



1. Project Data

Project ID P093775	Project Name INTEG NUTRIENT POLLUTION CONTROL		
Country Romania	Practice Area(Lead) Environment & Natural Resources	Additional Financing P155594,P155594	
L/C/TF Number(s) IBRD-48730	Closing Date (Original) 31-Dec-2013	Total Project Cost (USD) 141,677,500.00	
Bank Approval Date 30-Oct-2007	Closing Date (Actual) 31-May-2017		
		IBRD/IDA (USD)	Grants (USD)
Original Commitment		120,490,000.00	0.00
Revised Commitment		120,490,000.00	0.00
Actual		53,076,331.80	0.00
Sector(s) Solid waste management(27%):Wastewater Treatment and Disposal(22%):General public administration sector(20%):General agriculture, fishing and forestry sector(18%):Sanitation(13%)			
Theme(s) Environmental policies and institutions(25%):Pollution management and environmental health(25%):Water resource management(24%):Land administration and management(13%):Rural services and infrastructure(13%)			
Prepared by John Redwood	Reviewed by Ridley Nelson	ICR Review Coordinator Christopher David Nelson	Group IEGSD (Unit 4)

Project ID P099528	Project Name INT. NUTRIENT POLLUTION CONTROL (GEF) (P099528)		
Country Romania	Practice Area(Lead) Environment & Natural Resources	Additional Financing	



L/C/TF Number(s)	Closing Date (Original)	Total Project Cost (USD)
TF-58040	31-Dec-2013	0.00
Bank Approval Date	Closing Date (Actual)	
30-Oct-2007	31-May-2017	
	IBRD/IDA (USD)	Grants (USD)
Original Commitment	0.00	5,500,000.00
Revised Commitment	0.00	5,500,000.00
Actual	0.00	5,288,174.00

Sector(s)

General agriculture, fishing and forestry sector(10%):General public administration sector(60%):Sanitation(5%):Solid waste management(15%):Wastewater Treatment and Disposal(10%)

Theme(s)

Rural services and infrastructure(13%):Environmental policies and institutions(25%):Land administration and management(13%):Pollution management and environmental health(24%):Water resource management(25%)

2. Project Objectives and Components

a. Objectives

Project Portal Project Development Objective:

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 commune level, and (c) strengthening institutional and regulatory capacity.

Financial Agreement (FA) Development Objective:

To reduce nutrient discharges into water bodies and to promote behavior change through strengthened institutional and regulatory capacity and demonstrated commune-based actions and, hence, support the Government of Romania to meet the EU [European Union] requirements in the field of water protection.

The Global Environmental Objective (GEO), as stated in the Project Appraisal Document (PAD, pp. 11-12) was 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.

On the basis of the development objectives as stated above, the project development objectives (PDOs) to be assessed are as follows: (i) to reduce nutrient discharges into water bodies; (ii) to promote behavior change at the commune level; (iii) to strengthen institutional and regulatory capacity for nutrient pollution management; and (iv) to support the Government of Romania to meet EU requirements in the field of water protection.

b. Were the project objectives/key associated outcome targets revised during implementation?

No

c. Components

Commune Based Investments in Nitrate Vulnerable Zones (NVZ) (appraisal cost: Euro 45.9 million, of which Euro 39.4 million would be IBRD and US\$ 2.1 million GEF [Global Environment Facility; actual cost: Euro 40.51 million and US\$ 3.39 million GEF): This



component would support a menu of investments focusing on the NVZ's designated 91 communes in ten river basins, initially including the creation of 11 Training and Demonstration Sites (TDS). The main menu of eligible investments from which communes would prepare subproject investment programs were: (i) communal storage and handling systems to promote better management of livestock and household waste; (ii) planting of buffer strips and pasture rehabilitation; (iii) water and sanitation, specifically rehabilitation or extension of small-scale sewage collection and treatment facilities at selected sites; (iii) promotion of code of good agricultural practices, including crop rotation, manure management, maintaining soil cover and crop nutrient management with soil testing, and organic farming; and (iv) feasibility studies for improvement of water and wastewater services and, with GEF funds, to test and demonstrate the feasibility of biogas/energy co-generation of manure/organic household waste through anaerobic digestion in one commune.

