 4.01: Environmental Assessment is triggered by proposed project activities. No major environmental issues are envisaged under the project. Of lesser scope, the environmental concerns under this project (components 1 and 2) may include leakage of manure from the village-level storage facilities (if construction is not made according to specifications), inappropriate manure spreading in the fields and improper cleaning of the individual manure storage bunkers and large manure platforms. An Environment review has been undertaken which describes local procedure for environment review and issue of permits, and identifies potential issues with expected mitigation measures. An Environment Management Plan (EMP) has been prepared to ensure that activities under these components will be closely monitored and to define responsibilities. The review and the EMP have been disclosed and discussed within Romania and are publicly available.

F. Safeguard policies

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (<u>OP/BP 4.01</u>)	[X]	[]
Natural Habitats (<u>OP/BP 4.04</u>)	[]	[X]
Pest Management (<u>OP 4.09</u>)	[]	[X]
Cultural Property (<u>OPN 11.03</u> , being revised as OP 4.11)	[]	[X]
Involuntary Resettlement (<u>OP/BP 4.12</u>)	[]	[X]
Indigenous Peoples (<u>OP/BP 4.10</u>)	[]	[X]
Forests (<u>OP/BP 4.36</u>)	[]	[X]
Safety of Dams (<u>OP/BP 4.37</u>)	[]	[X]
Projects in Disputed Areas (<u>OP/BP 7.60</u>)	[]	[X]
Projects on International Waterways (<u>OP/BP 7.50</u>)	[X]	[]

G. Policy Exceptions and Readiness

77. A policy exception has been granted by the RVP for the International Waterways Policy (OP/BP 7.50) notification requirements. Para 7 of this policy stipulates exceptions to the Bank's requirement when other riparian states do not require notification. These exceptions include "any ongoing schemes, projects involving additions or alternations that require rehabilitation, construction, or other changes that in the judgment of the Bank (i) will not adversely change the quality or quantity of water flows to other riparians; and (ii) will not be adversely affected by the other riparians possible water use. An exception is also provided for the financing of feasibility studies for water and sewer investments. Project activities that trigger the international waters policy and meet the notification requirement exceptions are upgrading of small-scale wastewater treatment in an estimated three rural communes; and financing of feasibility studies for rural water and sanitation investments. The policy requires that terms of reference for feasibility studies financed by the Bank involving international waterways include a review of any potential impacts of proposed investments on international waterways. This will be included in any feasibility studies financed with project funds.

78. Project readiness has focused on ensuring the first year of procurement actions are fully prepared and are ready for tendering by May 2007 or effectiveness, whichever comes first. Some procedures such as calls for proposals can be launched even earlier. Detailed site evaluations were completed by appraisal for the 11 pre-selected Training and Demonstration communes that are the focus of first year investments. A Bank-supervised Dutch Grant financed the preparation of action plans for the remaining NVZs.

Financial Management Conditions and Covenants

79. The borrower will maintain a financial management system acceptable to the Bank. The project's financial statements and withdrawal applications and the GEF designated accounts will be audited by an independent auditor acceptable to the Bank and on terms of reference acceptable to the Bank. The annual audited financial statements and audit reports will be provided to the Bank within six months of the end of each fiscal year. The Borrower will ensure

that appropriate budget allocations are made available yearly for the project implementation throughout the project life.

Annex 1: Country and Sector or Program Background

ROMANIA: Integrated Nutrient Pollution Control Project

1. Prior to joining the European Union on January 1, 2007, the Government of Romania made commitments under the environment chapter of the *acquis* to increase investments in environmental measures that will require greater budget resources in the medium and long term at both the national and municipal level. Romania has agreed with the EU on Implementation Plans for administratively complex and financially demanding directives for actions and investments that extend beyond accession. Each implementation plan specifies actions to be monitored through regular reporting to the EU. The wastewater directive has the longest implementation period, ending in 2019. Other extended periods for example include those for Drinking Water (2015), Waste (2017), and Nature Protection (2015). With no transition period requested for the Nitrates Directive, reporting on progress with water protection action plans will be required in two years (2009); and no EU funds have been programmed for this Directive. Continuous progress is expected across all areas in line with annual commitments.

Progress toward Implementing the Environmental Acquis

2. A pre-accession assessment⁵ by the EU notes that there are some issues of serious concern where Romania should take immediate and decisive corrective actions; these include the need to accelerate implementation of the environmental *acquis* and the overall strengthening of the administrative capacity, so that the country can fully reap the benefits of EU post-accession funds⁶. Nevertheless, significant progress has been made in legislative terms with, as regards water quality, a number of laws adopted in the fields of drinking and bathing water, pollution caused by nitrates, discharges of dangerous substances, and integrated coastal zone management. A committee for the co-ordination and monitoring of the implementation of the water framework Directive has been set up. As regards administrative capacity, some 150 new budgetary posts have been allocated to this sector, but this increase is insufficient to ensure proper implementation of the environment *acquis*, and there are concerns as regards the continuity of staff within the Ministry.

3. In sum, although Romania has transposed a considerable amount of legislation and undertaken substantial steps towards compliance with the environment *acquis*, administrative and technical capacity and financial resources dedicated to the sector remain inadequate and implementation performance mixed. Government needs to allocate the necessary resources for the considerable investments needed over the medium and long term to implement the environmental *acquis*. The EU has indicated that Romania should focus further efforts on developing implementation capacities and should ensure that laws include realistic deadlines and cost assessments, and are only proposed following sufficient consultation. At the local level, significant resources are needed to improve the status of existing staff, to recruit new inspectors, and to train them adequately. Co-ordination between ministries on environmental issues needs to be improved and Romania needs to further integrate environment protection requirements into

⁵ Comprehensive Monitoring Report published in October 2005 by the EU.

⁶ The total volume of pre-accession assistance to Romania is substantial and increasing: estimated at 1.2 Billion Euros from PHARE, SAPARD and ISPA (over 1.4% of Romania's GDP).

the definition and implementation of all other sectoral policies to promote sustainable development. An inter-ministerial committee has been set up to coordinate implementation of the Nitrates Directive, but as the monitoring and control of nutrient pollution cuts across several sectors and ministries, early clarification of institutional responsibilities to ensure that the system meets the EU reporting requirements.

Implementation of the EU Nitrates Directive

4. The Nitrates investments have been identified as the most urgent by the Ministry of Environment and Sustainable Development and were recently included in a Memorandum of Understanding between the Prime Minister, Ministry of Economy and Finance and the MESD as a high priority for IBRD and GEF funds. The government did not request a transition period for the EU Nitrates Directive, so that Romania is expected to: (a) establish an operational monitoring system for soil, ground and surface waters; (b) prepare and adopt an unified set of monitoring guidelines and standards for soil and water, (c) designate waters affected by pollution including the criteria for identification and designation; (d) create and update a Code of Good Agricultural Practices; (e) designate Nitrate Vulnerable Zones (NVZs) according to EU criteria and prepare Action Plans for each of the agro-ecosystems. To date a preliminary assessment of the NVZs has been made, monitoring guidelines and responsibilities are being finalized, and the Code of Good Agricultural Practices has been approved in line with EU requirements.

5. The preliminary assessment⁷ for identification of the nutrient vulnerable zones (NVZs) has been completed based on (a) data for sources of nitrate pollution (primarily livestock waste and fertilizer use) and (b) soil characteristics determining the movement of nitrates to water bodies, and some 240 communes (cluster of villages) have been designated as vulnerable zones. The government, with the support of the World Bank-Dutch grant, is undertaking more detailed site surveys and refining the diagnostic analysis to identify NVZs and potential NVZs in the eleven river basins. The re-assessment will verify the sources of pollution as well the level of pollution, and for each identified pollutant, identify mitigating measures in the form of an action plan. Subsequently, the NVZs will be prioritized for remedial interventions, at three levels – river basin, county and commune. This analysis which is expected in mid-2007, will provide the baseline against which nutrient reduction will be measured under the project, as well as action plans required by the Nitrates Directive for prioritizing mitigation measures to reduce nutrient discharge levels in the NVZs.

6. With the NVZs identified it remains to put in place and test the monitoring system; this will require inputs from ICPA, ANAR and the Ministry of Public Health, as well as training of personnel prior to the first reporting deadline in 2010.

⁷ Implementation Plan for Directive 91/676/EEC (concerning the protection of waters against pollution caused by nitrates from agricultural sources), Government of Romania, June 2004.

Agricultural and Household Sources of Nitrate Pollution

7. Romanian agriculture, with around four million agricultural holdings (varying in size from less than 1 ha to 2,000 ha), is dominated by individual or household farms: some 45% are smaller than 1 hectare, about 80% of all farms can be qualified as subsistence holdings, and 98% of all farms use about 50% of the agricultural land. Households in the NVZs have on average 2.2 hectares of arable land together with livestock; typically one or two cows, pigs, chickens, and even sheep, are housed close to the family dwelling in sub-standard buildings. Practices for animal manure collection, handling, and storage vary depending on tradition; however, the vast majority of households do not have controls to prevent direct seepage of effluent into soil. Privatization of farmland has contributed to farmers keeping livestock on site (in the NVZs 96% of cattle and 62% of pigs are in households), which exacerbates nutrient pollution problems in groundwater.⁸

8. Given the limited space available around each household dwelling, the requirement for up to six months storage of livestock waste because of winter ground conditions limiting spreading, and the need to reduce health risks, it becomes more cost-effective to tackle the storage and handling of waste at the communal level. Furthermore, given the small size of farms and recorded poverty rates the use of ex-ante measures to enforce financial penalties in an attempt to control misuse of waste without investing in communal facilities, would be premature. Thus, the project focuses on ex-post measures for communal handling of waste. However, during the project, under the second component for Institutional Strengthening and Capacity Building, the identification of suitable ex-ante measures and the timing of their introduction would be explored. In assessing the opportunities for ex-ante measures a range of options would be explored ranging from, for example, the status of existing policies and legislation with regard to the inclusion of phosphates in household products, to the effectiveness of existing permits and regulations applying to larger farms and their enforcement.

9. The poverty rate of farmers is twice as high as for the national average and 50% higher than the average rural poverty rate. Farmers' cash incomes are low and more than two thirds of their consumption is covered from subsistence, which makes them dependents of their land. Recent surveys show that less than 15% of farmers sell agricultural products, while the remaining 85% produce for self-consumption and giving part of it to relatives.

10. In the case of arable farming the use of chemical fertilizer is currently restricted by price (application of NPK averaging 36kg/ha, or about a quarter of previous levels), so that inappropriate storage and application of organic manures are the main source of nitrate discharge.

11. With regard to household sources of pollution, rural water supplies and sanitation has been a low government priority, hence current water and wastewater service provision in Romania is low compared with other European countries. With 10 million people living in rural areas, 33% are estimated to have access to a piped water system, with fewer presumed to benefit from such a service as many systems are not functioning correctly due to poor maintenance

⁸ Manure management at large-scale animal farms is separately regulated under the Industrial Pollution Prevention and Control (IPPC) Directive, and thus it is not a focus of this project.

and/or lack funds. Approximately half the rural population is served by public or private wells and the remaining 17% are served by public standpipes with varying travel distances to obtain potable drinking water. Many water systems are not in compliance with the EC Drinking Water Directive. The level of sanitation is even lower with 12.9% of rural houses served by a sewerage network with wastewater from only 10% treated (approximately 94% of the sewers in Romania are in urban areas). The remaining rural areas depend, at best, on septic tanks or cesspits, usually poorly built and maintained. Rural households and public buildings (schools, community centers, local public administration) commonly lack indoor toilets and running water for immediate hand washing.

12. The extent of nitrate pollution is confirmed in records of acute infantile methaemoglobinaemia (blue baby disease) with 241 cases reported in 24 counties in 2005. These cases were linked to wells where very high levels of nitrates were recorded – in 78% nitrate levels exceeded 50 mg/l and exceeded 100 mg/l in 53% of the cases.

Experience of Reducing Nutrient Discharge at Commune-level

13. MESD is already implementing a GEF-funded Agricultural Pollution Control Project (APCP), the first of its kind under the umbrella of the Black Sea/ Danube Strategic Partnership – Nutrient Reduction Investment Fund. The project represents the Bank and GEF's early efforts to mainstream environment into agriculture in the region. As a pilot in Calarasi County, APCP has made significant progress in meeting its global objectives of reducing nutrient pollution in Romania's water bodies, and the results provide lessons that have been applied in the design of the countrywide INPCP.

14. The recent monitoring data from the APCP show that the project has increased the share of households with livestock using village and household manure storage facilities and segregating waste materials, increased from less than 5% at project start-up to 52% by December 31, 2006. Similarly, there was a significant increase in the use of a package of environment-friendly agricultural practices to cover about one third of the total arable land in the project area. About 75% of the erosion-prone locations in the project area are now afforested as buffer zones, and the number of farms using appropriate nutrient management (reduced chemical fertilizer application and increased organic manure) has increased from one or two farms at the start to 30% of the arable area. All these practices have contributed to a 25-30% decrease in the nutrient loads entering groundwater and surface water bodies.

15. As required under the Nitrates Directive, the Code of Good Agricultural Practices was also prepared under the aegis of the APCP, was subsequently amended to meet the EU's latest requirements, and will be applied countrywide under the proposed INPCP.

16. The APCP covered only one county and a significant amount of work remains to be done to extend the experiences to all the NVZs and fulfill the requirements of the EU Nitrates Directive. However, several lessons were learned including the need to make a major public awareness effort up-front in the project area and to adopt a more integrated environmental approach. INPCP takes up the lessons learned by supporting complementary investments and broadening the public awareness efforts to address the inter-linkages of these issues.

Annex 2: Major Related Projects Financed by the Bank and/or other Agencies

ROMANIA: Integrated Nutrient Pollution Control Project

IBRD and GEF

1. ***Agricultural Pollution Control Project*** (US\$5.15 million GEF); IP / DO: S/S; Approval date / Status: 12/13/2001 / Under implementation. The project's objective is to increase significantly the use of environment-friendly agricultural practices among farmers' associations, family farms and other eligible farmers in the target project area. The global environmental goal is to reduce, over the long-term, the discharge of nutrients and other agricultural pollutants into the Danube River and Black Sea through integrated land and water management of the Calarasi region and ecologically sustainable use of natural resources in two agricultural polders. The project (a) provides financing for the installation of improved manure storage facilities and equipment for manure collection and application in the seven communes; (b) promotes the adoption of better agricultural practices to improve agricultural production while reducing nutrient discharge pollution for agriculture; (c) strengthens capacity in Calarasi County to monitor soil and water quality and environmental impacts; (d) strengthens national policy and regulatory capacity; and (e) finances a broad public information campaign on the project's activities and benefits at the local, national, and regional levels to achieve replicability. The design of the INPC Project is taken largely from lessons learned through APCP implementation, particularly with regard to manure management, afforestation, public awareness, and working with communities.
2. ***Romania Rural Development Project*** (US\$40 million IBRD); IP / DO: S/S; Approval date / Status: 03/19/2002 / Under implementation. The project's objective is to strengthen the institutional capacity of local administration community groups and private service providers to: (a) plan, implement, operate and maintain small infrastructure investments in a participatory and accountable manner; and (b) increase the access of rural inhabitants in pilot areas to markets and social services, and improved water and sanitation. The first project component finances technical assistance and training activities to build the capacity of local stakeholders, and the second project component provides funding for demand-driven investments for communes and community-based organizations. The project also supported a public awareness campaign on rural water and sanitation and helped to develop a rural water and sanitation strategy that includes community well marking and school curricula for children. One of the five target counties supported includes Calarasi where certain investments were coordinated with the APCP project described above. The INPC Project will benefit from experience gained in planning, implementing and operation small community infrastructure investments, and the water and sanitation aspects of RDP.
3. ***Modernizing Agricultural Knowledge and Information Systems*** (Euro 41.4 million IBRD); IP/DO: S/S Approval date / Status: 11/16/2004 / Under implementation. The project is assisting the Romanian Government to improve the competitiveness of farmers and agro-processors in the EU accession environment, through: (a) strengthening the National Authority for Sanitary, Veterinary and Food Safety, (b) modernizing the national research and extension system, and (c) ensuring access to relevant information and technology by the farming

community. The INPCP will build upon the improved linkages with the advisory services and the improved access to information and technology by the farming community.

4. ***Private and Public Sector Institution Building Loan (P069679) and Associated Dutch Grant TF050477*** (US\$18.6 million IBRD and \$ 3.2 Million Grant); IP/DO: MS / S; Approval date / Status: 09/12/2002 / Under implementation. The Project is providing technical assistance to the government of Romania to implement critical policy and institutional reform measures, particularly in light of very heavy reforms linked to EU accession. Its objectives include improving legal, regulatory and institutional support structures, supporting a sound regulatory framework, and ensuring a more responsive, transparent and accountable public sector. An associated Dutch Grant has been used to finance a budget adviser in the Ministry of Environment and Sustainable Development since 2005 and was used to help finance a more detailed review of Nitrate Vulnerable Zones in 2006. The PPIBL Loan is supporting high priority TA required for contaminated lands and nature protection, which are pre-cursors to absorption of EU funds for these sub-areas.

5. ***Romania Rural Education*** (US\$60 million IBRD); IP/DO: S/S; Approval date / Status: 05/06/2003 / Under implementation. The overall objective is to have rural school children benefit from improved access to quality education, as evidenced by higher achievement scores and completion and transition rates. This will be achieved through (a) financing school-based professional development for teachers, upgrading basic education conditions in schools and ensuring access to basic learning materials; (b) setting up a school-community grants program; and (c) strengthening the analytic capacity of the Ministry of Education and Research. Some of the school rehabilitation efforts under this project included introduction of running water/sinks into schools. The INPCP will provide complementary funding for selected schools in NVZs for improving the sanitation conditions.

6. ***Romania Prototype Carbon Fund Afforestation Project*** (US\$3.6 million PCF); IP/DO: S/S; Approval date / Status: 09/26/2003 / Under implementation. The project's main objective is the reduction of greenhouse emissions through carbon sequestration in trees and in soils. The project will also contribute to conservation of degraded sandy agricultural lands and ecological reconstruction of degraded lands in the lower Danube floodplain, and will enable Romania to enter and benefit from the carbon market. The INPCP will benefit from the experience gained in afforestation, including in maintenance, management and solving the potential problems that might arise due to natural events.

7. ***Romania Rural Finance*** (US\$80 million IBRD); IP/DO: S/S; Approval date / Status: 03/29/2001 / Under implementation. The project seeks to promote economic growth and reduce poverty in rural Romania. To pursue this objective, the project assists by increasing the flow of investment capital to the sector and by financing farm and off-farm investments for poor segments of the rural population with no access to credit. The project, through intermediary commercial banks and micro-credit service providers, has already extended sub-loans and micro-credits throughout Romania, and has contributed to strengthening micro-credit providers that will continue to operate after the Rural Finance Project ends. This will help private farmers to access credit for on-farm nutrient reduction investments, and will reinforce and help replicate INPCP investments.

