

Document of  
The World Bank

Report No: ICR00002175

IMPLEMENTATION COMPLETION AND RESULTS REPORT  
(TF-58310)

ON A

GLOBAL ENVIRONMENT FACILITY TRUST FUND

IN THE AMOUNT OF US\$ 4.562 MILLION

TO

MOLDOVA

FOR AN

ENVIRONMENTAL INFRASTRUCTURE PROJECT

June 25, 2012

Sustainable Development Department  
Ukraine, Belarus and Moldova Country Unit  
Europe and Central Asia Region

## CURRENCY EQUIVALENTS

(Exchange Rate Effective November 30, 2011)

Currency Unit = Moldova Lei

MDL 1.00 = US\$ 0.085

US\$ 1.00 = MDL 11.8

## FISCAL YEAR

January 1 – December 31

## ABBREVIATIONS AND ACRONYMS

ACTD	Agency for Construction and Territorial Development
AS	Activated Sludge
BOD	Biological Oxygen Demand
BSAP	Black Sea Convention
CFAA	Country Financial Management Accountability Assessment
CSO	Customer Service Office
CW	Constructed Wetlands
DANCEE	Danish Cooperation for Environment in Eastern Europe
DO	Development Objectives
EAP	Environmental Assessment Program
EBRD	European Bank for Reconstruction and Development
FSU	Former Soviet Union
GEF	Global Environment Facility
GEO	Global Environmental Objective
GNP	Gross National Product
ICPDR	International Commission for Protection of the Danube River
IDA	International Development Association
IFR	Interim Un-audited Financial Report
IP	Implementation Progress
I-PRSP	Interim Poverty Reduction Strategy Paper
MAC	Moldova Apa Canal Association
MDL	Moldova Lei
MoE	Ministry of Environment
MSIF	Moldova Social Investment Fund
MENR	Ministry of Ecology and Natural Resources
MDG	Millennium Development Goals
MOAG	Ministry of Agriculture
MOH	Ministry of Health
N	Nitrogen
NGO	Non-Governmental Organization
O&M	Operations and Maintenance
OECD	Organization of Economic Co-Operation and Development
OP	Operational Policy
OSCE	Organization for Security and Cooperation in Europe

P	Phosphorus
PIU	Project Implementing Unit
PSP	Private Sector Participation
PWSSP	Pilot Water Supply and Sanitation Project
SBR	Sequencing Batch Reactor
SIL	Specific Investment Loan
STAP	Scientific and Technical Advisory Panel
USAID	United States Agency for International Development
UNECE	United Nations Economic Commission for Europe
VAT	Value Added Tax
WWTP	Wastewater Treatment Plant

Vice President: Phillipe Le Houerou

Country Director: Qimiao Fan

Sector Manager: Sumila Gulyani

Project Team Leader: Maria Angelica Sotomayor Araujo

ICR Team Leader: Sanyu Lutalo

**COUNTRY: MOLDOVA**  
**Project Name: Environmental Infrastructure Project**

**CONTENTS**

Data Sheet

- A. Basic Information
- B. Key Dates
- C. Ratings Summary
- D. Sector and Theme Codes
- E. Bank Staff
- F. Results Framework Analysis
- G. Ratings of Project Performance in ISRs
- H. Restructuring
- I. Disbursement Graph

1. Project Context, Global Environment Objectives and Design .....	1
2. Key Factors Affecting Implementation and Outcomes .....	2
3. Assessment of Outcomes .....	3
4. Assessment of Risk to Development Outcome.....	4
5. Assessment of Bank and Borrower Performance .....	4
6. Lessons Learned .....	5
7. Comments on Issues Raised by Borrower/Implementing Agencies/Partners .....	5
Annex 1. Project Costs and Financing.....	6
Annex 2. Outputs by Component .....	7
Annex 3. Economic and Financial Analysis.....	8
Annex 4. Bank Lending and Implementation Support/Supervision Processes .....	9
Annex 5. Beneficiary Survey Results .....	11
Annex 6. Stakeholder Workshop Report and Results.....	12
Annex 7. Summary of Borrower's ICR and/or Comments on Draft ICR.....	13
Annex 8. Comments of Cofinanciers and Other Partners/Stakeholders.....	14
Annex 9. List of Supporting Documents .....	15
MAP	

A. Basic Information			
Country:	Moldova	Project Name:	ENVIRONMENTAL INFRASTRUCTURE PROJECT
Project ID:	P074139	L/C/TF Number(s):	TF-58310
ICR Date:	05/25/2012	ICR Type:	Core ICR
Lending Instrument:	SIL	Borrower:	
Original Total Commitment:	USD 4.56M	Disbursed Amount:	USD 0.77M
Revised Amount:	Not Applicable		
<b>Environmental Category: B</b>		<b>Global Focal Area: I</b>	
<b>Implementing Agencies:</b> Agency for Construction and Territorial Development (ACTD) at approval; later transferred to Apele Moldovei, and then to the Ministry of Environment (MoE)			
<b>Cofinanciers and Other External Partners:</b> N/A			

B. Key Dates				
Process	Date	Process	Original Date	Revised / Actual Date(s)
Concept Review:	12/11/2003	Effectiveness:	09/28/2007	10/30/2007
Appraisal:	03/21/2007	Restructuring(s):		N/A
Approval:	05/29/2007	Mid-term Review:	12/15/2009	Not conducted <sup>1</sup>
		Closing:	12/15/2011	12/30/2010 <sup>2</sup>

C. Ratings Summary	
C.1 Performance Rating by ICR	
Outcomes:	Highly Unsatisfactory
Risk to Global Environment Outcome	Non evaluable <sup>3</sup>
Bank Performance:	Moderately Unsatisfactory
Borrower Performance:	Moderately Unsatisfactory

<sup>1</sup> A full mid-term review was not conducted due to the overall lack of implementation progress.