Institutional Strengthening and Capacity Building (appraisal cost: Euro 5.3 million, of which Euro 3.9 million would be IBRD and US\$ 2.7 million GEF; actual costs: Euro 3.81 million and US\$ 1.62 million GEF): This component would focus on the Ministry of Environment and Sustainable Development (MESD) -- now the Ministry of Environment, Water, and Forests (MEWF) -- the National Administration for Romanian Waters (ANAR), which is subordinated to it, and other national, regional, and county agencies involved in implementing the EU Nitrates Directive. Technical assistance (TA) would also be provided to MESD and the Ministry of Agriculture and Rural Development (MARD) to ensure that legislation is fully in line with EU regulations related to the Nitrates Directive and selected measures under the Water Framework Directives with an emphasis on clarifying implementation and coordination responsibilities across agencies. Additional support might also be provided to institutions forming the Inter-Ministerial Committee for Application of the Nitrates Directive (ICA) and it would support training activities and TA for developing an institutional mechanism to enable beneficiaries and relevant national institutions to access EU funds, including for preparation, implementation, and management of projects.

Public Awareness and Replication (appraisal cost: Euro 2.6 million, of which Euro 2.5 million would be IBRD and US 0.2 million GEF; actual costs: Euro 2.28 million and US\$ 0.19 million GEF): This component would undertake a broad public information campaign regarding the project's activities and benefits at the local, river basin, national, and regional levels to achieve replication of project interventions in similar areas within Romania (i.e., NVZ-designated communes in non-focus communes) as well in other Black Sea riparian and EU candidate countries. In particular, it would promote improved rural sanitation in the NVZs and implementation of good agricultural practices such as composting, conservation tillage, crop rotation, etc.

Project Management (appraisal cost: Euro 5.6 million, of which Euro 4.2 million would be IBRD and US\$0.5 million GEF; actual cost: Euro 3.40 million and US\$ 0.28 million GEF): This component would support the Project Management Unit (PMU) located within MESD.

d. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project Cost: Total actual project costs were as expected at appraisal both for the IBRD loan and the GEF grant, although there was some variation across components, especially for the GEF grant.

Financing: Actual financing were largely the same as expected at appraisal both for the IBRD, except for the Borrowing Agency's contribution -- which was zero instead of US\$ 1.1 million anticipated at appraisal -- and the GEF grant. An Additional Financing (AF) of US\$ 52.39 million was approved on March 28, 2016 and the project closing date was further extended until March 31, 2022.

Borrower Contribution: The actual contribution from the Borrowing Agency was zero instead of the US\$ 1.0 million expected at appraisal. However, the contribution of local governments was reportedly (ICR, Annex 1, Table (b)) as anticipated at appraisal (US\$ 2.1 million).

Dates: The project closing date was extended twice through restructurings: (i) from December 31, 2013 to November 2015 on August 5, 2013; and (ii) until May 2017 on September 7, 2015. The ICR was submitted on January 30, 2016, thus prior to the revised closing date.

3. Relevance of Objectives & Design

a. Relevance of Objectives

Project objectives were initially of High relevance, as, at the time of its preparation, thus operation was the only source of funds to support Romania in meeting its obligations related to the EU Water Framework Directive. The need for Romania to substantially upgrade its environmental standards in order to meet EU requirements, particularly in the area of waste management, was explicitly recognized in the Bank's Country Partnership Strategy (CPS) for FY 2006-2009, issued in May 2006. In this context, what eventually became the present project, which was initially also expected to cover biodiversity conservation, was identified in the CPS under the heading of "Upgrading Environmental Standards" as part of Pillar 1 ("Accelerating Structural and Institutional Reforms for Sustained Growth"), although it was referred to as the "Environment Management Loan." It noted, more specifically, that the Bank loan would "focus on three technical pillars: (a) development of nitrate reduction in line with EU Nitrates and Water Framework Directives; (b) development of institutional capacity and a project pipeline for EU Structural funds targeting contaminated lands; and (c) institutional support for a new National Agency for Protected Areas and Biodiversity Conservation. The CPS also observed that "as EU membership brings obligations for full integration of global



environmental issues into national policies," GEF support would target "GEF focal areas of biodiversity, international waters, and persistent organic pollutants." However, much less attention was given to the project in the subsequent CPS for July 2009 to June 2013, issued in June 2009, as it is only briefly mentioned in the CPS Results Framework as Outcome 2 -- implementation of EU Water and Nitrates Directives -- under the heading of "Energy and Environment," but nowhere in the main text of the report. And despite approval of the Additional Financing (AF) in March 2016 and its extension for another six years, there is no mention of this at all in the most recent CPS for 2014-2017, issued in April 2014. Thus, at least in Bank Group country strategy documents, the relevance of project objectives appears to have clearly declined over time. Nor do they appear to be given explicit attention in Romania's current national development strategy, although it did request Additional Financing in order to expand the spatially targeted investments under the initial project to the entire country two months after the ICR was submitted (although this expansion and the associated request were both expected at that time). In addition, in a subsequent meeting with members of the project team, IEG was informed that environment continues to be a high priority for both the Romanian Government and the Bank, and this is likely to be clearly reflected in the next Country Program Framework (CPF) document that is expected to be completed after the coming national elections in December 2016.