8. **Romania General Cadastre and Land Registration Project** (US\$25.5 million IBRD); IP/DO: S/S; Approval date / Status: 12/09/1997 / Closed. The project aimed to establish an efficient system for securing land titles of real estate owners, to create a general cadastre system providing clear and current definition of real estate parcels, and to set up a simple, safe and cost effective procedure for land transactions. The project results will contribute to production of maps and identifying location of NVZs and INPC Project intervention areas, and will also help for payments to farmers according to the EU cross-compliance requirements.

Other Development Agencies

9. **EU Assistance.** The European Union is the largest donor active in Romania, with over 1 billion Euro in grants to the environment sector since 1996. Activities most relevant to the proposed investment include support for institutional capacity for developing waste management systems in Romania to meet EU standards; development of an implementation plan for the environment *acquis*; transposition of relevant legislation; support for MESD with technical assistance for waste management infrastructure projects under the ESC program; and a 2004-2006 program to extend the scope of activities into waste management infrastructure investments at the local-regional level. Other assistance targeted gradual compliance with the Directive on urban wastewater treatment, and strengthening capacity on inspection and control through the National Environmental Guard (NEG). ISPA grant funds have helped to finance over 100 larger environment infrastructure investments focused in water supply and sanitation and waste management facilities, primarily in larger cities and towns. Part of the SAPARD grant funds helped finance rural water and sanitation investments, however demand for investments under this “measure” far exceeded available funds. Overall, the EU program of support has begun to build the necessary capacity for water and waste management, which will provide a basis upon which to undertake the proposed INPCP. However, none of the afore-mentioned programs invested in the problems of organic waste handling in the rural areas, the main investment focus of INPCP.

10. **The Netherlands** (Euro 425,000). An Agri-Environment project was implemented between January 2004 and December 2005 focused on: a) development of a national agri-environment program and creation of an institutional structure for the agri-environment program; b) strengthening the SAPARD agency in the implementation of agri-environment measures; and c) strengthening the system of training, advice, implementation, control and monitoring with regard to the SAPARD agri-environment program. The experience gained will be used to develop future agri-environment programs that will benefit from EU grant funding. The Netherlands MATRA program has also financing sludge treatment at the Brasov at the wastewater treatment plant in Brasov.

11. **Other bilateral donors** are also active in supporting institutional building and/or investment in regional waste management facilities directly or these include France, Great Britain, Germany, Italy, Denmark and Spain. Investments have been mainly in solid waste disposal through regional treatment center, dealing with landfills and The JICA program has supported the treatment of non-organic waste materials as well as wastewater treatment plants.

12. ***International Finance Institutions.*** Some of the projects of note with relevance to the project include European Investment Bank (EIB) financing such as Dambovita County and Galatia city wastewater investments. The European Bank for Reconstruction and Development (EBRD) has financed work on sludge treatment. Both of the Banks have also helped to co-finance the ISPA EU grant projects mentioned above.

Annex 3: Results Framework and Monitoring
ROMANIA: Integrated Nutrient Pollution Control Project

Results Framework

PDO	Project Outcome Indicators	Use of Project Outcome Information
Overall objective is to support the Government of Romania to meet the EU Nitrates Directive requirements by: (a) reducing nutrient discharges to water bodies, (b) promoting behavioral change at the communal level, and (c) strengthening institutional and regulatory capacity.	<p>At least 80% of targeted NVZs show 10% reduction in nutrient load discharge to water bodies.</p> <p>At least 50% of the population in the project area adopting preventative and remedial measures to reduce nutrient discharges.</p> <p>Improved inter-governmental coordination and capacity to assess, monitor and report on progress with implementation of the EU Nitrates Directive</p> <p>Favorable EU assessment of Romania's progress towards meeting EU Nitrates Directive</p> <p>Increased awareness of linkages between local actions and impact on Black Sea and Danube River water quality</p>	<p>YR2-3 Determine whether the nutrient reduction technologies are effective, are readily adoptable by farmers</p> <p>YR5 Feed into final project evaluation</p> <p>YR2-5 Flags the lack of capacity to meet monitoring and reporting obligations to the EU. Determine if more capacity building is needed</p> <p>Determine whether public information programs have achieved adequate coverage.</p>
The global environment objective of the project is to reduce over the long-term, the discharge of nutrients (nitrogen and phosphorous) into water bodies leading to the Danube River and Black Sea through integrated land and water management.		

Intermediate Outcomes	Intermediate Outcome Indicators	Use of Intermediate Outcome Monitoring
<p><i>Component 1: Commune-based Investments</i></p> <p>Increased investments from other sources of funds for rural environmental actions in NVZs that integrate nutrient reduction goals.</p> <p><i>1a. Rural waste management</i> Improved waste management practices adopted by households with livestock in targeted communes.</p> <p>Cost effectiveness of measures</p> <p><i>1b. Planting Buffer Strips & Rehabilitation of Pastures</i> Improved protection of water bodies in targeted communes.</p> <p><i>1c. Promotion of the Code of Good Agricultural Practices</i> Nutrient reduction measures under the Code of Good Agricultural Practices (GAP) widely applied by farmers in the targeted communes.</p> <p><i>1d. Wastewater</i> Reduced nutrient discharge from household sewage in five villages</p>	<p>A higher share of programmed EU rural development grant resources linked with nutrient control measures in NVZs than in non-NVZs & over baseline.</p> <p>Percentage of households with livestock adopting improved waste management practices</p> <p>Cost of measures for reduced discharge for 1 Kg of N (000 RON)</p> <p>Percentage of targeted communes with tree planting and the pastures rehabilitation in the agreed project plans implemented.</p> <p>Percentage of cropped area in the project commune under relevant nutrient reduction measures.</p> <p>Percentage of households in targeted villages connected to the sewage system with appropriate treatment.</p>	<p>Failure to leverage additional resources would indicate that more awareness campaign and capacity building at local level are needed</p> <p>Determine that awareness campaign and animal waste systems are appropriately designed, properly managed and will be taken up by farms.</p> <p>Increased awareness on sustainability</p> <p>Flags possible low commitment of communities. Increase awareness on sustainability.</p> <p>Determine effectiveness of training and dissemination methods, the interest of farms in adopting GAP and build-in sustainable approaches. YR2-5: Low uptake may flag either poor extension methods or unsuitable technologies.</p> <p>Confirm the level of interest in upgraded facilities, determine the possibility for wider adoption and find new, more attractive designs where necessary.</p>

<p><u>Component 2: Strengthened institutional and regulatory capacity for implementing the EU Nitrates Directive</u></p> <p>2a. Policy and regulatory support Clear demarcation of functions and responsibilities of relevant departments and agencies involved in implementation of the Nitrates Directive</p> <p>2b. Water Basin Authority and other institutions/agencies Water quality monitoring, analysis and reporting capacity of Water Basin Authority and other agencies strengthened.</p> <p>2c. Training at national, basin and county levels Strengthened capacity of institutions implementing the EU Nitrates Directive.</p>	<p>Relevant legislation updated and Ministerial Orders issued clearly defining responsibilities. EU reporting process tested and using inputs of multiple institutions.</p> <p>Unified set of monitoring guidelines and standards for soil and water adopted, and monitoring program implemented.</p> <p>Working groups at Water Basin and County levels functioning effectively and all staff working on the Nitrates Directive fully operational.</p>	<p>Failure to clarify responsibilities and update legislation would delay effective implementation of the action plans for the NVZs. In the event that this is not achieved, further TA will be provided to the Government to ensure compliance.</p> <p>Determine that monitoring and reporting requirements for the EU Nitrates Directive will be met. In the event of requirements not being met, further TA will be provided to Government and relevant agencies to ensure that monitoring and reporting obligations are met.</p> <p>Ineffective training programs would delay effective functioning of the working groups in each water basin. Reasons for failure to work effectively would be determined and training program revised as necessary.</p>
<p><u>Component 3: Public Awareness and Replication Strategy</u></p> <p>Rural populations aware of actions required to meet EU Nitrates Directive and reduce nutrient loads to water bodies.</p>	<p>Percentage increased of rural population in project and non-project areas aware of and initiating / implementing actions related to nutrient reduction.</p>	<p>Find more effective ways to reach the target groups if necessary.</p>
<p><u>Component 4: Project Management Unit</u></p> <p>Efficient Project management ensuring smooth implementation of project activities</p>	<p>PMU fully functional and operating effectively Continued strong support from Inter-ministerial Committee for project</p>	<p>Failure to manage the project effectively would lead to delays in implementation.</p>

Arrangements for Results Monitoring

Institutional Arrangements

1. The main institutions in charge of INPCP M&E are the MESD PMU and ANAR. Selected indicators of the INPCP M&E will feed the system designed for monitoring the implementation of the “Action Plan for water protection against pollution with nitrates from agricultural sources,” and will be further incorporated into the National Integrated Monitoring System of pollution with nitrates from agricultural sources. The PMU will design a simple Management Information System for M&E, reporting formats for each component, including targeted annual performance objectives and monitoring indicators using the results monitoring framework details as the basis. These indicators include evaluating the project's impact by monitoring soil and water quality. Quarterly reports will cover progress in physical implementation, the use of project funds and project impact. The Quarterly reports will be consolidated by the PMU into half-yearly progress reports to the Inter-Ministerial Committee for Application of the Nitrates Directive (ICA) and to the Bank within two months of the end of each six-month reporting period. These half-yearly progress reports will include an implementation plan and work program for the next six months following the reporting period. The format of reports will be agreed with the Bank. The expected outcomes related to changes in behavior and awareness campaigns will be measured at baseline, mid-term and end of project through surveys commissioned by PMU (see below).

Data Collection

2. ANAR will be in charge of collecting and providing the data regarding water quality and nitrate pollution. The project provides financing for installation of new groundwater monitoring wells for this purpose where needed. Under the management of ANAR, there are 11 Water Basin Directorates (WBDs) that collect and process information on surface and ground water quality from the WMSs in their basin. Ultimately, the information collected from the 11 WBDs is integrated by ANAR, and constitutes the basis for the report on nutrient pollution. The data provided by ANAR will be consolidated by the PMU. The nutrient discharge outcomes indicators included in the INPCP M&E will be estimated by the PMU using inputs from ANAR, the General Directorate for Agriculture (DADR), and the NVZ communes.

3. In addition to the water quality indicators and progress in implementation indicators, the PMU will commission three surveys (baseline, mid-term, and end-of –project), aiming to measure the changes in management practices in the project area and outcomes of awareness campaign. A quick baseline survey was already carried out during preparation, in the 11 TDSs (see Annex 17). This exercise will be roll out as new communities enter the project, using quasi-randomization. In the same time, to demonstrate the impact and benefits of INPCP approach, a control group of (similar) communes will be selected for the 11 TDSs, and the same indicators will be collected (in the absence of the project). The impact of INPCP in the TDSs will be then demonstrated using the double difference of the estimates (in time and in project vs. control groups).

4. Finally, since the awareness campaign will be carried out at national level, a national representative sample will be used to measure the outcomes of the campaign.

Measurement of PDO

5. The PDO indicators will be estimated using three different data sources: social surveys, Nitrate pollution surveys, and EU reports.

- (a) The behavioral change at community level will be measured through a compound index including two elements: (i) improved waste management practices adopted by households with livestock, and (ii) application of nutrient reduction measures under the Code of Good Agricultural Practices. The first element is measured through a summative index composed of the following indicators (a) separation of animal waste/ manure collection, preventing seepage into the soil; (b) regular (monthly) removal of the manure from the premises to an appropriate disposal spot; (c) the household's animal waste collection spot is located at more than 40 meters from household wells. The second element is also a summative index that includes: (a) crops rotation, (b) use of natural fertilizers, (c) use of chemical fertilizers and/ or pesticides under the guidance of a specialist.
- (b) The reduction of nutrient discharge into water bodies will be estimated by the PMU using “proxy” methods, with inputs from the annual reports of the Directorates for Agriculture and Rural Development on the quantities of mineral fertilizers used in the project area, the communes’ reports on the quantities of manure collected and used as organic fertilizer, and the contribution of nutrient retention from the various good agricultural practices implemented (e.g., buffer strips, nutrient management, reduced tillage, etc.).
- (c) The strengthened institutional and regulatory capacity will be measured using the EU reports on Romania’s progress, as well as by the frequency, timely delivery, and data completeness of the monitoring reports issued at regional and central level by ANAR and the Ministry.

Capacity

6. The PMU has a well established M&E capacity, both in working with administrative data from GoR agencies and in commissioning surveys and make use of their results. Baseline data in many cases will be specific to selected investments sites and collected through use of survey instruments. Target values are in many cases based on the experience gained in the Calarasi pilot. The capacity of ANAR will be strengthened through component 2 of the project.

Arrangements for Results Monitoring

Project Outcome Indicators	Baseline	Target Values					Frequency and Reports	Data Collection and Reporting Instruments	Responsibility for Data Collection
		YR1	YR2	YR3	YR4	YR5			
At least 80% of targeted NVZs show 10% reduction in nutrient load discharge to water bodies	0	0	0	20%	40%	65%	Annually; PMU reports	Monitoring data from ANAR, DARD	PMU
Percentage of the population in the project area adopting preventative and remedial measures to reduce nutrient discharges (index).	<2%			20%		50%	Mid-term and project-end; PMU reports	Social survey	PMU
Improved inter-governmental coordination and capacity to assess, monitor and report on progress with implementation of the EU Nitrates Directive	TBD from gap analysis report						Improvements acknowledged	Annually; PMU reports Basin-level and county-level working groups reports. Minutes and decisions of Inter-ministerial Committee. Gap analysis report.	PMU
Favorable EU assessment of Romania's progress towards meeting EU Nitrates Directive	n.a.						Progress acknowledged	End of project, EU report EU report	PMU
Increased awareness of linkages between local actions and impact on Black Sea and Danube River water quality (%)	TBD (survey)			10%		30%	Mid-term and project end; PMU reports	Assessment of public awareness programs and social survey	PMU

Project Outcome Indicators	Baseline	Target Values					Frequency and Reports	Data Collection and Reporting Instruments	Responsibility for Data Collection
		YR1	YR2	YR3	YR4	YR5			
<u>Component I: Commune-based Investments</u>									
A higher share of programmed EU rural development grant resources linked with nutrient control measures in NVZs than in non-NVZs. (targeted NVZ/non-NVZ ratio)	-	>1	>1	>1	>1	>1	Annually; PMU reports	MESD & EU funding reports	PMU
Cost of measures for reduced discharge for 1 Kg of N (000 RON)	-			<40 USD in average	<40 USD in average	<40 USD in average	Annually; PMU reports	PMU monitoring program.	PMU
<i>Ia. Rural waste management</i>									
Percentage of households with livestock adopting improved waste management practices.	4%			20%		45%	Mid-term and project-end; PMU reports	PMU monitoring program. Social survey	PMU
<i>Ib. Afforestation & Pastures Rehabilitation</i>									
Percentage of targeted communes with afforestation program and the pastures rehabilitation in the agreed project plans implemented.	0	0	5%	10%	15%	75%	Annually; PMU reports	PMU monitoring program	PMU
<i>Ic. Promotion of the Code of Good Agricultural Practices</i>									
Percentage of cropped area in the project communes under relevant nutrient reduction measures.	<2%	2%	5%	15%	20%	30%	Annually; PMU reports	PMU monitoring program; Social Survey	PMU
<i>Ie. Wastewater</i>									
Percentage of households in targeted villages with access to a sewage system with appropriate treatment.	0		0			30%	Mid-term and project-end; PMU reports	PMU monitoring program	PMU

Project Outcome Indicators	Baseline	Target Values					Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
<u>Component 2: Institutional Strengthening and Capacity Building</u>									
<i>2a. Policy and regulatory support</i>	Legislative and reporting framework un-tested	Gap analysis and testing complete	EU acceptance of Romania report.	Annually; PMU reports	MARD/MESD reports on status legislation & Ministerial Orders	PMU			
<i>2b. Water Basin Authority and other institutions/agencies</i>	Separated monitoring frameworks for water and soil	Proposed unified monitoring system	Monitoring framework adopted	Annually; Water Authority reports	Working groups reports	Water Basin Authority			
<i>2c. Training at national, basin and county levels</i>	Ad-hoc implementation of working groups	WGs focused on common agenda across basins	WGs effective to support EU reporting and to coordinate actions of other agencies	Annually; PMU reports	PMU monitoring program	PMU			
<u>Component 3: Public Awareness and Replication Strategy</u>							Mid-term and project-end; PMU reports	Social survey	PMU
Percentage increase of rural population in project and non-project areas aware of and initiating / implementing actions related to nutrient reduction (index).	TBD	TBD	TBD	TBD	TBD	TBD			
% increase in project area									
% increase in non-project area									

Project Outcome Indicators	Baseline	Target Values					Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
PMU fully functional and operating effectively Continued strong support from Inter-ministerial Committee for project	S	S	S	S	S	Initially six-monthly	Bank supervision reports	Bank Task Team	

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Annex 4: Detailed Project Description

ROMANIA: Integrated Nutrient Pollution Control Project

1. ***Project Objectives.*** The overall development objective of the proposed project is to support the Government of Romania in meeting the EU Nitrates Directive requirements by (a) reducing nutrient discharges to water bodies, (b) promoting behavioral change at the communal level, and (c) strengthening institutional and regulatory capacity. Towards this end, the project will provide technical assistance and specific investments to increase the use of environmentally friendly agricultural practices as well as manage animal and human wastes to reduce nutrient loads to surface and ground waters in Romania. The global environment objective is to reduce over the long term the discharge of nutrients into water bodies leading to the Danube River and Black Sea through integrated land and water management.
2. ***Project Rationale.*** The EU Nitrates Directive aims at (a) reduction of pollution caused or induced by nitrates from agricultural sources, and (b) prevention of water pollution by nitrates. Implementation of the Directive comprises five steps, namely: (i) detection of polluted or threatened waters; (ii) designation of nitrate vulnerable zones (NVZs); (iii) adoption of Code(s) of Good Agricultural Practices; (iv) action programs within NVZs; and (v) national monitoring, which will provide data to assess the impact of action programs, as well as revising and updating the list of NVZs. Implementation of the first three steps is well advanced with polluted waters detected, NVZs provisionally identified and an initial Code of Good Agricultural Practices adopted and subsequently revised to bring it in line with latest EU requirements. The project components are directed primarily at supporting the action programs to reduce the threat of nutrient pollution in the Nitrate Vulnerable Zones. In this context, the project will also support selected elements of the Water Framework Directive.
3. A preliminary assessment⁹ was carried out to identify the NVZs based on (a) sources of nitrate pollution (livestock waste and inorganic fertilizer) and (b) soil characteristics determining the movement of nitrates to water bodies. As a result, 251 localities were designated as nitrate vulnerable zones. The government is undertaking a more detailed and refined diagnostic analysis to identify and prioritize NVZs in the eleven river basins and develop action plans for mitigating nutrient pollution, using Dutch grant funds provided by the Bank. The action plans are expected by June 2007 and project activities will be prioritized based on the requirements of these action plans. The action plans are expected to include a range of measures to reduce nutrient discharge and bring nitrate levels in surface and groundwater to acceptable concentrations.
4. Through the provision of technical assistance and specific investments, the Project will aim to increase significantly the use of environmentally friendly agricultural practices and thereby reduce nutrient discharge from agricultural sources to surface and ground waters in Romania. Project activities will thus help Romania to comply with select measures under the EU

⁹ Implementation Plan for Directive 91/676/EEC (concerning the protection of waters against pollution caused by nitrates from agricultural sources), Government of Romania, June 2004.

environmental *acquis*, prepare and implement environmental *acquis* administrative measures and promote related compliance and enforcement by the private sector and industry.