Rating
Substantial

b. Relevance of Design

The project design was relevant as it sought to directly address the principal sources of nitrate pollution, particularly previously unmanaged livestock and household wastes, in the parts of the country identified as contributing most to such water source contamination, while also seeking to strengthen the pertinent institutions at the national, river basin, and local (i.e., commune) levels and to raise public awareness about the public health risks associated with poor environmental management. The Results Framework was of generally good quality, although it was enhanced during implementation by the addition of two new outcome indicators, while several intermediate indicators were dropped. However, project objectives were clearly stated, the project outcome indicators were consistent in relation to project objective -- including the GEO -- realistic, and measurable, as were most of the intermediate outcome indicators. Most of the original project design elements (or subcomponents) were maintained during implementation, the main exception being the feasibility studies for the construction of community waste water management systems under Component 1 (Commune-based Investments in NVZs) that were cancelled due to a lack of demand and availability of EU funds (ICR, para. 14, pg. 6), which could not have been readily anticipated at appraisal. Risks were also generally well-stated in the PAD and the proposed associated mitigation measures were appropriate, although implementation delays due to high initial PMU staffing turnover, permit delays, and procurement difficulties were not specifically identified as project risks.

Rating
Substantial

4. Achievement of Objectives (Efficacy)

Objective 1

Objective

To reduce nutrient discharges to water bodies. Rated Substantial.

Rationale

Outputs (formal project indicators):

- **Share of programmed rural development grant resources linked with nutrient control measures in Nitrate Vulnerable Zones (NVZs) than in non-NVZs over baseline** -- to help communities access funding, an inventory of NVZ localities was made and 96 applications for funding by the project for feasibility studies for wastewater treatment facilities were received, of which 19 were already completed by the time the ICR was issued. However, as the subcomponent for feasibility studies under Component 1 was dropped, although it was not formally dropped, this indicator was no longer



reported on as of October 30, 2010.

- **Costs of measures for reduced discharge of 1 kg of Nitrogen** -- this indicator was also not formally dropped, but it was not routinely reported on by in the project ISRs. However, the original target value (<US\$ 40 on average) was achieved by a considerable margin (US\$ 33.6/kg of N) according to the project's ex-post financial analysis
- **Number of communal platforms [for manure management] completed** -- As of September 30, 2015, this revised target was 84% achieved, as 63 of the target of 75 such platforms, had been implemented. The original target was 86 platforms, but this was reduced to 75 during the restructuring of July 2012 due to a lack of appropriate sites and difficulties obtaining construction permits. According to the ICR, the revised target is likely to be achieved by the revised project end date. It should be pointed out in this context, however, that, while the project initially sought to induce farmers to develop individual farm level manure platforms, the slow take-up of this solution, later prompted the project to shift to the development of communal ones.
- **Number of project communes implementing at least one of the following nutrient reduction measures: communal platforms, pasture rehabilitation, tree planting** -- As of September 30, 2015, this target was 107% achieved, as there were 92 NVZ communes implementing one of more practices for nutrient reduction, as compared with the target of 86.

Outputs (specific project investments):

Manure storage and management systems:

- communal platforms: 61 operational, 6 under contract, and 20 to be built in 2016; according to the project team in a post-ICR meeting with IEG, 17 of these platforms have now been contracted and 10 have been completed, while the other 7 are expected to be completed and the 3 remaining ones contracted by the end of 2016 and completed by May 2017.
- individual platforms: 1,136 built and 2,837 waste bins delivered to households.
- manure management equipment: 56 sets of equipment, comprising 56 front loaders, 62 tractors, 124 trailers, 56 vacuum tankers, 56 manure spreaders for the communes where the platforms were built.