5. ***Project Components.*** The Project will comprise the following four components to be implemented over five years: (i) Commune-based Investments in some 91 NVZs; (ii) Institutional Strengthening and Capacity Building; (iii) Public Awareness and Replication Strategy; and (iv) Project Management.

6. **Project Component 1 – Commune-based Investments in Nitrate Vulnerable Zones (NVZs) (45.9 million Euro, of which 39.4 million Euro is IBRD, and US\$2.1 million is GEF).** The project will support a menu of investments focusing on 91 NVZ-designated communes in ten river basins. The menu of investments will include: (i) communal storage and handling systems to promote better management of livestock and household waste;¹⁰ (ii) communal planting of vegetative buffer strips to protect water bodies and stem deterioration of degraded lands, and rehabilitate pastures; (iii) demonstration of improved water and sanitation measures; and (iv) promotion of the Code of Good Agricultural Practices on farmland with specific investments for on-farm nutrient management to reduce nutrient discharge. With regard to wastewater and sanitation, the project would finance rehabilitation of small-scale sewage collection and treatment in two or three communes, as well promote community well testing and awareness of the impact of improved sanitation on human health.

7. A total of eleven counties were selected within ten of the eleven river basins. The Dobrogea-Litoral river basin (which comprises the Danube delta) was excluded, as it does not contain any identified NVZs. Two counties were selected in the Siret River Basin due to the very high number of NVZs. These eleven counties comprise a total of 949 communes (111 identified as NVZs), with a rural population of 3.4 million, 4.6 million hectares of agricultural land, 955,000 cattle, 2.3 million pigs and 2.6 million/sheep/goats. The eleven counties were selected at pre-appraisal based on the number of Nitrate Vulnerable Zones (NVZs) in the River Basin, proximity to the River Basin headquarters so as facilitate participation of the River Basin authorities, and willingness of the County Council to participate in the project. In the first eighteen months, the project will support investments in one commune in each of the eleven counties that will act as a Training and Demonstration Site (TDS).¹¹ Subsequent project investments will be rolled out to another 80 NVZs/communes in the other eligible counties, so that a total of up to 91 NVZs/communes would be covered. The communes selected as Training and Demonstration Sites (TDSs) will receive the highest priority for initial project investments. It was agreed that first-year investments would focus on six priority TDS communes, with an additional five to be supported in the second year. The initial six TDS communes have been identified, field surveys and data collection have been undertaken, and the investment sub-projects are being prepared.

¹⁰ Communal systems are relevant in this case because livestock are held in very small units housed within the villages; their relevance was confirmed in the pilot APCP.

¹¹ The target counties are: Arges County (Arges-Vedea River Basin), Buzau (Buzau-Ialomita River Basin), Vale County (Olt River Basin), Iasi county (Prut-Barlad River Basin), Bacau and Neamet Counties (Siret river basin), Cluj county (Somes-Tisa river basin), Timis county (Banat River Basin), Bihor county (Crisuri River Basin), Mures county (Mures river basin) and Dolj county (Jiu river basin).

8. Subsequent project investments will focus on other eligible communes in the thirty-four counties across ten river basins, with replication and public awareness efforts focused basin-wide.

9. In selecting communes for project interventions, the following criteria would need to be met.

- (a) The commune should have been identified as an NVZ for which action plans have been developed for remedial works required under the EU's Nitrates Directive.
- (b) The commune should be situated on a waterway in the first or second category, that is, in the vicinity of a river, or principal tributary, or nearby to a lake/reservoir with significant eutrophication.
- (c) The County Council and/or the commune should be ready to finance at least 5% of the proposed investment costs.
- (d) The source of the nitrate pollution should be current, not primarily from an historical source.
- (e) The commune does not have a prepared or approved project for a sewage system.
- (f) The proposed project interventions are compatible with the county's plans for water supply, waste management and school rehabilitation.
- (g) The commune should contain a high concentration of livestock that are contributing to nutrient discharge, and a high human population.

10. In the situation that all the criteria (i) through (vi) are satisfied, the commune would be ranked according to population and concentration of livestock. Based on initial data from 214 NVZs/communes, the 91 communes presently designated as NVZs for project investments have a population of around 509,000 in 178,000 households, cover about 395,000 hectares of agricultural land, and have 98,000 cattle, 184,000 pigs, 254,000 sheep/goats, and 2.2 million poultry.

11. The total value (base cost) of the package of investments per commune would be approximately 630,000 Euro equivalent for a TDS, 2.4 million Euro for the two TDS communes also receiving a water and sewage treatment facility, and 260,000 Euro for the other 80 roll-out communes. Small-scale sewage collection treatment will be provided for two communes. Provision for funding feasibility studies for improving water and wastewater services has also been made for other eligible communes.

12. *Livestock and Household Waste Management: Waste Management Practices.* This sub-component will finance investments for the installation of improved livestock and household waste storage facilities at village and household level, and equipment for waste collection and application of manure in the selected commune (NVZ). Financing would be provided for the construction of commune-level compost facilities, small storage bunkers with effluent collection facilities at the household level, equipment for waste collection and manure/compost spreading, and household bins for separating recyclable waste. Communes/villages and households wishing to participate in the investment program would be selected against agreed criteria and cost-sharing arrangements (Operational Manual, Annex 2). Investment support for waste platforms will focus on compost operations and recyclable waste separation compartments similar to the

Calarasi pilot. Where applicable, designs would be coordinated with county waste management systems.

13. *Waste Storage System.* The waste storage system to be provided by the project would include a communal store with provision for holding recyclable household waste (separated by the householder with bins provided by the project), livestock waste destined for composting and spreading on farmland as organic manure, and other waste destined for the landfill. Where there is a need, either because householders wish to retain the livestock waste as manure or because investments are needed at the household level to reduce effluent discharge, the project could provide funds for storage bunkers at the household level. At present, the cost tables provide for the construction of one or two communal stores with capacity for holding up to 3,000 tons of livestock waste in each commune, together with about 200 household storage bunkers. The likely size of communal stores and number of household bunkers will be confirmed during the evaluation of the needs in the first six communes.

14. *Manure Handling and Application System.* The project will support a system for waste collection and subsequent application of manure/compost comprising: (i) waste collection/delivery to communal-level facility; (ii) provision of equipment to facilitate handling at the communal-level facility (tractor with trailer, 2 sets per facility) and loader; (iii) management of livestock waste to stimulate breakdown and composting; (iv) provision of spreaders for field application of composted material; (v) provision of vacuum tanker and injector for handling and field application of effluent. Responsibilities will be set out in agreements between the PMU and the local authorities.

15. *Planting of Buffer Strips & Pastures Rehabilitation.* The Project would support the rehabilitation of pastures and the planting-up of communal land, for example, for vegetative buffer strips to protect water bodies from nutrient discharges or to stem deterioration of degraded lands. For planting, the Project would provide the cost of saplings while the commune would provide the labor for planting. For the rehabilitation of pastures to reduce grazing pressure and improve the sward cover, the project would provide seeds and fencing. This assistance would be provided where communes have requested it and have made commitments to manage the pastures accordingly. The amount of degraded land in each commune varies, as does the number of water bodies in need of buffer strips to reduce nutrient discharge.

16. An initial indication of the demand would be obtained from the evaluation of the first six TDS and the NVZs action plans to be developed by May 2007. Subsequently the demand for each commune would be assessed annually prior to finalizing project investments for the year ahead. The areas (hectares) to be planted and/or rehabilitated are currently estimated as follows.

Tree Planting Sites	PY1	PY2	PY3	PY4	PY5	Total
Planting at Training & Demonstration Sites (NVZs)		220				220
Planting at other commune	-	300	300	300	200	1100
Total tree plantings – ha	-	520	300	300	200	1320
Pastures' Rehabilitation	TBD	TBD	TBD	TBD	TBD	TBD

17. *Water & Sanitation.* The Project will support investments in two of the TDS communes for demonstration of the impact of wastewater improvements on nutrient load reductions through small-scale sewage collection and treatment. The project will also support preparation of feasibility studies for rural water and sanitation investments in NVZ-designated communes seeking to attract other sources of financing. Funds will also be provided to test and demonstrate the feasibility of biogas/energy co-generation of manure/organic household waste through anaerobic digestion in one commune.

18. *Community Well Testing.* Through a public awareness component, the Project will plan and support activities in village and commune level to increase the awareness of the impact of nitrates in drinking water on human health and links between water pollution and the quality of groundwater. As part of the campaign nitrate-testing kits would be provided to mayors and schools to test the public wells and mark those where nitrate levels exceed acceptable levels. The project will finance the production of school curricula approved in Romania on nitrate issues.

19. *Small-Scale Sewage Collection and Treatment.* Sewage collection and wastewater treatment investments will be financed in a limited number of commune, where pollution is imminent due to a high number of households having piped water and flush toilets inside the house and septic tanks but where overflow is directly discharged to recipient waters. Priority would be given to communes discharging to trans-boundary waters. It is expected that commune centers or villages with 4,000-8,000 people are likely to qualify, as the per capita costs in smaller communes would become excessively high compared to the environmental benefits, and consumers' willingness and ability to pay operational costs is unlikely. Investments would be expected to result in considerable reductions in nitrate discharges from the target communes.

20. In the case of wastewater and sanitation, to ensure sustainable operation the commune would be asked to confirm the willingness of consumers to: (i) connect to the sewer system, and (ii) operate the system in a sustainable manner. Over 50% of the households within the planned sewerage would be required to sign the service agreement with the commune/council/operator of the system before the project is approved. Furthermore, the technical solutions should be least cost with the per capita cost not exceeding Euro 400, including collection and treatment, and Euro 150 if the scheme only includes enhancement/construction of treatment facilities.

20. Feasibility studies would be carried out to provide a plan on how to organize the operation of the system, to determine operation costs and to calculate respective tariff for wastewater services. The feasibility study would consider different options for operation, including the possibility to contract the services from a Regional Water Utility, and would include a financing plan for the investments including the cost sharing with consumers. The feasibility study will also include a plan for disposing of the accumulated sludge in a sustainable manner. Use in agriculture would be the preferred option for demonstration purposes under the project but, if due to the quality concerns, land application is not possible; a sustainable disposal site would be identified.

21. *Promotion of Code of Good Agricultural Practices.* The Project would encourage farmers to adopt the Code of Good Agricultural Practices, which has been prepared and updated

under the APCP, in their management of crop and livestock enterprises. In particular, the project would promote the adoption of nutrient management practices including crop rotation, manure management, maintaining soil cover and crop nutrient management with soil testing. Organic farming would also be promoted. A training program for advisory staff and farmers would be funded by the project with an on-farm demonstration program as the basis for disseminating results of improved practices. The Project would provide funds for recruitment of agencies skilled in nutrient management to provide advice and training, for partially meeting the cost of soils analysis where necessary, as well as the costs of the on-farm demonstration program.

22. The Project would also demonstrate the use of conservation tillage with a view to reducing soil erosion and would fund the cost of demonstration equipment and on-farm demonstrations. The sustainable use of communal pastures and other grazing areas would also be promoted where this is relevant to improving the management of natural resources in the commune and reducing nutrients discharge. The program for promoting Good Agricultural Practices would be initiated in the initial eleven TDSs and then spread more widely throughout the NVZs as the project proceeds.

23. *Financing for Water and Wastewater Feasibility Studies.* The project would finance feasibility studies for improving water and wastewater treatment services in selected communes. The aim would be to attract external EU financing for investments and priority would be given to communes that have an impact on trans-boundary waters with a total of 100 studies to be funded. Funds will also be provided to test and demonstrate the feasibility of biogas/energy co-generation of manure/organic household waste through anaerobic digestion in up to two commune.

24. **Project Component 2 – Support for Institutional Strengthening and Capacity Building (5.9 million Euro, of which 3.9 million Euro is IBRD, and US\$2.7 million is GEF).** This component will focus on building capacity within the Ministry of Environment and Sustainable Development (MESD) and their National Administration for Romanian Waters, as well as other national, regional and county agencies involved in implementing the Nitrates Directive (i.e. Public Health, Agriculture etc.). First, this component would provide technical assistance to MESD/MARD to ensure that legislation is fully in line with EU regulations related to the EU Nitrates Directive and selected measures under the Water Framework Directives, with an emphasis on clarifying implementation and coordination responsibilities across agencies. A gap analysis of the legal framework will be undertaken and the Project will identify and support the necessary steps to completely harmonize the legislation. The project will help clarify institutional responsibilities for effective implementation of legislation related to the Nitrates Directive. As part of this effort, the project will also assist in the integration of the legal framework for nitrates, phosphates and sludge. In addition, the relative merits of ex-post and ex-ante mitigation strategies for dealing with livestock waste in the Romanian situation would be assessed, and options for introducing ex-ante measures during the life of the project explored.

25. Agreement on the scope of work and finalization of the terms of reference would be expected during PY1 with the work to be started before the end of the year and concluded in PY2/3.

26. Second, the project will help build capacity within the National Administration for Romanian Waters (subordinated to the MESD), as the designated lead for inter-agency working groups at the river basin and county levels for the Nitrates Directive, including coordinating efforts of the different agencies, and reporting to the EU through MEMW on progress. Support will include completing ANAR's training facility, providing equipment for groundwater wells to extend the national monitoring grid, and providing project-specific monitoring, as well as mobile and in-situ sampling and laboratory equipment (detailed in Operational Manual). Procurement of civil works and equipment for completing the training facility, as well as equipment and vehicles for extending the monitoring grid, would start in PY1. Third, the project will support a comprehensive training program for staff of relevant national, regional and county level agencies that are members of the Nitrates Working Groups. The training requirements have been identified as follows (Fig 1 below).

Fig 1: Romania - Integrated Nutrient Pollution Control Project

Training Requirements				
National: ICA, ANAR, MESD, MARD, MPH, NEPA Senior Staff	Regional: Water Basin, REPA, ND Working Group	County: Water District, LEPA, OSHPA, Public Health, Agric. Dept, National Env. Guard	Commune: Mayors, Farmer leaders, Teachers, School Children	Commune: Platform operators, farmers
Study tours to see experiences similar projects				
Functioning of Nitrates Directive Working Groups				
Water & Soil Quality Monitoring Standards & Procedures				
	Training technicians water sampling			
		Application of Good Agricultural Practices		
			Safe operation of platforms	
Implementation of Nitrates Directive Action Plans				
Monitoring & Reporting				

27. The training program at the *National level* will include the training of 40 trainers in the Nitrates Directive who will train at the county level, study tours within the EU for a total of 80 staff of the relevant agencies to get an understanding of the changes in practices required to meet the regulations of the EU Nitrates Directive (ND), and training of a further 180 staff who will be involved in the implementation of the ND. At the *Water Basin level*, training will focus on upgrading skills in sampling procedures and on implementation of the ND, around 80-90 staff. At the *County level*, some 80 staff will also undertake study tours within the EU, while the trainers who have been trained at the national level will train staff of the agencies represented on the Nitrates Directive Working Group in its implementation. At the *Commune level*, Mayors will participate in the study tours arranged by the county, platform operators will visit Calarasi and extension staff and farmers will get training in nutrient management under Component 1. Farmers will be able participate directly in field days and demonstrations held initially in Calarasi and subsequently on the TDS financed under the INPCP, as well as through extension staff.

28. Finally, the project will support training activities and technical assistance for developing an institutional mechanism to enable beneficiaries and relevant national institutions to access EU funds, including preparation, implementation and management of projects.

29. **Project Component 3 – Public Awareness and Replication Strategy (2.6 million Euro, of which 2.5 million Euro is IBRD, and US\$0.2 million is GEF).** A broad public information campaign of the project's activities and benefits will be undertaken at the local, river basin, national and regional levels to achieve replication of project interventions in other similar areas within Romania (NVZ-designated communes in non-focus counties) as well as other Black Sea riparian countries and EU candidate countries. In particular, the component will promote improved rural sanitation in the NVZs, implementation of good agricultural practices, such as composting, conservation tillage, crop rotation, etc. The project will provide for the organization of national and regional workshops, field trips, and study tours where knowledge and skills on effective low-cost environmentally friendly technologies will be shared. The project will also use the media (TV, radio, agricultural and environmental journals) and activities with school children as a vehicle for disseminating the benefits of the proposed activities. Project staff would be encouraged to disseminate their experiences in GEF organized forums. See Operational Manual for indicative program and terms of reference for agency(ies) to manage the program.

30. **Project Component 4 – Project Management (5.6 million Euro, of which 4.2 million Euro is IBRD, and US\$0.5 million is GEF).** The Project Management Unit (PMU) will be set up within the MESD, and staffed with both ministry employees and consultants. The Water basin Authority in each of the ten river basins will provide two dedicated staff for supervising and coordinating the implementation of project activities at the commune level. The Water basin Authority will provide office space and training facility and the project will provide necessary equipment and vehicles. Other agencies that may be needed to implement component activities will be hired on a contractual basis as needed. The Ministry of Environment and Sustainable Development (MESD) will be the line ministry responsible for the overall implementation of the project. The current Inter-Ministerial Committee for Application of the Nitrates Directive, chaired by the MESD, will provide overall guidance for and oversight of project activities.

31. The project will cover additional investment costs including equipment, vehicles and staff training, PMU salaries (water basin staff financed by ANAR), FMI software, rehabilitation of PMU offices, incremental operating costs for 5 years to help finance operations of a MEMW-based PMU, and project designated staff located across 10 Water Basin Offices. Incremental operating costs include office rent and utilities, office maintenance and supplies, vehicle fuel and maintenance, the cost of field trips and per diems for staff away from their base, and bid advertisements.

32. While the major investments will be restricted to the eleven focus counties, the project activities would be expected to have a considerable spill-over effect into other counties through the public awareness and training programs, as well as through the promotion of good agricultural practices with demonstrations and farmer training extending beyond county boundaries. Furthermore, the feasibility studies for water and sewage investments will not be limited to the eleven counties but instead should respond to where there is a demand and investment funding available.

33. **Investment Selection Criteria and Process.** The PMU, working in collaboration with the County Council and the Commune's Mayor, would be responsible for confirming that investments meet the project objectives and match the county's plans for household waste and water supply. The PMU would prepare an investment plan detailing the location of communal waste platforms, number of household stores to be funded, communal planting of buffer strips and demonstration of GAP, as well as proposals for low cost sanitation in schools. This plan would be prepared in collaboration with the County Council, the Mayor of the commune, and Prefect, and would require their approval.