Planting of buffer strips and pasture rehabilitation: 182 hectares planted in 57 localities

Sewage systems: 7 sewage systems completed and handed over to mayors, 2 sewerage systems and water treatment plants under contract.

Generation of biogas from manure/organic household waste through anaerobic digestion and energy co-generation in one commune: under construction. According to the project team in a meeting with IEG, construction of this plant was completed in March 2016 and is now undergoing technical testing, which is expected to be completed by September 2016. 93% of the corresponding GEF grant has now been disbursed.

Outcomes

- **At least 80% of targeted NVZs show a 10% reduction in nutrient load discharge to water bodies** -- as of September 30, 2015, this target had been 76.9% achieved (i.e., 61.5% out of the target of 80%); due to procurement delays, project investments have been slow to come on line, but as construction of the remaining communal platforms had been contracted out and were expected to be completed before the revised project end date (May 31, 2017, as of the time of ICR submission), it is expected that the target will be met. This outcome is a key element in the overall rating of project outcome.
- **Nutrient load reduction (Nitrogen) achieved under the project** (indicator added in October 2012) -- as of September 30, 2015, this target had been 85.2% achieved (255.5 tons/year out of a target of 300 tons/year); as a result of the remaining planned investments expected to come on line before the revised project end date, this target was also expected to be met.

Rating
Substantial



Objective 2

Objective

To promote behavioral change at the commune level. Rated Substantial

Rationale

Outputs (formal project indicators):

- **Percentage of households with livestock adopting improved waste management practices** -- Value not available. This indicator was not formally dropped but also not reported on after November 30, 2010. However, according to the ICR, in effect it was substituted by the following indicator.
- **Land area where sustainable land management practices were adopted as a result of the project** (hectares) (indicator added in October 2012) -- According to the ICR (pg. xvi), as of September 30, 2015, the target (18,000 ha) had been 85% achieved (i.e., 15,262 ha) in 58 communes that were implementing sustainable land management practices in communal platforms for manure management (15,080 ha) and in 34 communes that were implementing tree planting as a nutrient (i.e., soil erosion) reduction measure (182 ha). With the additional investments anticipated to come on line, this target is expected to be met by the revised end of project date. However, the ICR does not identify what these "sustainable land management practices" were in the 58 communes implementing communal platforms for manure management as the adoption of such platforms is not a land management practice *per se*.
- **Percentage of targeted communities with tree planting and the pasture rehabilitation in the agreed project plans implemented** -- Value not available. This indicator was not formally dropped, but was not reported on by project.
- **Percentage of cropped area in the project communes under relevant nutrient reduction measures** -- as of September 30, 2015, this target had been exceeded by 27% (i.e., 38% compared with the target of 30%); the target was subsequently increased to 50% after the project restructuring in August 2015 based on the remaining planned 21 platforms for manure management expected to come on line before the revised project end date, and is expected to be achieved by that time.
- **Percentage of households in targeted villages connected to the sewage system with appropriate treatment** -- as of September 30, 2015, this target was 91% achieved (i.e., 27,3 percent compared with the target if 30%). As of that date, 8 communes were selected and 9 sewerage systems covering 16 villages had been contracted, and 7 of these systems, covering 12 villages, had been completed. The two remaining systems are expected to be completed prior to the revised project end date.

Outputs (other project activities):

- Public awareness programs comprising: (i) a national program implemented between 2009-2012; (ii) a river basin level program implemented between 2012-2014; and (iii) dissemination of the project's benefits at the national level in 2014-2015 in order to replicate project interventions in other parts of Romania. Activities implemented have reportedly reached 1,260 participants in 14 regional workshops, 5,640 participants in 174 community level seminars, 1,327 participants in 87 training of trainer sessions; and 6,500 participants in 104 school seminars.

Outcomes

- **Percentage of the population in the project area adopting preventive and remedial measures to reduce nutrient discharges** -- as of September 30, 2013, the original target value (50%) had been exceeded (52.6%). This is attributed to a combinations of investments at the commune and individual farmstead levels together with successful communication and outreach strategies at the national, local, and individual farm levels.
- **Land users adopting sustainable land management practices as a result of the project** (indicator added in October 2012) -- as of September 30, 2015, this target has been 82.7% achieved (17,400 or a target of 21,000) based on the completed investments for manure management, and was expected to be exceeded by the time of the revised project end date once the remaining planned investments gave been completed. However, even though the project does appear to have resulted in behavioral change at the commune level in some practices, the ICR does not adequately explain which types of "sustainable land management practices" have been adopted (for example, manure application timing, changed artificial fertilizer applications, zero tillage, or watershed management changes) and how, more specifically, these relate to the increased investments in manure management.



Rating
Substantial

Objective 3

Objective

To strengthen institutional and regulatory capacity for nutrient pollution management. Rated Substantial

Rationale

Outputs (formal project indicators):

- **Relevant legislation updated and Ministerial Orders issued clearly defining responsibilities. EU reporting process tested and using inputs of multiple institutions** -- the target ("EU acceptance of Romania's report") was considered fully achieved as of June 14, 2013. Romania has also been implementing the Code of Good Agricultural Practices for the protection of waters against pollution from agricultural sources and regulatory gaps have reportedly also been identified and addressed.
- **Unified set of monitoring guidelines and standards for soil and water adopted, and monitoring program implemented** -- target fully achieved. As of June 14, 2013, Romania had adopted a unified set of monitoring guidelines and standards for soil and water, and implemented the corresponding monitoring program, in the process also increasing the number of monitoring sites (by 63 new piezometers) operated by ANAR in the national monitoring network.
- **Working Groups at the water basin and county levels functioning effectively and all staff working on the Nitrates Directive fully operational** -- target achieved. As of June 14, 2013, the Working Groups were functioning with the participation of 401 specialists from MOEF, MARD, ANAR, the Environmental Protection Agency (EPA). Environmental Guard, among others, trained for Nitrate Directive implementation at the river basin and national levels.
- **Number of ANAR technical staff trained** -- as of September 30, 2015, this target was 90% achieved, as 302 (of a target of 336) ANAR specialists were trained to use the equipment provided by the project and in the sampling and testing methods related to water quality monitoring. However, according to the ICR, this target may not be fully met prior to the end of the revised project closing date. Agricultural specialists were also trained on the Code of Good Agricultural Practices to advise farmers to comply with Nitrate Directive 401.

Outputs (Other activities):

- Training of Nitrate Directives Working Groups
- Extension of the Voina Training Center and laboratory equipment
- Support for new version of the Code of Good Agricultural Practices
- Monitoring of water pollution with nutrients and eutrophication
- Extension of national underground water monitoring network.

Outcomes:

- **Improved inter-governmental coordination and capacity to assess, monitor and report on progress with implementation of the EU Nitrates Directive** -- this target was reportedly "fully achieved" according to the ICR (para. 48, pg. 15), as the result of technical assistance provided to various government agencies. In addition the Inter-Ministerial Committee for Implementation of the Action Plan for Protection Caused by Nitrates from Agricultural Sources (IC) was "fully functional" and meeting on a regular basis and a Working Group has been jointly established by the Ministry of Environment and Climate Change (MECC) and MARD to support the PMU with coordination and implementation of a Demonstration Program of good agricultural practices, including nutrient management.

Rating
Substantial



Objective 4

Objective

To support Government of Romania's progress toward meeting EU's Nitrates Directives. Rated Substantial

Rationale

Outputs

Outcomes

- **Favorable EU assessment of Romania's progress towards meeting EU Nitrates Directive** -- this target ("progress acknowledged through EU comments on reports") was reportedly "fully achieved" as of September 30, 2015. The required reports from the Government of Romania on implementation of the Nitrate Directive for the 2004-2007 and 2008-2011 implementation periods were submitted on time and accepted by the EU Commission's Environment Directorate. More specifically, the progress made on Nitrate Directive compliance in the areas originally designated as NVZs was acknowledged. According to the Nitrate Directive, the member states must implement action programs developed for water protection against pollution with nitrates from agriculture in the areas originally designated as NVZs.

Rating

Substantial

5. Efficiency

The PAD (paras. 63-65, pp. 23-24) undertook a cost-effectiveness analysis "where appropriate" together with a financial analysis to assess the affordability of waste platforms, rural water infrastructure, and biogas digestion. According to this analysis, the cost-effectiveness ratios for livestock and household waste management and afforestation varied between US\$ 10 and 40 per kilogram (kg) of Nitrogen. When compared with observed ratios for the Chesapeake Basin in the United States and EU countries, they were found to be similar. For water and sanitation investments, it was expected that systems for communes with at least 4,000 people (but not smaller ones) were likely to be cost-effective. The PAD assumed that financial sustainability of the project would be assured because the operational costs of the manure management platforms and the maintenance costs of the sewage plants would be covered by the beneficiary communes.