34. The County Council and/or Commune would be required to provide 5% of investment costs for project activities in the Commune and sign a preliminary agreement with the PMU. In the case that it does not contribute to the investment cost, the Commune would be required to provide at least some specified items in kind (e.g., tractors and trailers for collection of waste). Village(s) where communal waste platform and household stores are to be constructed would be identified during the PMU survey, and the availability of suitable site(s) for the communal platform(s) that satisfy environmental regulations would be confirmed.

35. The PMU/County Council would contract an architect to prepare bidding documents and detailed designs for communal storage platforms and household bunkers, as well as for wastewater and sanitation where relevant. In the eleven TDSs, the communes will finance the feasibility studies. The PMU would prepare plans for waste handling that identify sources of machinery and equipment and provide specifications for equipment. The PMU would also identify and cost the proposed interventions in buffer strips, as well as the demonstrations of Good Agricultural Practices.

36. The PMU would prepare cost estimates and financing plans, as well as agreements with the County Councils and communes, specifying the project investments, terms and conditions of the IBRD/GEF funding (including the cost-sharing arrangements between IBRD/GEF, County Councils, communes and beneficiary households), the responsibilities of each party during construction, and the responsibilities for the operation and maintenance of facilities. In the

course of this process, the PMU would check that the planned activities match with the action plans for NVZs to be prepared by May 2007 under Dutch Grant funding. The PMU would finalize Co-financing Agreements for the INPCP sub-projects with the County Councils and Cooperation Agreements with the communes/mayors. Implementation procedures and pro-forma for the agreements will be set out in the Operational Manual. Summary of the investment program (numbers) in livestock and household waste management.

Item	PY1	PY2	PY3	PY4	PY5	Total
Number of Training & Demonstration Sites (TDS) in NVZ commune	6	5	-	-	-	11
Total NVZs covered by Project (acc.)	6	31	51	76	91	91
Communal storage facilities	12	25	35	30	-	102
Household bunkers	1,000	1,800	2,200	2,200	-	7,200
Handling & application equipment – sets	-	27	28	28	8	91
Household waste bins	0	10,300	6,400	6,400	6,400	29,500

Note: Provision at TDS is for two platforms

Annex 5: Project Costs
ROMANIA: Integrated Nutrient Pollution Control Project

Project Cost By Component and/or Activity	Local Euro million	Foreign Euro million	Total Euro million
Commune-based Investments in NVZs	34.7	5.0	39.7
Policy & Regulatory Framework and Institution Strengthening & Capacity Building	2.7	2.6	5.3
Public Awareness & Replication Strategy	2.2	0.0	2.2
Project Management	5.6	0.0	5.6
Total Baseline Cost	44.4	7.6	52.0
Physical Contingencies	0.7	0.1	0.8
Price Contingencies	6.6	0.5	7.1
Total Project Costs¹	51.8	8.1	59.9

¹Identifiable taxes and duties are 10.6 M Euro, and the total project cost, net of taxes, is 48.5 M Euro. Therefore, the share of project cost net of taxes is 82.1%.

(Note –IBRD Loan is 50 M Euro (about \$68.1 M USD equivalent) and GEF grant is \$5.5 M USD (about 4.2 M Euro equivalent)

Annex 6: Implementation Arrangements

ROMANIA: Integrated Nutrient Pollution Control Project

Project Coordination

1. Project activities will be overseen at the national level by an existing Inter-Ministerial Committee for Application of the Nitrates Directive (ICA), which is chaired by the Secretary of State for Waters (MESD), with membership comprising the Director General for Water Management (MESD), the Director of Land Improvement (MARD), three representatives each from MESD and MARD, and two representatives from the Ministry of Public Health. The Director for Strategies, Regulation and Authorization (MESD) acts as secretary to the committee (see Operational Manual for ICA's charter). ICA's role is advisory, including overseeing the quality of the application of the Nitrates Directive in Romania and dealing with implementation issues that may arise.
2. Within MESD, the Office of the Secretary of State for Waters and the Directorate for Water Resources Management (subordinated to the Secretary of State) will have key oversight and management responsibilities for the project. See Figure 1 for overall Project organization. The Director of the Project Management Unit (PMU) would report to the Secretary of State.

Project Administration

3. *National level.* The PMU will be located within the MESD premises to ensure good access and integration with other Ministry functions. The PMU would comprise fifteen staff that would carry out the core implementation activities. The staff would include a Director, Financial Manager, Accountant, Financial Assistant, three Procurement Officers, three Technical/Monitoring & Evaluation Specialists, Secretary, Translator/Secretary, and three Drivers. A procurement officer would be appointed before project appraisal to be trained and to work on bidding documents for the first year activities. The targeted counties would be subdivided into three zones and one procurement officer and one technical/monitoring & evaluation specialist assigned to each zone. Job descriptions for the staff are in the Operational Manual, Annex 11b together with a map showing the zonal division. Additional staff and office space will be provided upon project effectiveness. At midterm, the Borrower and the Bank will review the recommendations of the study for development of an institutional mechanism to coordinate responsibilities and enable beneficiaries and relevant institutions to access, implement and manage EU funds. The review will be reflected in a decision on potential adjustments to be made in project implementation arrangements.

4. *Basin level.* It was agreed that each Water Basin Directorate would appoint one or two new staff to work on the coordination and implementation of project activities under the coordination of the PMU. In addition to supporting project investment activities in the eleven targeted counties, these staff would strengthen capacity of the Working Groups that coordinate the implementation of the Nitrates Directives across institutions in their respective Water Basins. The new staff in the first six Water Basins will be appointed by February 1, 2008 and the project

will provide a vehicle for each Water Basin and incremental operating costs related to their activities in project implementation. Job descriptions are in the Operational Manual, Annex 11b.

5. *County/Commune level.* The PMU would work through County Councils and communes with agreements to be drawn up specifying the cost sharing (whether in-cash or in-kind) and the commitments of each party.

Responsibilities for Project Implementation

6. The PMU would have overall responsibility for the day-to-day implementation of the Project and would contract as necessary with competent Romanian institutions (both public and private) for carrying out specific activities. A draft implementation schedule for the 5-year project will be developed prior to appraisal. Subsequently, prior to launching each year's investment program, the PMU will agree with the County Councils, concerned communes and each of the contracted agencies the targets, final design/implementation program and budget for the year ahead.

Implementation responsibilities by sub-investment type are summarized in the table below/overleaf.

<i>Component</i>	<i>Operations/Implementation Responsibilities</i>
1. Commune-based Investment 1.1 Livestock and Household Waste Management	PMU would work with County Councils and identified communes on the basis of explicit agreements to: confirm the need for, and type of waste platform(s), contract final designs of waste stores, and sign agreements with the County Councils on cost sharing, as well as with commune Mayors/Councils on their commitments and cash or in-kind participation. PMU would supervise procurement of contractors through national competitive bidding, and of equipment through the appropriate method. The Mayors' office would be responsible for operating the platforms once constructed – including collection of waste. Householders would be responsible for segregating waste and delivering waste to the platforms where possible.
1.2 Planting of Buffer Strips and Pastures Rehabilitation	Communes would contract with the PMU to undertake tree planting for checking land degradation and/or protect water bodies. Technical supervision would be sub-contracted to a competent agency. Planting material (production to be tendered) would be provided by the Project, as would seeds and fencing for pastures. All labor and other costs would be provided by the commune.
1.3 Water & Sanitation Demonstrations	PMU would work with the identified communes to undertake a more detailed review of pre-existing feasibility studies and make recommendations for strengthening them to meet project support needs. Commune will contract updated feasibility studies and designs. PMU would supervise procurement of contractors through national competitive bidding, and of equipment through the appropriate method. The Mayors' office would be responsible for operating the waste treatment facility– including collection of household tariffs to sustain operations and maintenance.
1.4 Promotion of Code of Good Agricultural Practices	PMU would contract an agency(ies) to handle training and on-farm demonstration programs in nutrient management and conservation tillage practices. The contracted agency selected on a competitive

<i>Component</i>	<i>Operations/Implementation Responsibilities</i>
	basis from existing research and development agencies in Romania would provide design, day-to-day supervision of implementation and m/e results at demonstration and farm level. ANCA/OJCA and other local farm consulting agencies would be trained in extension of results, while farmers would also be trained directly. Private labs and/or OJSPAs would be contracted for analysis of nutrient levels in soils and organic manures.
1.5 Feasibility Studies for Water and Sanitation and Biogas	PMU/ MESD would conduct a gap analysis of support needs in NVZs. A local design contract would be established under a local selection process with beneficiary commune leadership and PMU representation through the Water Basin staff. Payment will be made directly by PMU.
2. Institutional Strengthening & Capacity Building 2.1 Regulatory Framework	Designated units in MESD and MARD would be responsible for carrying out this work supported with technical assistance.
2.2 Water Authority capacity building and monitoring of water quality and reduction in levels of N	The PMU would agree with the Water Authority on annual programs starting in PY1, to implement the agreed investment and operational support for the Authority. All works would be carried out following WB procurement procedures.
2.3 Training Program	The Training and Public Awareness Specialist in the PMU would oversee the implementation of the training program to be conducted at National, Water Basin, County and Commune level. Contracts would be made with relevant agencies for carrying out the training programs.
3. Public Awareness & Replication Strategy	PMU would contract with media and promotional agencies, including NGOs, to carry out the public awareness and replication strategy.

7. *Monitoring Water Quality.* The National Administration for Romanian Waters (ANAR), which reports to MESD, will be responsible for reporting through MESD to the EU on progress with applying the Nitrates Directive. It will do all sampling and analysis for water quality in its laboratories and will be responsible for obtaining relevant data from other agencies, e.g., Public Health Authority and Environmental Protection Agency (subordinated to MESD). It was agreed that the water authority will provide the baseline water quality data in the project areas and will help develop a project-specific monitoring network as required to complete the necessary data collection needs. ANAR will also chair the Water Basin (Water Directorate) and County (Water District) level Nitrates Directive working groups.

8. *Project Monitoring & Evaluation.* Project monitoring and evaluation would be the responsibility of the PMU, which has M&E capacity, built during the implementation of APCP. M&E will be based on both survey and administrative data sources. The main indicators will be collected using the baseline, mid-term and end-of project surveys commissioned by the PMU as well as using the data collected by ANAR to analyze water quality and estimate nutrient concentrations in water bodies. The PMU will use proxy methods to estimate the reduction in nutrient discharge in water bodies from project interventions. It was agreed that the results obtained using the proxy method will constitute the basis for evaluating the project's impact at the local level on the reduction of nutrient load in water bodies. This will be supplemented with nutrient monitoring at critical sampling points. The M&E capacity of ANAR will be strengthened through the second component of the project, at both central and regional level.

9. The PMU will design a simple Management Information System for M&E, reporting formats for each component, including targeted annual performance objectives and monitoring indicators using Annex 3 details as the basis. These indicators include evaluating the project's impact by monitoring soil and water quality. Quarterly reports will cover progress in physical implementation, the use of project funds and project impact. The Quarterly reports will be consolidated by the PMU into half-yearly progress reports to the Inter-Ministerial Committee for Application of the Nitrates Directive and to the Bank within two months of the end of each six-month reporting period. These half-yearly progress reports will include an implementation plan and work program for the next six months following the reporting period. The format of reports will be agreed with the Bank. A mid-term review will be carried out to assess overall progress. Lessons learned, with recommendations for any improvements, would be used in restructuring the project, if necessary. The results of M&E activities will be fed back into the implementation process as improved practices.

Investment Selection Criteria and Process

10. The main elements of the selection criteria and process that would be followed for investments to be made under Component 1 would be as follows (more details are in the Operational Manual, Section B and Annex 1).

11. *Selection of Target Counties and Commune.* Target counties were selected at pre-appraisal on basis of highest number of NVZs in the Water Basin. Subsequently communes (NVZs) to be used as *Training and Demonstration Sites* were selected on the basis of (a) identification as an NVZ with significant contributions of household and livestock waste and with agricultural land on which practices to reduce nutrient discharge could be demonstrated; (b) confirmation by the County Council and/or the commune as ready to co-finance the project to 5%; (c) availability of mayor to work with the project and contribute in-kind to project costs (under explicit agreements); (d) compatibility of project interventions in waste management with the County's plans for water supply and waste management.

12. *Preparation of Investment Plans for Commune Selected as Training and Demonstration Sites (one per target county).* The PMU, working in collaboration with the County Council and the commune's mayor, would be responsible for confirming that there are investment opportunities meeting the project objectives and that they would match with the county plans for household waste and water supply. The PMU would prepare investment plan (without detailed designs) detailing location of communal waste platforms, number of household stores to be funded, type and location of wastewater improvements, communal planting of buffer strips and demonstration of GAP, as well as proposals for dealing with wastewater and sanitation including low cost public sanitation upgrades. This plan would be prepared in collaboration with the County Council, the Mayor of the commune, and Prefect, and would require their approval.

13. The County Council and/or Commune would be required to provide 5% of investment costs for project activities in the Commune, while the Commune would be required to provide at least some specified items in kind (e.g., tractors and trailers for collection of waste) under explicit agreements. A preliminary agreement would be signed between the three parties. Village(s) where communal waste platform and household stores are to be constructed would be

identified during the PMU survey, and the availability of suitable site(s) for communal platform(s) satisfying environmental regulations confirmed.

14. In the case of wastewater rehabilitation investments, to ensure sustainable operation the commune would be asked to confirm the willingness of consumers to: (i) connect to the sewer system, and (ii) operate the system in a sustainable manner. Over 50 % of the households within the planned sewerage would be required to sign the service agreement with the commune/council/operator of the system before the project is approved. Furthermore, the technical solutions should be least cost with the per capita cost not exceeding 400 Euro, including collection and treatment, and 150 Euro if the scheme only includes enhancement/construction of treatment facilities.

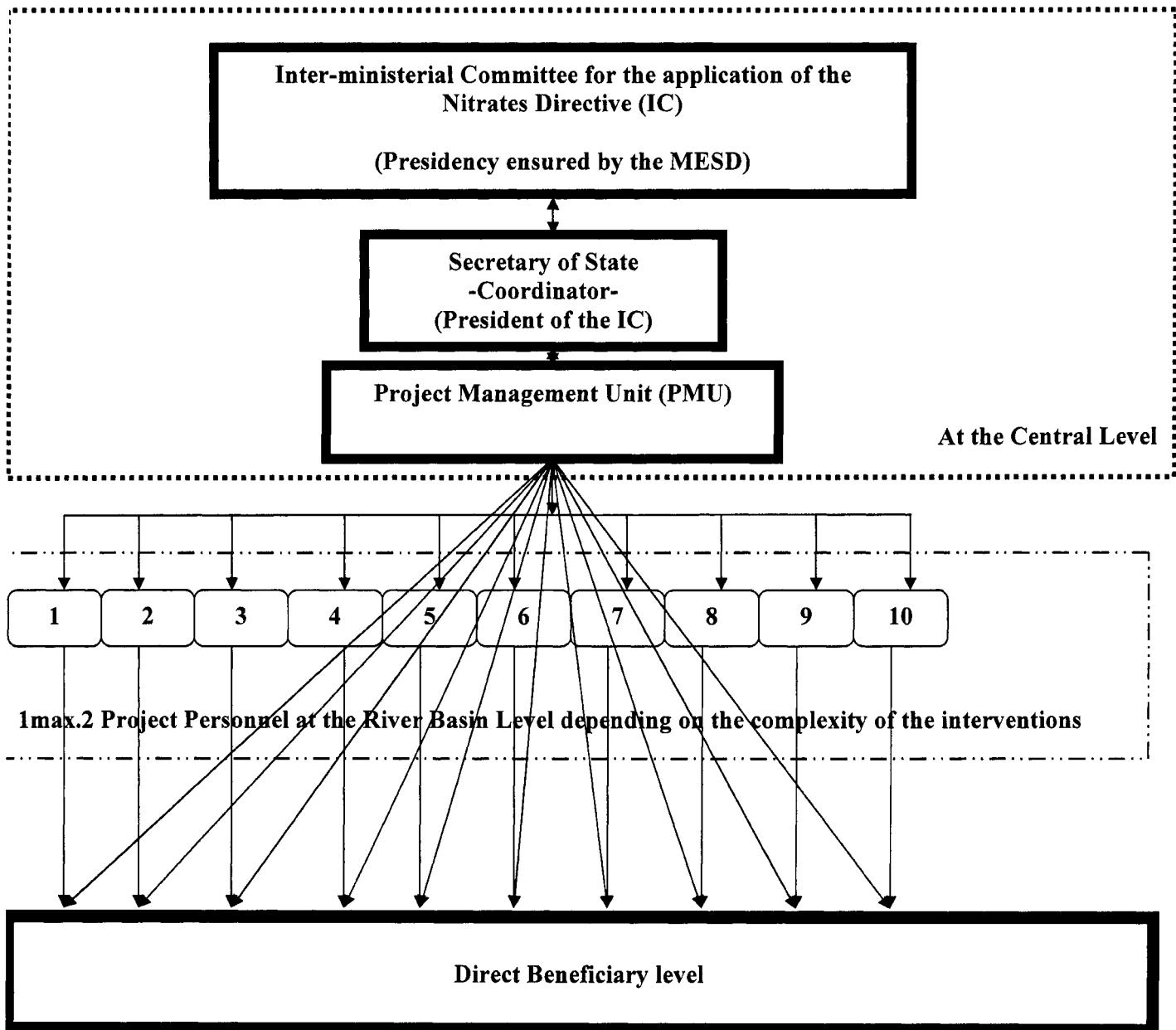
15. The PMU/County Council would contract an architect/engineer to prepare detailed designs for communal storage platforms and household bunkers to be included in bidding documents, as well as for wastewater and sanitation where relevant. In the eleven TDSs, the communes will finance the feasibility studies. The PMU would prepare plans for waste handling with sources of machinery and equipment identified and specifications for equipment to be purchased. The PMU also identifies and costs the proposed interventions in buffer strips and demonstrations of Good Agricultural Practices.

16. The PMU would prepare cost estimates, financing plans, and agreements with the County Council and the commune specifying the project investments, terms and conditions of the provisions of IBRD/GEF funding including the cost-sharing arrangements between IBRD/GEF, the County Council, the commune and the beneficiary households, and the responsibilities of each party during construction, as well as for the operation and maintenance of the facilities. In the course of this process, the PMU would check that the planned activities match with the action plans for NVZs to be prepared by May 2007 under Dutch Grant funding. The PMU would finalize Co-financing Agreements for the INPCP sub-projects with the County Councils and Cooperation Agreements with the communes/mayors.

17. *Preparation of Investment Plans for Additional Commune in PY2-PY4.* Priority communes for project interventions following the TDS stage would be identified from the work now being undertaken with Dutch Grant funding and expected to be completed by May 2007. The action plans are expected to include a range of measures to reduce nutrient discharge and bring nitrate levels in surface and groundwater down to acceptable concentrations. The sub-projects, i.e. the integrated program of investments to be supported by the INPCP in the communes, would be selected from the range of measures identified in the action plan that meet the project's objectives. A similar preparation process to that described above for TDS would be followed in preparing investments for PY2-PY4.