The ICR (paras. 53-55, pg. 16), in turn, argued that the project had "achieved clear benefits towards addressing key elements in nutrient pollution control in Romanian water and the Black Sea from poor agricultural practices in the Danube Basin." The estimated cost-effectiveness ratio of project investments in manure storage platforms (including equipment) was US\$ 33.6 per kg of Nitrogen, which was within the range anticipated at the time of appraisal. However, an indicative cost-benefit analysis concluded that, taking ecosystem service, health, and global benefits into account, the internal rate of return (IRR) of the project was in the range of -5 to 5 percent. On the other hand, it argued that "if total benefits of the project are approximated by the penalties [i.e., Government fines] for discharging nutrients in waters causing pollution over the maximum admissible concentrations, annual benefits in terms of avoided penalties could increase the IRR up to 13 percent." However, it is important to point out that avoided penalties do not represent an economic benefit, but rather a financial transfer. Neither of these IRR rates (i.e., -5 to 5% and 13%) are reproduced below because no such estimates were made at the time of appraisal. In terms of financial sustainability, a mid-term survey found that farmers were not yet willing to pay for manure management, which is not surprising given the price of Nitrogen, although they were ready to pay for the sewage systems at an amount similar to that charged for similar systems elsewhere in the country. It is not clear whether further analysis will be undertaken once the project is completed and all investments are in place and fully operational.

Efficiency Rating

Modest



- a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal		0	0 <input type="checkbox"/> Not Applicable
ICR Estimate		0	0 <input type="checkbox"/> Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

The relevance of objectives and of design are both rated Substantial, as is project efficacy for all four objective. This is based on project performance at the time the ICR was drafted. In particular, there is efficacy evidence of reduced nutrient load discharge to water bodies, a key aim of the project. However, project efficiency is rated Modest due mainly to modest rates of return and still limited willingness to pay for manure management. As this project is still undergoing implementation and together with its Additional Financing will be subject to another ICR review once it is completed, there may be further progress, At present the project is rated Moderately Satisfactory.

- a. Outcome Rating
Moderately Satisfactory

7. Rationale for Risk to Development Outcome Rating

As an EU member state, Romania is obliged to comply with the EU Nitrated Directive and the projects appears to have made considerable progress toward meeting this requirement. The project has also been instrumental in helping farmers to avoid being penalized for non-compliance with requirements for obtaining EU financial support for their agricultural activities. In addition, significant capacity building has taken place under the project, which should help to lessen future risks to development effectiveness, although financial sustainability of the manure management platforms is apparently a concern, which is particularly serious since this seems to constitute the lion's share of the project's investments. As the project was not yet completed at the time the ICR was issued, it (para. 81, pg. 20) also identified, without providing details, "a risk that political and governance factors" could trigger implementation delays before the revised project end date. However, as the closing date has been further extended to March 2022, this particular risk, as it applies to the investments covered by the original project (i.e., the project prior to approval of the Additional Financing in March 2016), is now likely to be negligible. According to the project team in a meeting with IEG in August 2016, the AF includes support for measures to generate income from composting, fertilizer development and sale, as well as biogas production, which it is expected to increase farmer willingness to pay for manure management and fees for the collection of manure will also be progressively introduced over time.

- a. Risk to Development Outcome Rating
Modest

8. Assessment of Bank Performance

- a. Quality-at-Entry
Quality of entry was good. The project was generally well-prepared and lessons learned from similar nutrient management operations, including a previous GEF-supported pilot project in Calarasi, Romania, were incorporated into project design. Some risks, however, were underestimated, particularly the complexity of permitting requirements, although others (the high turnover of PMU staff due to a budget freeze at the beginning of project implementation and changes in government procurement requirements, which also contributed to the



substantial delays), could not have been anticipated.

Quality-at-Entry Rating
Satisfactory

b. Quality of supervision

Bank supervision was likewise generally positive. The project was supervised through semi-annual and annual (2010 and 2011) missions, and both the supervision budget (Bank administrative and GEF resources) and staffing appear to have been adequate. The Bank team seems to have helped the borrower to address persisting procurement issues, as well as to ensure adequate financial management and safeguard compliance. Implementation-related issues were reportedly raised and addressed in a timely manner.

Quality of Supervision Rating
Satisfactory

Overall Bank Performance Rating
Satisfactory

9. Assessment of Borrower Performance

a. Government Performance

Government commitment to project objectives and design was strong, given its desire to comply with EU accession requirements, including compliance with the EU Nitrate Directive. However, budgetary shortfalls and changes in national procurement procedures contributed to significant initial project implementation delays.

Government Performance Rating
Moderately Satisfactory

b. Implementing Agency Performance

Implementing agency performance was adversely affected by high turnover in PMU staff during the early stages of project implementation, generating the need to hire and train additional staff, which contributed to the observed delays. According to the ICR (para. 89, pg. 22), the slow-down in the construction permit approval process suggested the existence of coordination problems between the national and commune levels in order to "facilitate a more effective permit allocation process." However, despite these shortcomings, agency performance was generally positive, and the PMU in the Ministry of Environment, Water and Forests (MEWF) was judged to have been "very effective...in guiding beneficiaries through the investment tendering and application processes."

Implementing Agency Performance Rating
Moderately Satisfactory

Overall Borrower Performance Rating
Moderately Satisfactory

10. M&E Design, Implementation, & Utilization

a. M&E Design

The project established an outcome and results monitoring framework linked to the Ministry of Environment, Water, and Forests' (MEWF's) system for reporting on use of EU funds and progress with respect to its environmental requirements. M&E was the



responsibility of the PMU, which had already accumulated experience in this regard during the implementation of the prior GEF pilot project. The initial project design contained four PDO and one GEO outcome indicators, as well as numerous intermediate outcome indicators, which reflected well the project's expected outputs and results. Two other PDO indicators were added later.

b. M&E Implementation

For reasons that are not entirely clear, several of the original results indicators were not tracked and reported on in the Implementation Status and Results (ISR) reports. The ICR (para. 31, pg. 10) observes only that "they were no longer deemed necessary to track progress towards achieving project activities." Data to track indicator progress was nevertheless reportedly procured from various data sources, including baseline, mid-term, and other surveys contracted by the PMU. Water quality data was collected by ANAR in order to estimate nutrient concentrations in water bodies. ANAR also collected relevant data from other agencies, including the Public Health Authority and the Environmental Protection Agency (EPA), which contributed to the monitoring network required to complete the necessary project data collection needs. Social impacts were also monitored through periodic surveys, which included beneficiary assessment modules.

c. M&E Utilization

The M&E data reportedly facilitated the assessment of project progress and provided the basis for guiding improvements to project implementation. According to the ICR (para. 34, pg. 11), for example, "through the process of implementing individual farm platforms, the PIU learned that too much customization further slowed down the installation of the manure platforms, reducing the number of beneficiaries that could be reached." Thus, M&E appears to have contributed positively both to project management and its effectiveness.

M&E Quality Rating
Substantial

11. Other Issues

a. Safeguards

The project was classified in Category B for safeguard policy purposes and triggered OP/BP 4.01 (Environmental Assessment) and OP/BP 7.50 (International Waters) given that it was expected to impact both the Danube River and Black Sea, even though no major environmental issues were envisaged. Possible localized impacts, however, were identified in the PAD (para. 76, pg. 27) as leakage of manure from the village-level storage facilities if construction were not up to standards, inappropriate manure spreading in the fields, and improper cleaning of individual manure storage bunkers and large manure platforms. During preparation a review was made to determine local procedures for environmental review and the issue of permits and to identify mitigation measures, which were included in a publicly disclosed Environmental Management Plan (EMP). A social analysis was also carried out during project preparation, but no social safeguard policies were triggered, and project impacts on international waters were expected to be positive.

The ICR (para. 37, pg. 12) affirmed that "most of the technical/engineering aspects related to the environmental protection and mitigation measures implemented under the project are in line with the provisions of the Environmental Management Plans developed for each works contract, compatible with national and international practice and suitable for the types of work under implementation." These included specific mitigation measures both for environmental protection and worker health and safety. Bank safeguard specialists confirmed during supervision missions that no land acquisition or involuntary resettlement were necessary. In addition, a site-specific environmental impact assessment (EIA) for the biogas investment was prepared, approved by the PMU and sent to the Bank for its no objection. All project investments were reportedly implemented in compliance with Bank safeguard requirements and no significant environmental impacts were recorded.

b. Fiduciary Compliance

Financial Management (FM) arrangements were reported to have been satisfactory throughout project implementation to date. There were no outstanding audit or interim financial reports. Full-scope FM reviews were carried out annually, the most recent one prior to submission of



the ICR being in November 2014. The audit reports for 2014 were submitted in June 2015 by the agreed due date and with no internal control issues mentioned in the management letter.