Fig 1: Romania: Integrated Nutrient Pollution Control Project

Implementation Arrangements



Annex 7: Financial Management and Disbursement Arrangements

ROMANIA: Integrated Nutrient Pollution Control Project

1. Summary

Country Issues

1. The 2003 Country Financial Accountability Assessment (CFAA) deemed the overall fiduciary risk associated with the Public Financial Management (PFM) system moderate. In the areas of accounting, financial reporting and internal control, the fiduciary risk was considered significant, partly due to the heavy dependence on manual accounting and reporting processes, weak arrangements for management accountability and the absence of modern internal audit capabilities. Considering the introduction of program budgeting, the generally reliable cash distribution facilities provided by the Treasury system and the Court of Accounts capacity, the fiduciary risk was considered moderate in the fields of budgeting, treasury, cash management and external audit and parliamentary oversight. The fiduciary risk related to World Bank investment operations was considered low.

2. In response to the recommendations of the 2003 CFAA, the GOR has taken action to improve coordination and management of PFM reform and strengthen internal control, financial reporting and auditing systems. An Inter-Ministerial Committee, headed by a State Secretary of the MFP endorsed a PFM Strategic Development Plan (SDP) in July 2005 and is now monitoring its implementation. It is expected that the high visibility of PFM reforms will ensure a balanced and coordinated development of different aspects of the PFM system. A number of the CFAA recommendations have been addressed by the GOR, including in the areas of treasury management, harmonization of accounting standards and practices, decentralization and rationalization of ex-ante financial control and strengthening of internal audit functions. The organization and effectiveness of the Court of Accounts has also been improved. While the introduction of a Medium Term Expenditure Framework and program budgeting has enhanced budget management, budgets lack realism.

3. The implications of the CFAA for the project have been addressed by the following actions:

- A detailed review of the systems was performed for the implementing entity;
- The implementing entity will set up distinct project-specific accounting ledgers;
- Project accounting staff appointed by the implementing entity;
- project budgets developed and approved yearly by the implementing entities;
- Project financial statements audited by an independent auditor annually.

Risk Analysis

4. The overall financial management risk for the Project is substantial before mitigation measures, and with adequate mitigation measures agreed, the financial management residual risk is rated moderate. The table below summarizes the financial management assessment and risk ratings of this project.

Risk	Risk Rating	Risk Mitigation Measures	Risk Rating after mitigation Measures
INHERENT RISK			
<i>Country level.</i> Corruption still remains a serious and widespread problem affecting many aspects of society. As the project will finance a significant volume of works and goods, the corruption risk is substantial.	S	Risk mitigation measures have been taken and include: (a) tighter internal control framework with additional procedures developed for the Project; (b) smaller procurement packages and an increased number of contracts subject to prior review; (c) greater transparency and disclosure policy; (d) gradual increased reliance on internal audit departments as these continue to develop; and (e) operational review by Court of Accounts or independent auditors on acceptable terms.	M
<i>Entity level.</i> Risk of political interference in the entities' management and staffing	S	Any changes to the structure, management and staffing of the implementing entities will require prior agreement with IBRD.	M
<i>Project level.</i> The complexity is given by the activities to be implemented at local level.	S	Implementation arrangements that allow close monitoring of activities at local level, including the local level contributions.	M
Overall Inherent Risk	S		M
CONTROL RISK			
1. <i>Budget</i> – budgets still lack realism	S	Project budgets developed and approved yearly by the implementing entities, in agreement with IBRD.	M
2. <i>Accounting</i> - dependence on manual accounting	S	The implementing entity will set up distinct project-specific accounting ledgers in the accounting software.	M
3. <i>Internal controls</i> need further strengthening to ensure that funds are disbursed for works, goods or services delivered in accordance with agreed criteria.	S	Additional procedures developed for the project; independent auditors and technical experts to monitor the project implementation and results verification. Operational review of internal controls on investment activities to be carried during the implementation phase.	M
4. <i>Funds flow</i>	H	Loan covenant - the Borrower will ensure that appropriate budget allocations are made available yearly for the project implementation throughout the project life.	S
5. <i>Financial reporting</i>	M	Semi – annual reports for the entire project	M
6. <i>Auditing.</i>	M	The project audit will be carried out by independent auditors and on terms of reference acceptable to IBRD.	M
Overall Control Risk	S		M
OVERALL FM RISK	S		M

Strengths

5. The significant strengths that provide a basis of reliance on the project financial management system include the project financial management team experienced in the implementation of other WB financed projects. There are no significant weaknesses of the project financial management system.

Weaknesses and Action Plan

6. The financial management arrangements of the Project are adequate. There are no significant weaknesses of the project financial management system.

Implementing Entity

7. A project management unit within the Ministry of Environment and Sustainable Development (MESD) closed on June 30, 2007 – will be responsible for the financial management aspects of the new Project. The risk associated with implementing entities is substantial before mitigation measures, due to the possible political interventions affecting the structure, management, and staff of the organizations. Any changes to the structure, management, and staffing of the implementing entities will require prior agreement with IBRD.

Budgeting and Planning

8. The implementing entity has been preparing annual budgets for the past project based on procurement plans and in line with the Project Implementation Plans. These budgets form the basis for allocating funds to project activities and for requesting funds from the Government. These budgets are prepared in accordance with the existing Government regulations and IFR format (categories, components and activities, account codes, and broken down by months and quarters). Budgets are initially approved by the Inter Ministerial Committee and by the MESD management, before being submitted to the MEF for final approval. The project budgets will be attached to the annual budget laws as an annex, in accordance with the Government requirements. The approved annual budgets are then entered into the accounting systems and used for periodic comparison with actual results as part of the interim reporting. The process of compiling budget data and approval will continue in the same manner, with detailed budget for the full year of project implementation being broken down by quarter. The risk associated with the project planning and budgeting is substantial before mitigation measures, and is assessed as moderate after mitigation measures.

Accounting

9. *Accounting staffing.* The PMU within MESD will include a finance team comprising a financial manager and an accountant. The team will be strengthened with a Financial Assistant. The finance team will work closely with the existing MESD's economic, budget, finance and accounting departments. The project financial staff will be employed by the MESD. The risk associated with accounting staffing is assessed as moderate.

10. *Information Systems.* The PMU has in place acceptable project financial management, accounting and reporting software systems. Project specific ledgers will be created within the systems to allow the project unit to record distinctly the operations of the new project using the existing chart of accounts. The risk associated with information systems is assessed as moderate.

11. *Accounting Policies and Procedures.* The Project's accounting books and records will be maintained on an accrual basis and presented in Romanian Lei (RON) with the exception of the books and records in the GEF DA, which will be maintained in the currency of the GEF TF.

12. The PMU has instituted appropriate draft accounting procedures and internal controls including authorization and segregation of duties. Accounting policies and procedures of the Project are reflected in the project Financial Manual.

13. Additional accounting policies that to be applied on the project (besides standard accounting policies used for Budget entities) will include the following major assumptions:

- accrual accounting as the basis for recording transactions;
- reporting should be done in RON and in the GEF grant currency for the DA; and
- consolidated IFRs should be prepared for all components, including all donor funds.

The risk associated with accounting is substantial before mitigation measures, and is assessed as moderate after mitigation measures.

Internal Controls and Internal Audit

14. The PMU has documented in the financial management manual the internal control mechanisms to be followed in the application and uses of funds and the implementation of the projects. The manual deals with financial management and administrative procedures, including accounting and record keeping, flow of funds, and reporting procedures. The manual reflects the structure of the agency, administrative arrangements, internal control procedures, including procedures for authorization of expenditures, maintenance of records, safeguard of assets (including cash), segregation of duties to avoid conflict of interest, regular reconciliation of bank account statements, bank signing mandate (to include at least two signatories), regular reporting to ensure close monitoring of project activities.

15. The PMU will build upon the existing MESD internal control framework to ensure that all project procedures and controls are adequately documented; contract monitoring and invoice payment procedures are consistently adhered to and documented. Before signing the contracts, the project units will verify and compare unit prices obtained with those available on the local and international market, using the Internet or similar. Then, for each contract, a monitoring sheet would be opened, filled in, and updated by each implementing entity, as follows: (a) date of the contract; (b) number of the contract; (c) name of the contractor; (d) contract start date; (e) contract end date; (f) name of the assigned resident inspector for works or recipient for goods or services, where relevant; (g) name of the assigned contract monitoring staff within the project team; (h) contract value; (i) list of invoices received for the contract; (j) amounts paid in respect of the contract; (k) date of the last inspection, where relevant; and (l) record of procurement complaints.

16. For each payment, the following standard checklist would be filled in prior to the payment of any invoice to ensure that all appropriate contract monitoring procedures have been carried out, confirming: (a) that the invoice was accompanied by an appropriate certified completion certificate by the assigned resident inspector or other goods received note or acknowledgement of receipt of the goods or services; (b) the mathematical accuracy of the

invoice; (c) that the invoice agrees to the terms of payment as specified in the contract; (d) that the works described in the invoice and resident inspector's report are those contracted for; (e) the approval by the relevant staff member; (f) the approval by the project manager; (g) the date of payment of the invoice; and (h) that the contract monitoring sheet has been updated.

17. The other procedures that would be performed include: (a) close monthly project accounting books no later than the 15th of the following month; (b) close yearly project accounting books no later than January 31st of the following year; (c) check the mathematical accuracy of the IFRs inputs with the accounting records; (d) check the opening figures of the IFRs with the closing figures of the previous semester; (e) check the IFRs figures for consistency between the various reports (Statement of Sources and Uses of Funds, Uses of Funds by Project Activities, Designated Account Statement, Physical Progress Reports, Procurement Reports and Contract Monitoring); (f) monthly bank accounts statements reconciliation with project accounting records; (g) monthly WB disbursement records reconciliation with project accounting books; and (h) inventory and fixed assets stock taking at least once per year and more often if needed.

18. MESD includes in its structure an internal audit department. It is anticipated that the internal audit department will review the project's financial management arrangements, including checking internal controls. The internal audit department will include the project in the annual work program, as part of MESD's overall activities. As the internal audit department continues to develop, the project will rely to the extent possible on it for the project internal audit. The risk associated with internal controls and internal audit is substantial before mitigation measures, and is assessed as moderate after mitigation measures

Reporting and Monitoring

19. Project management-oriented Interim Financial Reports (IFRs) will be used for project monitoring and supervision. The MESD PMU team will submit the semi-annual reports for the entire project to the Bank within 45 days after the calendar semester-end. The IFR format is being developed and will be agreed upon and attached to the minutes of negotiations. The risk associated with reporting and monitoring is assessed as moderate.

External Audit

20. As of the date of this report, the MESD is in compliance with the audit covenants of existing Bank-financed projects.

21. The Project will be audited annually both by independent auditors acceptable to the Bank and on terms of reference acceptable to the Bank. The terms of reference for the audit will be agreed upon and attached to the minutes of negotiations. The audit scope will include the project's books and records as maintained by the implementing entity, all withdrawal applications and their supporting documentation and the GEF TF designated account. The audited project financial statements together with the auditor's opinion thereon will be provided to the Bank within six months of the end of the reporting period, being the fiscal year. The project management unit within MESD will coordinate the auditing arrangements and will sign

the contract with the auditors for the entire project period. The cost of the project audits will be financed from the proceeds of the Project.

22. In addition, the Romanian Court of Accounts (CoA), the country's supreme audit institution, will continue to perform ad hoc external audits of the implementing entity, including of this project. The CoA will perform an operational review of the project to look at internal controls and specific issues related to governance, efficiency and performance. The following chart identifies the audit reports that will be required to be submitted by the project implementation entities together with the due date for submission.

<i>Audit Report</i>	<i>Due Date</i>
Entity financial statements	N/A
Project financial statements (PFS), including SOEs, and designated accounts. PFS include sources and uses of funds by category, by components and by financing source, Statement of designated account, notes to financial statements and reconciliation statement.	Within six months of the end of each fiscal year and also at the closing of the project
Operational reviews on internal controls and specific issues related to governance, efficiency and performance.	One at project mid-term and one at the end of the project

The risk associated with external audit is considered moderate.

Funds Flow and Disbursement Arrangements

23. Project funds will flow in respect of each of the sources of project financing as follows:

- (i) Pre-financing from the Romanian Government through the annual MESD budgets as approved by the annual State Budget laws. The Borrower will request reimbursement of project eligible expenditures from the IBRD loan proceeds;
- (ii) GEF grant, by direct payments or via the Designated Account (DA), which will be replenished on transactional methods using Statements of Expenditure;
- (iii) County Councils' and communes' contributions to the project, via dedicated Treasury project accounts.

24. The pre-financing from the Romanian Government will be accessed through Treasury accounts (in RON), in accordance with the Government regulations. Foreign currency payments will be made using an account to be opened at a commercial bank or at the Treasury, provided it has adequate capacity for foreign currency payments. RON amounts will be exchanged in foreign currency and transferred to this account for foreign currency payments.

25. A designated account will be opened at a commercial bank on terms and conditions acceptable to the WB for the GEF grant. Foreign currency amounts will be exchanged as needed in local currency (RON), to cover eligible expenditures payments in local currency to suppliers, from the designated accounts into local currency transfer accounts that will be opened at commercial banks on terms and conditions acceptable to the WB.

26. The County Councils' and communes' contributions to the project will be made from separate Treasury project accounts, which will be used specifically for their contributions to the project. These contributions will be received in accordance with standard budget procedures.

27. GEF TF funds will be disbursed either as direct payments, or to the Designated Account (DA), which will be replenished under the transactional disbursement procedures. Withdrawal applications for the replenishments of the DA will be sent to the Bank monthly, or when about a third of the initial deposit in the DA has been utilized, whichever comes first. All replenishments for transactions above the prior-review threshold will be fully documented. Supporting documentation for all transactions, including completion reports, goods received notes and acceptance certificates, will be retained by the implementing entities and made available to the Bank during project supervision.

28. IBRD loan funds will be used to reimburse project eligible expenditures pre-financed by the Romanian Government. A loan covenant has been established - the Borrower will ensure that appropriate budget allocations are made available yearly for the project implementation throughout the project life. The risk associated with funds flow and disbursement is considered high before the mitigation measures and substantial after the mitigation measures.

Supervision Plan

29. As part of its project supervision missions, the Bank will conduct risk-based financial management supervisions, at appropriate intervals. During project implementation, the Bank will supervise the project's financial management arrangements in the following ways: (a) review the project's semi-annual interim financial reports as well as the project's annual audited financial statements and auditor's management letter, remedial actions recommended in the auditor's Management Letters and operational review; (b) during the Bank's on-site supervision missions, review the following key areas: (i) project accounting and internal control systems; (ii) budgeting and financial planning arrangements; (iii) disbursement management and financial flows; and (iv) any incidences of corrupt practices involving project resources; and (c) joint financial management and procurement contract post reviews will be conducted once per year. As required, a Bank-accredited Financial Management Specialist will assist in the supervision process.

Annex 8: Procurement Arrangements
ROMANIA: Integrated Nutrient Pollution Control Project

A. General

1. Procurement of contracts for works, goods and technical (non-consulting services) for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement Under IBRD Loans and IDA Credits" dated May 2004; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004, and the provisions stipulated in the Legal Agreement. The various items under different expenditure categories are described in general below. For each contract to be financed by the Project, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time frame are agreed between the Borrower and the Bank in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.
2. **Advertisement.** A General Procurement Notice (GPN) will be published in the online and printed version of United Nations Development Business (UNDB). Specific Procurement Notices (SPN) will be published as the corresponding bid documents become available. The Recipient will respect debarment decisions by the Bank and will exclude debarred firms and individuals from the participation in the competition for Bank-financed contracts. The current listing of such firms and individuals is found at: <http://www.worldbank.org/debarr>. Contract awards will be published in UNDB online and dgMarket with the minimum information required by the Procurement and Consultants Guidelines.
3. **Procurement of Works.** Works procured under this project would mainly include works for installation of livestock and household waste storage facilities, small-scale sewage collection and treatment and public toilets, rehabilitation of ANAR training center. No works contracts above US\$5 million are envisaged under the project. If with the implementation of the project such cases arise all works contracts estimated to cost EUR 4,500,000 and above each will be procured through ICB. Civil works estimated to cost less than EUR 4,500,000 may be procured on the basis of National Competitive Bidding (NCB). The procurement will be done using the Bank's Standard Bidding Documents (SBD) for all International Competitive Bidding (ICB). Bidding Documents agreed with or satisfactory to the Bank such as ECA Regional Sample Document for works (this document has already been translated into Romanian for the needs of Bank projects under implementation) will be used for National Competitive Bidding procedures. Procurement of simple works such as cleanup of organic waste dumps, low cost sanitation and rehabilitation of PMU office estimated to cost less than EUR 80,000 will be done through shopping based on comparison of minimum three quotations obtained from qualified contractors.
4. **Procurement of Goods.** Goods procured under the project would include equipment for manure and waste management, guard's cabins, plastic bins, saplings, seeds for pastures, equipment for demonstration of reduced tillage for Component 1 of the Project; specific equipment for data collecting, processing and storage, laboratory equipment, equipment and means for intervention in piezometers, vehicles under Component 2; vehicles, computers, office furniture and office equipment under Component 4 of the Project. Goods and equipment

estimated to cost EUR 800,000 and more would be procured through ICB. Contracts estimated to cost less than EUR 800,000 each and considered unlikely to attract foreign competition may be procured through National Competitive Bidding using National Bidding Documents agreed with or satisfactory to the Bank, such as the ECA Regional Sample Document for Goods. Small contracts for supplies of readily available off-the shelf goods (including hardware and software) estimated to cost less than EUR 80,000 each such as office furniture, computers, copiers and printers may be procured under shopping on the basis of three written price quotations obtained from qualified suppliers. In the procurement of IT hardware and software by shopping, when soliciting bids, the quotations from firms operating in Romania registered to the Bank's Web site should be solicited in addition to the other available firms.

<http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/PROCUREMENT/0,,contentMDK:20153246~menuPK:84283~pagePK:84269~piPK:60001558~theSitePK:84266,00.html>

5. Selection of Consultants. Consultant services required under this project would include feasibility studies for improving water and wastewater services in selected communes, technical designs, and nutrient management under Component 1, technical assistance for regulatory and policy support under Component 2; public awareness campaign under Component 3, and M&E surveys under Component 4 of the Project. Quality and Cost Based Selections (QCBS) will be used for all contracts estimated to cost EUR 160,000 or more. The Selection Based on Consultants' Qualifications (CQS) will be used for contracts estimated to cost less than EUR 160,000. The services for the technical designs and the Audit services for the project and will be procured using Least Cost Selection. Short lists of consultants for services estimated to cost less than EUR 160,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines. Individual consultants would be selected in accordance with Part V of the Consultants Guidelines.