Procurement experienced substantial delays during the early years of project implementation, due in part to significant PMU staff turnover. Despite these delays, which had a negative impact on overall project implementation and led to the need for two extensions of the closing date, the ICR (para. 40, pg. 12) affirms that institutional arrangements for procurement were "consistently assessed as being adequate and procedures well-implemented," according to Bank supervision missions. On the other hand, it also observes (para. 26, pg. 9) that delays were caused in part by changes in government procurement procedures, requiring bids to be approved at the highest level within the Ministry of Environment.

c. Unintended impacts (Positive or Negative)

d. Other

The ICR (paras, 63-66, pp. 17-18) identifies several other positive project impacts, specifically: (i) job creation for the poor in the construction, operation, and maintenance of manure management works, although it doesn't indicate how many such jobs were created; (ii) visible improvements in village sanitation and general hygiene, resulting in public health improvements including a lower reported incidences of acute infantile *methamoglobinaemia* (also known as "blue baby disease"); (iii) and even though the project did not have explicit gender or social inclusion aspects, some communes which had significant Roma populations benefitted from the project as a result of the extension of wastewater treatment under Component 1.

12. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Moderately Satisfactory	Moderately Satisfactory	---
Risk to Development Outcome	Modest	Modest	---
Bank Performance	Satisfactory	Satisfactory	---
Borrower Performance	Moderately Satisfactory	Moderately Satisfactory	---
Quality of ICR		Substantial	---

Note

When insufficient information is provided by the Bank for IEG to arrive at a clear rating, IEG will downgrade the relevant ratings as warranted beginning July 1, 2006.

The "Reason for Disagreement/Comments" column could cross-reference other sections of the ICR Review, as appropriate.

13. Lessons

The ICR contains a large number of lessons in a variety of areas including implementation, sustainability, M&E, capacity building, communications strategy, and technical aspects of investments and procurement. This, in fact, is one of its main strong points and should be of particular usefulness for the expanded project under the recently approved Additional Financing. Among the most important of these lessons are the following:

- 1 In an integrated nutrient pollution control project, longer term programmatic engagement is needed for sustained results.** In the present case, this started with the GEF pilot project in Calarasi and will continue through the extension and expansion of the present operation to cover the entire national territory over a period of two decades.
- 2 In a nutrient pollution control project, permitting requirements, land use regulations, and the investment approval process should be reviewed during project preparation and open lines of communication with the permitting bodies should be maintained during implementation.** The failure to do



this in the case of the present project was one of the main reasons for the delays experienced during implementation.

3 In reducing farm pollution it is important to ensure that groups or communes can sustain the operating and maintenance costs of investments. In this case, this is critical to ensure the continued use of investments such as the manure platforms and thus to ensure financial sustainability.

4 The sustainability of nutrient reduction monitoring and evaluation in a rural pollution control project should be ensured. Groundwater quality monitoring is a long-term activity. While an externally financed project may support this initially, it needs to become an integral part of the government's ongoing water quality monitoring program. This calls for adequate budgetary commitments to cover recurrent costs.

14. Assessment Recommended?

No

15. Comments on Quality of ICR

The ICR is well-written, straightforward, and of good quality. It provides a detailed account of project results and implementation problems to date. It also puts forward a number of lessons that should help to orient Bank and Borrower performance for the rest of the now substantially expanded spatial scope and time horizon of this project, as the result of the Additional Financing (AF) approved in March 2016, less than two months after the ICR was submitted. Its proposed ratings seem reasonable, but the ICR could have provided more information regarding the nature and quality of Bank performance, as well as with regard to possible risks to development effectiveness, especially in relation to the future financial sustainability of some project investments and the overall government budget situation considering that problems in this regard were among the elements that negatively affected project implementation and caused otherwise avoidable delays. A few areas required further clarification from the ICR team, which, for the most part, occurred in a meeting with the Task Team Leader and ICR author in August 2016. This meeting also permitted an updating of implementation and disbursement progress under the original project and on initial steps being taken with regard to achieving effectiveness of the AF. One remaining shortcoming, however, is that the ICR does not provide sufficient information regarding what types of "sustainable land management practices" have been adopted by participating farmers, to what extent this has occurred, and how they relate, if at all, to the increased investments for manure management, which was the project's most significant activity to date.

- a. Quality of ICR Rating
Substantial