6. Training and study tours for the PMU and ANAR staff would be conducted in accordance with a biannual training program that the Borrower would submit to the Bank for its agreement before implementation. The general training of trainers on Code of Good Agricultural Practices will be provided by the Training Information Centers set up around the Agricultural and Veterinary Universities for needs of the MAKIS project. The training program for advisory staff and farmers under Component 1 of the Project will be carried out using criteria for selection of trainees and training institutions acceptable to the Bank. Procedures and arrangements for conducting the training acceptable to the Bank will be applied.

7. The procurement procedures to be used for each procurement method, as well as initial prior review thresholds for works, goods and services contracts to be procured, are presented in the Procurement Plan and its preamble, which may be updated with the concurrence of the Bank.

B. Assessment of the Agency's Capacity to Implement Procurement

8. The PMU will be located within the MESD premises to ensure good access and integration with other Ministry functions. The PMU would comprise fifteen staff that would carry out the core implementation activities. The PMU will be headed by a Director and will be

staffed by a Financial Manager, an Accountant, a Financial Assistant, three Procurement Officers, three Technical/Monitoring & Evaluation Specialists, a Secretary, a Translator/Secretary, and three Drivers. Procurement functions during preparation will be strengthened through the assignment of an expert from the Investment Department of the MESD. It was agreed that each Water Basin Directorate would appoint up to two new staff to work on the coordination and implementation of project activities under the direction of the PMU. The targeted counties would be sub-divided into three zones and one procurement officer and one technical/monitoring & evaluation specialist assigned to each zone. Additional staff and office space will be provided upon project effectiveness. The PMU staff will be in charge of procurement activities in the implementation of the Project. With the appointment of the procurement officers there will be adequate capacity to implement the project.

9. The risks concerning procurement for implementation of the project include:

- Difficulties in finding procurement staff with adequate qualification and experience, and;
- Risk of turnover of staff during implementation;
- Spread of activities over the whole country and the need of good coordination and monitoring by the PMU.

10. Corrective measures agreed are:

- The project launch workshop to be held after effectiveness should devote adequate time to train the PMU procurement staff in the principles of the Procurement Guidelines, standard bidding documents and Bank's procurement procedures should be explained to the PMU/ Implementing agencies procurement staff, including new ANAR staff.
- Training program for PMU and ANAR project implementation staff is included in the procurement plan of the Project.
- The SBD documents to be used throughout project implementation would be agreed with the Bank.
- First packages for each procurement method would be subject to prior review.
- Clear division of responsibilities among procurement officers and technical and monitoring specialists specified in the TOR and the Operational Manual;
- The Project will finance operational cost required under the project.

11. The overall project risk for procurement is high given the overall procurement risks in Romania and the country-wide spread of the project implementation activities. This assessment is subject to review and possible change during project implementation.

C. Procurement Plan

12. The Borrower has developed a draft Procurement Plan, which provides the basis for the procurement methods. This plan will be agreed between the Borrower and the Project Team during appraisal and will be finalized at negotiations. The Procurement Plan will be available at the PMU office in the MESD. It will also be available in the project's database and in the Bank's external website. The Procurement Plan will be updated in agreement with the Project Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. Procurement Plan will be updated in agreement with the

Bank at least annually on the basis of the Terms of Reference included in the Project Operational Manual.

D. Frequency of Procurement Supervision

13. In addition to the prior review supervision to be carried out from Bank offices, the post review of procurement actions will be done at least once annually.

E. Details of the Procurement Arrangements Involving International Competition

1. Goods, Works, and Non-Consulting Services

(a) List of contract packages to be procured following ICB and direct contracting.

1	2	3	4	8
Ref. No.	Contract (Description)	Estimated Cost (EUR million)	Procurement Method	Expected Bid-Opening Date
1	Laboratory Equipment PY1-2	1.00	ICB	September 2008
2	Laboratory Equipment PY3	0.78	ICB	March 2009
3	Equipment for Manure and Waste Management PY2	2.57	ICB	March 2008
4	Equipment for Manure and Waste Management PY3	2.37	ICB	March 2009
5	Equipment for Manure and Waste Management PY4	2.43	ICB	March 2010
6	Equipment for Manure and Waste Management PY5	0.74	ICB	March 2011

(b) All ICB contracts estimated and all direct contracting will be subject to prior review by the Bank. Each first works NCB, goods NCB and shopping contracts will also be subject to prior review.

2. Consulting Services

(a) List of consulting assignments with short-list of international firms.

1	2	3	4	5	6
Ref. No.	Description of Assignment	Estimated Cost (EUR million)	Selection Method	Review by Bank (Prior / Post)	Expected Proposals Submission Date
1	Feasibility Studies for Water Sewage and Sanitation PY1-PY2	1.59	QCBS	prior	March 2008
2	Feasibility Studies for Water Sewage and Sanitation PY3	1.67	QCBS	prior	September 2008
3	Feasibility Studies for Water Sewage and	2.29	QCBS	prior	September 2009

	Sanitation PY4				
4	Public Awareness at National Level	0.50	QCBS	prior	February 2008
5	Public Awareness at Water Basin Level	1.48	QCBS	prior	April 2008
6	Clarification of Institutional Responsibilities and Integration of Legal Framework	0.22	QCBS	prior	October 2008
7	Surveys for M&E	0.24	QCBS	prior	January 2009

(b) Consultancy services estimated to cost above EUR 160,000 per contract and single source selection of consultants (firms) will be subject to prior review by the Bank. Contracts above EUR 40,000 with Individual Consultants and all Single Source contracts with firms and Sole-Source with Individuals will be subject to prior review by the Bank.

(c) Short lists composed entirely of national consultants. Short lists of consultants for services estimated to cost less than EUR 160,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

Thresholds for Procurement Methods and Prior Review

<i>Estimated cost (EUR)</i>	<i>Procurement/Selection Method</i>	<i>Prior Review by Bank</i>
Civil Works		
Above 4,000,000	ICB	All
Below 4,000,000	NCB	First contract and as agreed in the procurement plan
Below 80,000	Shopping	First contract and as agreed in the procurement plan
Goods		
Above 800,000	ICB	All
Below 800,000	NCB	First contract and as agreed in the procurement plan
Below 80,000	Shopping	First contract and as agreed in the procurement plan
Consulting Services		
As appropriate	QCBS	All
As appropriate	QBS	All
	LCS	First contract and as agreed in the procurement plan
	FBS	First contract and as agreed in the procurement plan
Below 80,000	CQ	First contract and as agreed in the

<i>Estimated cost (EUR)</i>	<i>Procurement/Selection Method</i>	<i>Prior Review by Bank</i>
		procurement plan
	SSS	All
	IC	First contract and as agreed in the procurement plan

Annex 9: Economic and Financial Analysis

ROMANIA: Integrated Nutrient Pollution Control Project

1. The economic analysis uses a cost-effectiveness approach, because project benefits can not be quantified in monetary terms. The financial analysis focuses on operation and maintenance costs, their funding and affordability.
2. The project will have clear benefits in addressing key elements in nutrient pollution of the Black Sea from poor agricultural practices in the Romanian catchments that drain into the Danube River.
3. Besides improvements in the quality of ground and surface waters, project benefits also include: (i) progress towards compliance with the EU Nitrates Directive and increased absorption capacity of future EU funds for water and sanitation; (ii) sequestering carbon in the grasslands, croplands and forests; (iii) improvements in health as there will be an improvement in the drinking water, sanitation and general hygiene of the population; (iv) additional farm income from effective use of organic waste, crop rotations, organic products and improved livestock grazing practices and improved agricultural productivity through better agricultural practices, low input use and better farm management; (v) increased capacity building of local institutions.
4. It is often difficult to categorize the cost effectiveness of different agricultural nutrient removal interventions, because this is often a function of local conditions: topography, climate, cropping systems, maintenance, site selection and installation; in addition, most interventions are not used alone, but in combination with one or more types of interventions.
5. An analysis examining the cost effectiveness of nutrient reduction interventions was carried out under the ongoing Agricultural Pollution Control Project (APCP), and the results can be used to assess the effectiveness of the INPCP as well. The analysis was based on actual data generated during the APCP project period, and not just estimates made before the project. For manure management, the analysis went through the following steps. The quantity of manure produced was estimated, based on the number of animals in the Project area, the period the livestock was kept inside the households and the quantity of bedding materials used. Then, based on the use of manure before the Project (percentage dumped onto the soil or in unauthorized places and percentage applied as fertilizer in the backyard) and after the Project (percentage composted and spread as fertilizer, percentage applied as fertilizer in the backyard and percentage still dumped), the quantity of nutrients leaching into ground and surface waters before and after the Project was determined, and the reduction of nutrient discharge was calculated. For the other environment friendly agricultural practices implemented, the reduction of nutrient discharge was calculated based on collected data regarding application of factory made fertilizers before the project, the amount leaching, and a theoretical percentage reduction of leaching conventionally accepted in the nutrients literature as a proxy for a particular practice.
6. The analysis focused on determining reductions of nutrients (N, P and K) leakage into the environment that were achieved as a result of improved manure management and other

agricultural practices, including afforestation, nutrient and grazing management, crop rotations, vegetation strips, etc. Cost effectiveness (CE) ratios were then calculated, as the ratio of total monetary cost of reduced leakages, over the total amount of nutrient reductions achieved. The costs taken into account included capital investment costs, maintenance and operation costs, and project management costs. Only market prices were considered and no adjustments were made, because due to insignificant market distortions, market prices were considered similar to economic prices.

7. The estimated CE ratios vary between 10 USD/kg and 40 USD/kg. The results vary depending on the practices used. The results show that nutrient management is the most cost effective practice, followed by strip crops and cover crops. Manure management is the most expensive practice, due to the high capital costs to initiate it. However, since animal waste is one of the major sources of pollution, its control can have a visible positive effect. Comparing these ratios with those achieved in the Chesapeake Basin of the USA and with similar unit costs achieved in EU countries, we can conclude that they are very similar, both in terms of practices which are more or less cost effective, and in terms of actual results.

8. Financial analysis of agricultural nutrient removal interventions focuses on operation and maintenance costs and their funding. The experience of APCP, which is relevant to INPCP, shows that the tariffs for animal and household waste collection vary between 4 – 30 USD / household / year, depending on the type of waste and the collection system applied. The affordability of these tariffs can be judged considering several factors, among which the age structure, poverty rates and employment rates.

9. The age structure is a relevant factor because the elderly have fewer resources compared to other age groups, and age influences the voluntary participation that take place when the proposed services are implemented. The social survey undertaken for the first 11 beneficiary communes, shows that in the selected communes the percentage of individuals above 55 years old is lower than it is in the remaining communes from the same counties. In addition, the survey data shows that the selected communes tend to be less poor than other rural localities from the same counties, and the employment rates are generally higher. All these factors converge to the idea that the capacity and willingness to pay of the individuals in these communes are acceptable. The communes will also contribute to the O&M costs, including transportation, salaries, handling and spreading, vehicles maintenance, energy costs, etc. As the experience of APCP shows, these costs can be supported either through their regular local budgets and/or from compost sales revenues.

10. With regard to the INPCP Water and Sanitation interventions, the cost effectiveness analysis takes into consideration the investment costs per capita. As such, it is expected that communes with at least 4000 people are likely to qualify, as per capita costs in smaller communes would become excessively high, and affordability and willingness of the consumers to meet the operational and maintenance costs is unlikely. Investments will result in considerable reduction of nitrate discharges from the target communes. It was calculated that, for sewage investments in three communes, with a total investment cost of 6 million Euro, which supposedly would cover a population of about 15,000 beneficiaries, the reduced Nitrate load per year is estimated at 37,500 kg.

11. Based on the affordability analysis, eligibility criteria for the investment support need to be least cost, and per capita cost should not exceed 400 Euro for full collection and treatment schemes, or 150 Euro for enhancement / construction of treatment facilities. Based on average consumption and the combined water and wastewater tariff of 3 RON per cubic meter, it was estimated that the monthly tariff for an average household would be 33 RON. These costs are comparable with similar per capita costs achieved in wastewater schemes throughout Romania and neighboring countries.

12. Sanitation schemes that are developed must not only be affordable but within customer willingness to pay criteria. Prior to a scheme being approved, an adequate feasibility study will be prepared which will include a customer survey looking specifically at community preferences in technology, mechanisms through which the community will pay, and the likely uptake for different service levels. A scheme will only be approved if there is a customer agreement to the level of service to be provided and a proven acceptance by the community of adequate service charges to sustain the scheme.

Annex 10: Safeguard Policy Issues
ROMANIA: Integrated Nutrient Pollution Control Project

1. An environmental review and environmental management plan was prepared for the project which evaluated potential impacts. Overall, the project is focused on improving the environmental conditions and no major environment impacts are expected. Any impacts would be minor and localized in nature and be linked with either construction or operations of works investments. These potential impacts have been highlighted in an environmental management plan.
2. Environmental issues including mitigation measures would be supervised periodically by the PMU M&E Staff supported by the two technical support staff located in each of the Water Basin Directorates. The local (county) environmental protection agency and water inspectorate would also be involved in supervision of construction work and operations. The project will rely on the Romanian laws governing the process for environmental permitting and review. No full EIA is expected to be required by any of the project investments; however, each investment will prepare necessary environmental documentation related to permit approvals for construction and operations. The project operations manual presents in more detail these local procedures.
3. Contracts and bill of quantities will include clauses for appropriate disposal of construction debris, including hazardous materials that may be encountered. Existing regulations require, and procurement documents will specify, that no environmentally unacceptable or hazardous materials can be used. The EMP matrix presented below identifies the environmental impacts and proposed mitigation measures.

Construction Phase

Environment/ Media Affected	Impacts	Mitigation Measures	Institutional Responsibility
Soils	Contamination from waste materials	Protection of soil surfaces during construction; control and daily cleaning of construction sites; provision of adequate waste disposal services.	Contractors
Water	Clogging of drainage works Introduction of hazardous wastes	Special attention to drainage, proper disposal of oil and other hazardous materials; Rehabilitation of adequate sanitary facilities, including appropriate disposal of wastewater and sewerage	Contractors

Environment/ Media Affected	Impacts	Mitigation Measures	Institutional Responsibility
Air Quality	Dust during construction	Dust control by water or other means to keep dust down if problem is evident	Contractors
Noise	Noise disturbance during construction or operation	Restrict construction to certain hours	Contractors
Social Environment	Ensure appropriate setbacks from residential areas	Construction equipment staging should not restrict access and daily life of commune residents	Contractors
Aesthetic and Landscape	Risk of construction debris dumped into nearby water bodies; Disposal of construction waste: except for wood paints, all other building materials are non hazards (lime, cement and sand plaster, concrete, glass, ceramics-electrical and sanitary, fabric insulated copper wiring, cast iron sanitary pipes, galvanized water pipes, etc)	The building site will be cleaned and all debris and waste materials will be disposed of in accordance with clauses specified in the bills of quantities. The sites for disposal of construction waste will be government-approved sites	Contractors
Human Health	Construction Accidents, Handling of asbestos material	Specially designed systems for handling/disposal of hazardous wastes	Contractors

Supervision to be done by INPC – PMU and its technical support staff in WBD assisted by inspectors in REPAs/LEPAs and in the Local Inspectorate for Quality in Constructions.

Operations Phase

The commune-level manure management platform is expected to be operational for a period of 20 years.

Environment/Media Affected	Impacts	Mitigation Measures	Institutional Responsibility
Water/Soil	<p>Over accumulation of the liquid fraction in the collection basin due to heavy rains</p> <p>Potential impacts on receiving waters/ streams if quality of wastewater effluent is not ensured</p> <p>Leaking of septic tanks or toilet facilities if not properly maintained</p>	<p>Use of the provided pumps to spread periodically the liquid fraction on the nearby fields</p> <p>Adherence to operations and maintenance plan with routine water quality testing as defined in operating license</p> <p>Agreed Maintenance plan with financing source. Public awareness activities to involve interested commune residents.</p>	<p>Daily: The platform Operator – in accordance with the Platform Operation manual Periodic: EPA and Water Directorate Inspectors</p> <p>Daily: Treatment plant operator</p> <p>Periodic: EPA and Water Directorate Inspectors</p> <p>Owner of the public building (typically the commune/mayor's office)</p>
Soils	<p>Over accumulation of the composed manure due to the lack of sufficient manure spreading equipment</p> <p>Over accumulation of the household waste on the platform</p>	<p>A periodic evaluation of the quantities stored onto the platform and disposal of the excess as per the provisions of the Code of Good Agricultural Practices</p> <p>Application of the Platform Operation Manual</p>	<p>Daily: Commune/Platform Operator Periodic: EPA Inspectors</p> <p>Daily: Commune/Platform Operator Periodic: EPA Inspectors</p>
Noise and Odor	Odor/smell from wastewater pumps or treatment facility if poorly maintained.		

Annex 11: Project Preparation and Supervision
ROMANIA: Integrated Nutrient Pollution Control Project

	Planned	Actual
PCN review		July, 2005
Initial PID to PIC		July, 2005
Initial ISDS to PIC		July, 2005
Appraisal	January 2007	
Negotiations	February 2007	
Board/RVP approval	March 2007	
Planned date of effectiveness	June 2007	
Planned date of mid-term review	November 2009	
Planned closing date	June 2012	

Key institutions responsible for preparation of the project:

Ministry of Environmental Protection and Waters
 National Administration for Romanian Waters (ANAR)

Bank staff and consultants who worked on the project included:

Name	Title	Unit
Karin Shepardson	Sr. Operations Officer, TTL	ECSSD
Doina Petrescu	Sr. Operations Officer	ECSSD
Jitendra Srivastava	Agricultural Specialist	ECSSD
Meeta Sehgal	Extended Term Consultant	ECSSD
Lucian Pop	Sr. Social Development Specialist	ECSSD
Nadia Badea	Operations Analyst	ECSSD
Bogdan Constantinescu	Sr. Financial Management Specialist	ECSPS
Blaga Djourdjin	Procurement Specialist	ECSPS
Jean Charles Daruvar	Sr. Counsel	LEGEC
John Cole	Agricultural Consultant	ECSSD
Kari Homanen	Water supply and wastewater engineer	ECSSD
Leigh Hammill	Sr. Program Assistant	ECSSD

Bank funds expended to date on project preparation:

1. Bank resources: (BB and BBGEF): \$291,254
2. Trust funds: Client executed only: \$350,000 Dutch Grant funds

Annex 12: Documents in the Project File
ROMANIA: Integrated Nutrient Pollution Control Project

1. Social Analysis for the Integrated Nutrient Pollution Control Project (INPCP) in Romania and household surveys
2. Environmental Management Plan and Environmental Guidelines for Integrated Nutrient Control Project
3. Economic Analysis for the Integrated Nutrient Pollution Control Project
4. Integrated Nutrient Pollution Control Project (INCPC) Project Financial Management Manual
5. Technical Assessment of T&D Communes
6. Implementation Plan for Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources; GOR, June 2004
7. Draft Operational Manual for Integrated Nutrient Pollution Control Project

Annex 13: Statement of Loans and Credits
ROMANIA : Integrated Nutrient Pollution Control Project

Project ID	FY	Purpose	Original Amount in US\$ Millions						Difference between expected and actual disbursements	
			IBRD	IDA	SF	GEF	Cancel.	Undisb.	Orig.	Frm. Rev'd
P090309	2006	JUD REF	130.00	0.00	0.00	0.00	0.00	131.08	0.00	0.00
P088165	2006	KNOW ECON	60.00	0.00	0.00	0.00	0.00	60.00	0.00	0.00
P078971	2005	HEALTH SEC REF 2 (APL #2) (CRL)	80.00	0.00	0.00	0.00	0.00	77.91	11.43	0.00
P083620	2005	TRANSPORT RESTRUCTURING	225.00	0.00	0.00	0.00	0.00	224.71	47.21	0.00
P086694	2005	ECSEE APL #1 (CRL)	84.30	0.00	0.00	0.00	0.00	80.99	1.30	0.00
P086949	2005	MOD AGRIC SUPPT SERVS (MAKIS) (CRL)	50.00	0.00	0.00	0.00	0.00	48.26	4.60	0.00
P087807	2005	MINE CLOSURE, ENV & SOCIO-ECO REG (CRL)	120.00	0.00	0.00	0.00	0.00	120.00	3.00	0.00
P081950	2004	HAZARD MITIGATION (GEF)	0.00	0.00	0.00	7.00	0.00	6.54	1.35	0.00
P043881	2004	IRRIG REHAB	80.00	0.00	0.00	0.00	0.00	78.93	12.53	0.00
P075163	2004	HAZ MITIG	150.00	0.00	0.00	0.00	0.00	147.39	7.39	0.00
P081406	2003	ELEC MARKET	82.00	0.00	0.00	0.00	0.00	54.34	20.05	0.00
P073967	2003	RURAL EDUC	60.00	0.00	0.00	0.00	0.00	40.73	3.0 ^a	4.22
P069679	2003	PPIBL	18.60	0.00	0.00	0.00	0.00	15.41	15.41	0.00
P068062	2003	ENERGY EFF (GEF)	0.00	0.00	0.00	10.00	0.00	5.56	9.60	0.00
P067367	2003	FOREST DEV'T	25.00	0.00	0.00	0.00	0.00	23.30	6.45	0.00
P068808	2002	SDF 2 (APL #2)	20.00	0.00	0.00	0.00	0.00	2.53	-0.47	0.03
P066065	2002	AG POLLUTION CONTROL (GEF)	0.00	0.00	0.00	5.15	0.00	0.98	0.14	0.00
P057960	2002	RURAL DEV (APL #1)	40.00	0.00	0.00	0.00	0.00	21.49	10.08	0.00
P008783	2001	SOC SECT DEV (SSD)	50.00	0.00	0.00	0.00	0.00	37.70	37.70	0.00
P056891	2001	RURAL FIN (APL #1)	80.00	0.00	0.00	0.00	0.00	33.82	33.82	-13.18
P056337	2000	MINE CLOSURE	44.50	0.00	0.00	0.00	0.00	9.19	9.66	1.66
P044176	1999	BIODIV CONSV MGMT (GEF)	0.00	0.00	0.00	5.50	0.00	0.70	0.83	0.80
P034213	1998	GEN'L CADASTRE	25.50	0.00	0.00	0.00	0.00	11.70	11.70	11.70
P039250	1997	ROADS 2	150.00	0.00	0.00	0.00	0.00	3.10	6.10	0.00
Total:			1,574.90	0.00	0.00	27.65	0.00	1,236.36	252.95	5.23

ROMANIA
STATEMENT OF IFC's
Held and Disbursed Portfolio
In Millions of US Dollars

FY Approval	Company	Committed				Disbursed			
		IFC				IFC			
		Loan	Equity	Quasi	Partic.	Loan	Equity	Quasi	Partic.
1999	Ambro	0.70	0.00	0.00	0.00	0.70	0.00	0.00	0.00
2003	Arctic	10.54	0.00	0.00	0.00	10.54	0.00	0.00	0.00
2002	Banc Post	0.00	8.00	0.00	0.00	0.00	8.00	0.00	0.00
2003	Banca Comerciala	67.50	0.00	0.00	0.00	67.50	0.00	0.00	0.00
2004	Banca Comerciala	0.00	111.00	0.00	0.00	0.00	111.00	0.00	0.00
2005	Banca Tiriac	24.85	0.00	0.00	0.00	24.85	0.00	0.00	0.00
2005	DistrigazSud	0.00	46.85	0.00	0.00	0.00	0.00	0.00	0.00
2001	ICME	7.51	0.00	0.00	0.00	7.51	0.00	0.00	0.00
2004	Mindbank	0.00	0.00	7.00	0.00	0.00	0.00	7.00	0.00
2005	Petrotel-Lukoil	35.00	0.00	0.00	47.00	0.00	0.00	0.00	0.00
2002	ProCreditRomania	0.00	1.56	0.00	0.00	0.00	1.56	0.00	0.00
2003	ProCreditRomania	0.00	0.41	0.00	0.00	0.00	0.41	0.00	0.00
2004	ProCreditRomania	5.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
2004	RZB Romania	10.00	0.00	0.00	30.00	10.00	0.00	0.00	30.00
2003	Ro-Fin	4.66	0.00	0.00	0.00	4.11	0.00	0.00	0.00
2004	Romanian-Amer...	3.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00
2001	Romlease	0.89	0.00	0.00	0.00	0.89	0.00	0.00	0.00
2006	TTS SA	16.40	0.00	0.00	0.00	4.68	0.00	0.00	0.00
2004	Transilvaniabank	23.71	0.00	0.00	0.00	23.71	0.00	0.00	0.00
2005	Transilvaniabank	23.42	0.00	20.00	0.00	8.78	0.00	20.00	0.00
2005	Unicredito	8.78	0.00	0.00	0.00	8.78	0.00	0.00	0.00
	Total commitment:	241.96	167.82	27.00	77.00	180.05	120.97	27.00	30.00

Approvals Pending Commitment					
FY Approval	Company	Loan	Equity	Quasi	Partic.
2005	Banat	0.05	0.00	0.02	0.04
2005	Dobrogea	0.05	0.00	0.01	0.05
2005	Banvit Romania	0.02	0.00	0.00	0.00
2003	Ro-Fin Mortgage	0.00	0.00	0.00	0.00
	Total pending commitment:	0.12	0.00	0.03	0.09

Annex 14: Country at a Glance

ROMANIA : Integrated Nutrient Pollution Control Project

Romania at a glance

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Key Development Indicators		Romania	Europe & Central Asia	Upper middle income	
<i>(2005)</i>					
Population, mid-year (millions)	21.6	473	599		
Surface area (thousand sq. km)	238	24,238	30,135		
Population growth (%)	-0.2	0.1	0.4		
Urban population (% of total population)	54	64	72		
GNI (Atlas method, US\$ billions)	82.9	1,945	3,368		
GNI per capita (Atlas method, US\$)	3,830	4,113	5,625		
GNI per capita (PPP, international \$)	8,940	9,142	10,924		
GDP growth (%)	4.1	6.0	5.5		
GDP per capita growth (%)	4.4	5.9	5.0		
<i>(most recent estimate, 2000–2005)</i>					
Poverty headcount ratio at \$1 a day (PPP, %)	<2	2	..		
Poverty headcount ratio at \$2 a day (PPP, %)	13	16	..		
Life expectancy at birth (years)	71	69	69		
Infant mortality (per 1,000 live births)	17	28	23		
Child malnutrition (% of children under 5)	3	5	7		
Adult literacy, male (% of ages 15 and older)	98	99	95		
Adult literacy, female (% of ages 15 and older)	96	96	92		
Gross primary enrollment, male (% of age group)	107	105	108		
Gross primary enrollment, female (% of age group)	106	102	106		
Access to an improved water source (% of population)	57	92	94		
Access to improved sanitation facilities (% of population)	..	85	84		
Net Aid Flows		1980	1990	2000	2005 *
<i>(US\$ millions)</i>					
Net ODA and official aid	..	244	432	916	
<i>Total & concessional in 2004:</i>					
Germany	..	68	25	51	
France	..	9	17	42	
United States	..	64	61	38	
Aid (% of GNI)	..	0.6	1.2	1.3	
Aid per capita (US\$)	..	11	19	42	
Long-Term Economic Trends					
Consumer prices (annual % change)	..	20.6	45.7	9.0	
GDP implicit deflator (annual % change)	12.1	13.6	44.3	12.0	
Exchange rate (annual average, local per US\$)	..	22.4	21,692.7	29,140.0	
Terms of trade index (2000 = 100)	..	87	100	88	
Population, mid-year (millions)	22.2	23.2	22.4	21.6	0.4 -0.3 -0.7
GDP (US\$ millions)	..	38,299	37,053	98,559	1.3 -0.6 5.8
<i>% of GDP</i>					
Agriculture	16.4	23.7	12.5	10.1	1.9 -1.9 8.8
Industry	55.6	49.9	36.4	35.0	-1.0 -1.2 5.6
Manufacturing	..	20.8	14.5
Services	27.0	26.3	51.1	54.9	.. 0.9 5.5
Household final consumption expenditure	52.7	65.9	79.0	73.5	.. 1.3 7.0
General govt' final consumption expenditure	12.7	13.3	7.2	12.4	.. 0.8 4.0
Gross capital formation	38.7	30.2	19.5	23.9	.. -5.1 9.4
Exports of goods and services	..	16.7	32.9	37.2	.. 8.1 11.4
Imports of goods and services	..	26.2	38.5	47.1	.. 6.0 13.3
Gross savings	..	21.5	15.4	12.2

Note: Figures in italics are for years other than those specified. 2005 data are preliminary estimates. .. indicates data are not available.
a. Aid data are for 2004.

*Development Economics, Development Data Group (DECODE).

Romania

Balance of Payments and Trade		2000	2005	Governance indicators, 2000 and 2004	
<i>(US\$ millions)</i>					
Total merchandise exports (fob)		10,366	25,746	Voice and accountability	55
Total merchandise imports (cif)		13,054	36,336	Political stability	51
Net trade in goods and services		-1,930	-7,927	Regulatory quality	27
Workers' remittances and compensation of employees (receipts)		96	102	Rule of law	50
Current account balance as a % of GDP		-1.355	-8.458	Control of corruption	34
Reserves, including gold		3,396	21,600		
Central Government Finance				2004	Country's percentile rank (0-100) Higher values imply better policies
<i>(% of GDP)</i>				2000	
Revenue		..	26.1		
Tax revenue		..	11.7		
Expense		..	26.9		
Cash surplus/deficit		..	-2.0		
Highest marginal tax rate (%)					
Individual		40	40		
Corporate		25	25		
External Debt and Resource Flows				Technology and Infrastructure	
<i>(US\$ millions)</i>				2000	2004
Total debt outstanding and disbursed		11,167	20,004	Paved roads (% of total)	49.5
Total debt service		2,501	4,225	Fixed line and mobile phone subscribers (per 1,000 people)	285
HIPC and MDRI debt relief (expected; flow)		-	-	High technology exports (% of manufactured exports)	5.5
Total debt (% of GDP)		30.1	32.8		3.4
Total debt service (% of exports)		20.1	17.1		
Foreign direct investment (net inflows)		1,037	5,440	Environment	
Portfolio equity (net inflows)		58	111	2000	2004
Composition of total external debt, 2004					
US\$ millions				Agricultural land (% of land area)	65
				Forest area (% of land area, 2000 and 2005)	27.7
				Nationally protected areas (% of land area)	..
				Freshwater resources per capita (cu. meters)	..
				Freshwater withdrawal (% of internal resources)	..
				CO2 emissions per capita (mt)	3.8
				GDP per unit of energy use (2000 PPP \$ per kg of oil equivalent)	3.6
				Energy use per capita (kg of oil equivalent)	1,616
World Bank Group portfolio					
<i>(US\$ millions)</i>					
IBRD					
Total debt outstanding and disbursed		1,898	2,448		
Disbursements		384	282		
Principal repayments		91	205		
Interest payments		104	88		
IDA					
Total debt outstanding and disbursed		0	0		
Disbursements		0	0		
Total debt service		0	0		
IFC (fiscal year)					
Total disbursed and outstanding portfolio of which IFC own account		284	229		
Disbursements for IFC own account		112	228		
Portfolio sales, prepayments and repayments for IFC own account		17	17		
MIGA					
Gross exposure		20	261		
New guarantees		0	0		

Note: Figures in italics are for years other than those specified. 2005 data are preliminary estimates.
.. indicates data are not available. - indicates observation is not applicable.

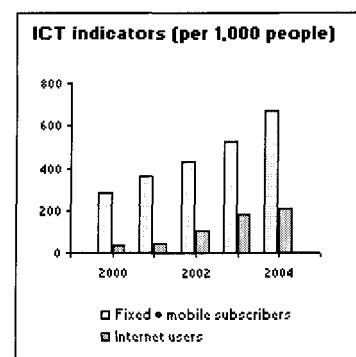
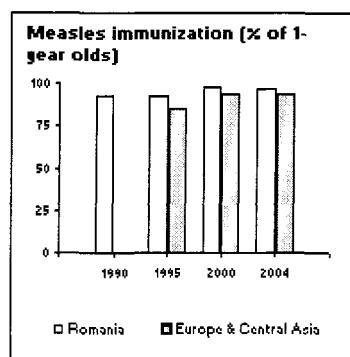
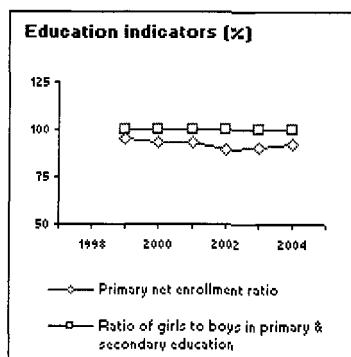
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Millennium Development Goals

Romania

With selected targets to achieve between 1990 and 2015
(estimate closest to date shown, +/- 2 years)

	Romania			
	1990	1995	2000	2004
Goal 1: halve the rates for \$1 a day poverty and malnutrition				
Poverty headcount ratio at \$1 a day (PPP, % of population)	52	28	21	12
Poverty headcount ratio at national poverty line (% of population)	..	215
Share of income or consumption to the poorest quintile (%)	81
Prevalence of malnutrition (% of children under 5)	6	..	3	3
Goal 2: ensure that children are able to complete primary schooling				
Primary school enrollment (net, %)	87	..	94	92
Primary completion rate (% of relevant age group)	96	86	102	93
Secondary school enrollment (gross, %)	82	..	81	85
Youth literacy rate (% of people ages 15-24)	99	98
Goal 3: eliminate gender disparity in education and empower women				
Ratio of girls to boys in primary and secondary education (%)	89	..	100	100
Women employed in the nonagricultural sector (% of nonagricultural employment)	43	42	46	45
Proportion of seats held by women in national parliament (%)	34	7	7	11
Goal 4: reduce under-5 mortality by two-thirds				
Under-5 mortality rate (per 1,000)	31	26	22	20
Infant mortality rate (per 1,000 live births)	27	21	19	17
Measles immunization (proportion of one-year olds immunized, %)	92	93	98	97
Goal 5: reduce maternal mortality by three-fourths				
Maternal mortality ratio (modeled estimate, per 100,000 live births)	49	..
Births attended by skilled health staff (% of total)	..	89	89	89
Goal 6: halt and begin to reverse the spread of HIV/AIDS and other major diseases				
Prevalence of HIV (% of population ages 15-49)	81
Contraceptive prevalence (% of women ages 15-49)	..	57	64	..
Incidence of tuberculosis (per 100,000 people)	73	146
Tuberculosis cases detected under DOTS (%)	9	41
Goal 7: halve the proportion of people without sustainable access to basic needs				
Access to an improved water source (% of population)	57
Access to improved sanitation facilities (% of population)
Forest area (% of total land area)	27.8	..	27.7	27.7
Nationally protected areas (% of total land area)	4.7
CO2 emissions (metric tons per capita)	6.7	5.5	3.8	4.0
GDP per unit of energy use (constant 2000 PPP \$ per kg of oil equivalent)	2.5	3.0	3.6	4.0
Goal 8: develop a global partnership for development				
Fixed line and mobile phone subscribers (per 1,000 people)	102	131	285	673
Internet users (per 1,000 people)	0	1	36	208
Personal computers (per 1,000 people)	2	13	32	113
Youth unemployment (% of total labor force ages 15-24)	..	20.9	18.6	18.5



Note: Figures in italics are for years other than those specified. .. indicates data are not available.

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Development Economics, Development Data Group (DECDG).

Annex 15: Maps
ROMANIA: Integrated Nutrient Pollution Control project

Annex 16: Incremental Cost Analysis
ROMANIA: Integrated Nutrient Pollution Control Project

Project Overview

1. The global environmental objective of the project (GEF Alternative) is to improve the waters of the Black Sea by reducing nutrients loads flowing into the Danube River and Black Sea. Towards this, the proposed project aims to support the Government of Romania to meet the EU Nitrates Directive requirements by (a) reducing nutrient discharges to water bodies, (b) promoting behavioral change at the communal level, and (c) strengthening institutional and regulatory capacity. More specifically, the project, to be implemented over five years, will support: (i) commune-based investments in approximately 110 Nitrate Vulnerable Zones (NVZs); (ii) institutional strengthening and capacity building; (iii) public awareness and replication strategy; and (iv) project management. By significantly increasing the adoption of environmentally-friendly agricultural practices as well as promoting low-cost water and sanitation treatment in select rural areas, the project will assist the Government of Romania in implementing the EU Nitrates Directive as well as meeting its international obligations to improve the quality of the Danube River and Black Sea. The GEF Alternative intends to achieve project objectives at a total incremental cost of US\$5.5 million (4.2 million Euros).

Context and Development Goals

2. During the past few decades, the Black Sea has suffered severe environmental damage, mainly due to coastal erosion, eutrophication, insufficiently treated sewage, introduction of exotic species, and inadequate resource management all of which led to a decline of its biological diversity, loss of habitat and long-term ecological changes. There is general agreement that eutrophication, caused by an increase in nutrient flux down the major rivers in the late 1960s when fertilizer and chemical use increased markedly as a result of the “Green Revolution” and subsidization of these inputs, and poor management of animal waste, are the most serious problems facing Danube River and the Black Sea over the medium- to long-term. The effect of eutrophication on the northwestern shelf of the Black Sea is generally recognized as disastrous and is primarily related to nutrient loads carried by Danube River.

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

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

5. Agriculture is the mainstay of the Romanian economy, primarily due to its abundant natural resource base. Two-thirds of Romania's area is agricultural land. Not surprisingly therefore, Romania is the biggest contributor of nutrients to the Black Sea as its entire territory drains into the Black Sea. About 44% of the total nitrogen input stems from agriculture, while municipal waste water accounts for 11 – 12% and industry for 9 – 10 %. In the case of phosphorous, the role of agriculture is even greater, accounting for about 58% of total discharges, followed by industry with 20.6% and municipal waste water with 11.4%. Groundwater pollution with nitrates and microbial organisms from agriculture has a major social significance from the point of view of drinking water supply for rural settlements in Romania.

6. In 2004, 259 cases of blue baby disease in 26 counties, and 241 cases in 24 counties, were reported by the Public Health Institute. A public awareness campaign on water and sanitation conducted across 5 Romanian counties in 2004 and 2005, included education on blue baby disease and well marking, and revealed that nitrates contamination in rural wells were usually higher and more widespread than official statistics indicate. Low levels of sanitation and lack of hygiene due to poor water and sewer coverage in rural areas are increasing transmission of enteric germs, leading to a large number of other diseases including Acute Diarrheic Disease (ADD).

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

Baseline Scenario

8. The baseline scenario includes activities that will promote Romania's efforts toward improving the waters of the Black Sea without the proposed new GEF support. Romania has assumed its international obligations under the Bucharest Convention, the Odessa Ministerial Declaration on the Protection of the Black Sea, and the Danube River Protection Convention, and is moving towards compliance with the European Union Directives. In addition, as a member, Romania is also committed to the overall goals of the joint Danube-Black Sea Working Party to take measures to reduce nutrient levels and hazardous substances to such levels

necessary to permit the Black Sea eco-system to recover to similar conditions as those observed in the 1960s.

9. Reduction of nutrient run-off (nitrogen and phosphorous) into the Danube and Black Sea from agriculture has been identified as a priority action under the National Environmental Action Plan (NEAP) as well as the Black Sea and Danube River Basin Strategic Action Plans. On-farm environmental management is an integral part of the Government's overall strategy for the agricultural sector, which is aimed at creating an enabling environment to fully realize the sector's yet unfulfilled potential. In support of the strategy, agricultural input and output prices are being liberalized, as is the trade regime. In addition, about 80 percent of the arable land has been returned to previous owners and heirs.

10. Romania's access to EU has significant implications for the organization and management of an improved agricultural sector. Farmers and agro-processors in Romania are building capacity to enter and compete in EU markets and must gain access to appropriate knowledge, skills and technologies that will create an agricultural sector in compliance with EU requirements. Only then can the sector become competitive in the EU. However, as the farming community has limited experience with nutrient pollution control, measures are needed to change behavior, provide information and cost effective agricultural technologies and practices, as well as access to entities delivering such services. In other words, farmers need assistance to develop and implement action plans, which, while increasing productivity, reduce nutrient discharge to water bodies, thereby promoting conservation and sustainable use of the country's natural resource base.

11. The Baseline Scenario does not include an effective mechanism to address this issue. In the Baseline, Romania will in any case be required to start implementing the EU Nitrates Directive and hence needs to develop a long term program for nutrient reduction. In the absence of an IBRD/GEF program the government would need to set aside own funds or access them from a new source with less experience on these issues. The current demands on the MESD are extremely high given the extensiveness of the environment *acquis* and country commitments and it is unlikely that a program of the same size and scale could be launched in the baseline. In this scenario, Romania would cover a smaller part of the country and the impacts on nutrient reduction would be lower. It is also very likely that fewer funds would be allocated for public awareness, which is critical to the sustainability and replication of the investments. It is quite certain that no funds would be allocated for biogas enhancement as there are no EU requirements for this and limited capacity would not focus on opportunities for enhancement. Lack of a targeted program to integrate rural environment investment objectives in THE rural space would also likely result in less local coherence and ultimately lower nutrient reduction benefits. Most importantly, the lack of GEF involvement in the baseline would result in a disengagement of Romania at the broader international level, as their capacity to continue to reach out to share experiences with other countries in light of the demanding programs at home would be extremely limited. The GEF Alternative would go beyond the Baseline Scenario by allowing the project to establish a mechanism for coordinating the approach, funding and integrating activities designed to reduce non-point source pollution from agriculture with other environment investments.

12. Under the baseline scenario, Romania's efforts towards improving water quality and reducing nutrient pollution over its entire territory is ongoing through a variety of funding instruments and donors, including World Bank Loans, GEF grants, EU PHARE programs, Dutch grants, etc. An important initiative for specifically reducing nutrient loads to surface and ground water bodies in Romania, and currently under implementation is the Agricultural Pollution Control Project (APCP). Started in 2002, the project, a GEF-supported pilot activity in Calarasi county (GEF grant \$5.5 million) aims to promote environmentally friendly agricultural practices for reducing nutrient discharge to ground and surface waters from agricultural sources in Romania. The Ministry of Environment and Sustainable Development (MESD) is nearing completion of the project. APCP has made significant progress in demonstrating reduction in discharge of nutrient pollution in water bodies in the project area and thereby meeting its global objectives of reducing nutrient pollution in Romania's water bodies). For example, the project has increased the share of households with livestock in the Calarasi county (project area) now using village and household manure storage facilities and segregating waste materials by approximately 36%; the area under environmentally friendly agricultural practices is about 24% of the total arable land in the project area; about 75% of the erosion-prone locations in the project area are afforested as buffer zones; and the number of farmers using appropriate nutrient management (reduced chemical fertilizer application and increased organic manure) has significantly increased. However, APCP covered only one county. Thus, although actions towards implementation of the EU Nitrates Directive have been launched in some measure under APCP, a significant amount of work remains to be done for comprehensive implementation. Baseline cost: US\$1 million (763,000 Euros)

13. Other complementary efforts by the Government of Romania, for improving water quality, were financed under the IBRD-supported Rural Development Project (RDP). The objective of the project is to strengthen the institutional capacity of local administration, community/user groups and private service providers to plan, implement, operate and maintain small infrastructure investments and to increase the access of rural inhabitants in pilot areas to markets and social services, and improved water and sanitation. The project is being implemented across five countries. The public awareness component of this project has played an important role in improving water and sanitation links with human health and the local environment. Some elements of the campaign continue to be replicated. Public awareness activities focused on nitrates and rolled out education curricula (K-12) for schools in five counties on links between nitrates contamination and human health. It also supported community well testing and marking of wells for nitrates exceeding limit values to raise awareness that women and children should not drink from those contaminated wells. While RDP focused on the links between nitrates contamination and poor sanitation in rural areas, APCP concentrated largely on the links between nutrient pollution and poor agricultural practices and manure management. Under the new project, GEF funds will help the government of Romania to adopt a more integrated approach, so that both the role of agricultural practices as well as sanitation and their impact on nutrient pollution are addressed. In this context, the INPC Project will expand use of the RDP school curricula (and promote its certification) and expand work on community well marking/testing which was done more extensively in RDP than APCP. Estimated baseline cost: 750,000 Euros.

14. The Government of Romania is receiving considerable support from the EU for implementing requirements under several directives related to improved water quality. EU PHARE assistance, for example, is geared towards, inter alia, institutional capacity building, waste management investment schemes, technical assistance for elaboration of master plans for meeting national targets towards reducing organic waste in water and wastewater, pilots for composting under waste management projects, education and information campaigns on waste management issues, etc. EU funds will be used for training environment personnel in the regional and local EPAs as well as county and local officials that will be involved with activities related to water and wastewater, such as implementation of nutrient mitigating action plans, inspection, monitoring, etc. The government will also use EU funds to train farmers to apply for grants from Agricultural Funds to undertake accredited agri-environment measures and implement the Code of Good Agricultural Practices, all of which will have an impact on controlling nutrient discharges to local water bodies. Thus, during the life of the INPC Project, EU funds will complement the objectives and activities envisaged under the proposed project to have an overall larger impact on improving the quality of Romania's surface and groundwater bodies. Estimated baseline cost: 20 million Euros

15. **Costs.** Total expenditures under the baseline scenario are estimated at 21.5 million Euros (US\$28.0 million) from the Government and other donors.

Global Environmental Objective

16. The global environmental objective of the project is to reduce discharge of nutrients into water bodies leading to the Danube River and Black Sea through integrated land and water management. Activities promoted under the GEF Alternative will increase significantly the use of environmentally friendly agricultural practices and low-cost water and wastewater treatment and thereby reduce nutrient discharge to surface and ground waters in Romania.

17. **Scope.** The GEF Alternative would provide the means (above and beyond the Baseline Scenario) for meeting the proposed project's goals. The availability of GEF funds to continue to help Romania address the nutrient reduction challenge was catalytic to a request for IBRD lending from the World Bank for a national level scale-up of the initial GEF investment. The inclusion of the GEF in the overall financing package will help to support: (i) **Commune-based Investments in Nitrate Vulnerable Zones (NVZ)** including communal storage and handling systems to promote better management of livestock and household waste, manure handling & application system, afforestation, wastewater treatment and sanitation, promotion of the Code of Good Agricultural Practices and feasibility studies for improving water and wastewater services in selected communes and biogas digesters; (ii) **Institutional Strengthening and Capacity Building**, with a focus on building capacity within the Ministry of Environment and Sustainable Development (MESD) and their National Administration for Romanian Waters, as well as other national, regional and county agencies involved in implementing the Nitrates Directive (i.e. Public Health, Agriculture etc.) as well as bringing national legislation in line with EU regulations related to the EU Nitrates Directive and selected measures under the Water Framework Directives; (iii) **Public Awareness and Replication Strategy**, whereby a broad public information campaign of the project's activities and benefits will be undertaken at the local, river basin, national and regional levels to achieve replication of project interventions in other similar areas within Romania (NVZ-designated communes in non-focus counties) as well

as other Black Sea riparian countries and EU candidate countries. The project will provide for the organization of national and regional workshops, field trips, and study tours where knowledge and skills on effective low-cost environmentally friendly technologies will be shared; and (iv) **Project Management** for effective implementation of project activities. GEF funds represent under 10% of the overall program costs and within the program would be targeted specifically for providing incremental support for: (i) testing and demonstrating the feasibility of biogas/energy co-generation of manure/organic household waste to help increase their attractiveness for replication and financial sustainability; (ii) financing feasibility studies for improving water and wastewater services in poorer communes¹² that have an impact on transboundary waters (the aim would be to attract external (EU) financing for investments); (iii) undertaking a public awareness campaign to disseminate benefits of project activities; (iv) promoting national and regional replication of the project; and (v) project management.

18. **Costs.** The total cost of the GEF Alternative is estimated at 59.1 million Euros detailed as follows: Component 1: Commune-based Investments in Nitrate Vulnerable Zones – 45.7 million Euros; Component 2: Support for Institutional Strengthening and Capacity Building – 5.7 million Euros; Component 3: Public Awareness and Replication Strategy – 2.4 million Euros; and Component 4: Project Management – 5.3 million Euros.

Benefits

19. Implementation of the GEF Alternative would go beyond the Baseline Scenario (which would result in limited impact on water quality improvement) by allowing the project to promote environmentally friendly agricultural practices and low-cost wastewater treatment technologies on a national scale that will result in the longer term in substantial improvement in nutrient loads to the Danube River and Black Sea. GEF funds will provide incremental support for nutrient control measures under the proposed project. Investments in sustainable farm management practices and wastewater discharges in the selected project areas that will assist Romania not only meet the requirements of the EU Nitrates Directive but also comply with several international conventions to improve the waters of the Danube and Black Sea. Improved farm practices will also result in improved farm profitability. The public awareness program envisaged under the project to demonstrate the benefits of improved environmental practices for non-point source pollution control will help in project replication within Romania and internationally, thus resulting in a larger impact under the project.

20. Through improved farming practices, annual saving of dissolved nutrients flowing into the Black Sea is estimated at 20 kg/ha N and 2.5 kg/ha P. It is assumed that through improved handling, half of the manure is prevented from being flushed into the river systems and hence into the Black Sea. If after 10 years, 60% of the farmers in the project area adopted similar practices, then the estimated annual saving of pollutants flowing into the Black Sea will be significant. Also through the project's public awareness campaign, field visits and workshops, farmers from adjoining areas will be encouraged to adopt the environmentally friendly agricultural practices, thus resulting in a larger impact under the project. A more detailed

¹² Although EU and other Funds are available for capital investments, a barrier to the participation of poorer rural communes are the up-front funds required to finance feasibility studies.

assessment will be undertaken in quantifying accrued benefits during project implementation through the monitoring and evaluation program linked to the project results framework.

Incremental Costs

21. The difference between the cost of the Baseline Scenario 21.5 million Euros and the cost of the GEF Alternative 59.1 million Euros is 37.6 million Euros (approximately US\$49.0 million) which represents the incremental cost for achieving sustainable global environmental benefits.

Annex 17: STAP Roster Review
ROMANIA: Integrated Nutrient Pollution Control Project

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Scientific and technical soundness

The scientific and technical basis of the project is sound. It addresses the critical issue of reducing nutrient pollution of ground water and of catchment runoff draining to the Danube River. Project design builds on and reflects lessons and experience in the Agricultural Pollution Control Project currently being undertaken in the Calarasi Judet. The identification of re-afforestation and pasture rehabilitation as program elements is an important element of the approach.

The technologies are established and effective. The proposal recognizes that the core issue is achieving widespread uptake at levels sufficient to meet nutrient pollution reduction targets. Dissemination of information through a wide public awareness campaign is critical to the widespread adoption of new technologies and practices. The proposal reflects the importance of public awareness and community engagement through involvement of local administrations and communities actions to manage agricultural and sewage nutrient pollution. It contains testing and demonstration activities to achieve dissemination of project results and, importantly for areas of declining rural population, to engage older people in the adoption of the new practices that address these problems.

A central issue is the adoption of the 20% nitrate reduction target. My knowledge of the specific context is not sufficient to assess the extent to which this is a cautious or ambitious target or how far it may go in relation to reasonable overall Danube/Black Sea environmental health targets. It would strengthen the proposal if the basis of this target were explained. Questions that occur to me include: Is this a target that is reasonable because it is achievable in the life of the project? Is it a longer-term target that would materially affect the nitrate load reaching the Danube River mouth—say in relation to a pre-1960s or pre Black Sea damage level of inputs? Or is it a reasonable step towards such a longer-term target? How far would achievement of this target go in relation to meeting the requirements of the EU Nitrates Directive?

Global environment benefits and costs

The project addresses 10 of the 11 Romanian river basins that drain into the River Danube and thus into the Black Sea. These basins have been selected because they contain nitrate vulnerable zones. Nutrient pollution of the Black sea has been identified as an environmental issue of global significance. The reflection of lessons from the Calarasi Judet APCP suggests that this national

scaling up has good prospects of achieving its objectives and thus delivering clear global benefits by addressing a key element in a major source of nutrient pollution of the Black Sea. The design of the project is directly linked to the GEF supported Strategic Action Plan for the Protection and Rehabilitation of the Black Sea" (BSSAP).

The context of GEF goals and guidelines

The project clearly addresses the objectives of the integrated land and water multiple focal area. The measures to reduce pollution to the Black Sea and Danube River, noted above, relate to Operational Program 8, the Waterbody-based Operational Program. They also address objectives relevant to OPs 10, 12 and 15. It addresses the objectives of providing a basis for achieving sustainability, improving human and environmental health and economic outcomes and it applies the guidelines with respect to incremental costs and the log-frame.

Regional Context

The project and the related loan program have high priority in the context of obligations under the environment *acquis* as a member of the European Union. It is one of a number of urgent measures that have current or probable funding from the EU and a range of donors. As noted earlier the project is important in the context of the rehabilitation of the Black Sea and is linked with the "Strategic Action Plan for the Protection and Rehabilitation of the Black Sea" (BSSAP), formulated with the assistance of the GEF Discussed above.

Replicability

The project is based on national application and replication and lesson application from the successful Calarasi Judet APCP. This has demonstrated positive "triple bottom line" outcomes for impoverished rural communities through simultaneous and linked improvements in the economic, environmental and social and human health outcomes of management of organic wastes from agriculture and human settlements. The wider application proposed here will provide the basis for further replication in Romanian river basins and in the management of similar problems in the catchments of other nations.

Sustainability

The fact that this proposal and the linked major loan represent a scaling up and application of lessons learned from the APCP project reflects sustainability through demonstration and community appreciation of the economic, environmental and social benefits of nutrient pollution control. Community and local government involvement, education and demonstration of benefits are critical elements in sustainability of the program design.

Contribution to future strategies and policies

Success with this project will contribute to the broader adoption of pollution minimizing agricultural and rural community waste management practices and to meeting Romania's commitments under the environmental *acquis* of the European Union.

Secondary Issues

Linkages to other programs and action plans are identified in Annex 2 of the proposal.

Involvement of stakeholders

The project proposal addresses this appropriately as a critical issue. Stakeholder and local government commitment and involvement are key elements in the community considerations in the uptake and routine adoption of pollution minimizing agricultural practices.

Risk assessments

I am not familiar with the field operating situation but note that the APCP project, which can be regarded as a pilot for this proposal, is operating successfully. On this basis the risks seem to be reasonably discussed and I concur with the assessments.

Costs

Subject to the qualification above, the amounts and relativities of funding proposed for the various components appear reasonable.

Conclusion

This is a soundly designed and important national scale project building on pilot project success. The GEF grant and linked loan project tackle critical issues of agricultural and rural pollution in ways that are appropriate to the social, economic and environmental context of Romanian agriculture in the catchments draining to the Danube River. They are centrally linked to a core government priority of meeting commitments in relation to the environmental *acquis* of the European Union. Subject to satisfactory clarification concerning the rationale of the nitrate reduction target I recommend that it should proceed.



R A Kenchington
8 January 2007

Attachment: PAD document with minor edits and specific comments in Word edit and comment highlights.

Bank Response to Comments received from STAP Reviewer

The project preparation team was pleased to receive comments from the STAP Reviewer who endorsed the technical and scientific soundness of the project as well as its conformity with GEF goals and guidelines, regional context, replicability and sustainability. The reviewer concluded that the project is soundly designed and an important national scale project, building on pilot project (APCP) success. The GEF grant and linked loan project tackle critical issues of agricultural and rural pollution in ways that are appropriate to the social, environment and economic context of Romanian agriculture in the catchments draining to the Danube River.

The only issue for response raised by the Reviewer is addressed below:

Issue: "...the adoption of the 20% nitrate reduction target. My knowledge of the specific context is not sufficient to assess the extent to which this is a cautious or ambitious target or how far it may go in relation to reasonable overall Danube/Back Sea environmental health targets...Is this a target that is reasonable because it is achievable in the life of the project? Is it a longer term target that would materially affect the nitrate load reaching the Danube River mouth...?"

Bank Response: The team agrees with the reviewer that during the life of the project, it is not possible to confirm 20% reduction of nitrates in the water bodies. To clarify this point, the revised PAD indicates that at least 80% of the targeted project sites show at least 10% reduction in nutrient load discharge to water bodies at critical sampling points. The project also aims to achieve that 50% of the population in the project area adopt preventative and remedial measures to reduce nutrient discharge. The team agrees that the level of nitrate reduction in shallow groundwater bodies will be a slow process and it will take 10-15 years to achieve significant reduction. However, there will be at least 10% reduction of nitrates in Romanian surface waters in the project area that flow into the Danube river and Black Sea. This percentage is a reasonable step towards the longer-term target of 20% overall reduction.

The other minor editorial comments provided by the reviewer have been reflected in the revised PAD.

MAP SECTION