<sup>2</sup> The revised actual Closing date here reflects the date the project was cancelled and not an official closing date.

<sup>3</sup> The risk is non evaluable since there was no measurable Global Environmental Outcome.

<b>C.2 Detailed Ratings of Bank and Borrower Performance</b>			
<b>Bank</b>	<b>Ratings</b>	<b>Borrower</b>	<b>Ratings</b>
Quality at Entry:	Moderately Unsatisfactory	Government:	Moderately Unsatisfactory
Quality of Supervision:	Moderately Unsatisfactory	Implementing Agency/Agencies:	Moderately Unsatisfactory
<b>Overall Bank Performance:</b>	Moderately Unsatisfactory	<b>Overall Borrower Performance:</b>	Moderately Unsatisfactory

<b>C.3 Quality at Entry and Implementation Performance Indicators</b>			
<b>Implementation Performance</b>	<b>Indicators</b>	<b>QAG Assessments (if any)</b>	<b>Rating</b>
Potential Problem Project at any time (Yes/No):	No	Quality at Entry (QEA):	Satisfactory <sup>4</sup>
Problem Project at any time (Yes/No):	Yes	Quality of Supervision (QSA):	NA <sup>5</sup>
GEO rating before Closing/Inactive status	Highly Unsatisfactory		

<b>D. Sector and Theme Codes</b>		
	<b>Original</b>	<b>Actual</b>
<b>Sector Code (as % of total Bank financing)</b>		
Central government administration	4	4
Sewerage	96	96
<b>Theme Code (as % of total Bank financing)</b>		
Environmental policies and institutions	25	25
Pollution management and environmental health	50	50
Water resource management	25	25

<b>E. Bank Staff</b>		
<b>Positions</b>	<b>At ICR</b>	<b>At Approval</b>
Vice President:	Philippe H. Le Houerou	Shigeo Katsu
Country Director:	Qimiao Fan	Paul G. Bermingham
Sector Manager:	Sumila Gulyani	Sumter Lee Travers

<sup>4</sup> QAE was rated Satisfactory during the formal IEG assessment.

<sup>5</sup> A Quality Assessment of Lending Portfolio was conducted for the project for the period ending December 2009.

Project Team Leader:	Maria Angelica Sotomayor Araujo	Takao Ikegami
ICR Team Leader:	Maria Angelica Sotomayor Araujo	
ICR Primary Author:	Sanyu Sarah Senkatuka Lutalo	

## F. Results Framework Analysis

### Global Environment Objectives (GEO) and Key Indicators(as approved)

The key development objectives of the project are: (i) improve the quality of sanitation services in Soroca; (ii) reduce the discharge of pollutants, including nutrients, from Soroca municipal sources that flow into the Nistru River and, subsequently, into the Black Sea; and (iii) demonstrate and disseminate through feasibility studies and workshops, cost-effective and affordable technologies for municipal wastewater treatment for the potential benefit of similar projects for Moldova's existing wastewater treatment plants, for those towns in Moldova that have no wastewater treatment, and for the countries that drain into the Black Sea.

### Revised Global Environment Objectives (as approved by original approving authority) and Key Indicators and reasons/justifications

Not applicable.

#### (a) GEO Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
<b>Indicator 1 :</b>	Amount of wastewater treated in Soroca (%)			
Value (quantitative or Qualitative)	0	Target was not identified in PAD	N/A	0
Date achieved	05/29/2007	12/15/2011		12/30/2010
Comments (incl. % achievement)	The envisaged investments were not implemented. As a result, no wastewater is treated in Soroca (0% achievement) by the time project was cancelled (12/30/2010).			
<b>Indicator 2 :</b>	Potential replication of successful Soroca outcome, through incorporation of the technology in feasibility studies and possible implementation of such treatment schemes, subject to affordable financing to Moldova, Ukraine and other neighbouring countries.			
Value (quantitative or Qualitative)	No replication.	Successful project outcomes replicated in neighboring countries.	N/A	Not achieved.
Date achieved	05/29/2007	12/15/2011		12/30/2010
Comments (incl. % achievement)	Since the investments were not implemented in Soroca, this result was not achieved and the outcome was unsuccessful (0% achievement).			

**(b) Intermediate Outcome Indicator(s)**

<b>Indicator</b>	<b>Baseline Value</b>	<b>Original Target Values (from approval documents)</b>	<b>Formally Revised Target Values</b>	<b>Actual Value Achieved at Completion or Target Years</b>
<b>Indicator 1 :</b>	Disbursed amount of the constructed wetland construction contract.			
Value (quantitative or Qualitative)	0	100	N/A	There were no disbursements on the constructed wetland construction contract (0% achievement).
Date achieved	05/29/2007	12/15/2011		12/30/2010
Comments (incl. % achievement)	There wetlands were not constructed, however, the designs were prepared under a separate contract.			

**G. Ratings of Project Performance in ISRs**

<b>No.</b>	<b>Date ISR Archived</b>	<b>GEO</b>	<b>IP</b>	<b>Actual Disbursements (USD millions)<sup>6</sup></b>
1	02/07/2008	Satisfactory	Satisfactory	0.00
2	12/12/2008	Unsatisfactory	Unsatisfactory	0.74
3	11/18/2009	Unsatisfactory	Unsatisfactory	0.84
4	03/30/2010	Moderately Unsatisfactory	Moderately Satisfactory	0.86
5	01/30/2011	Highly Unsatisfactory	Unsatisfactory	1.09

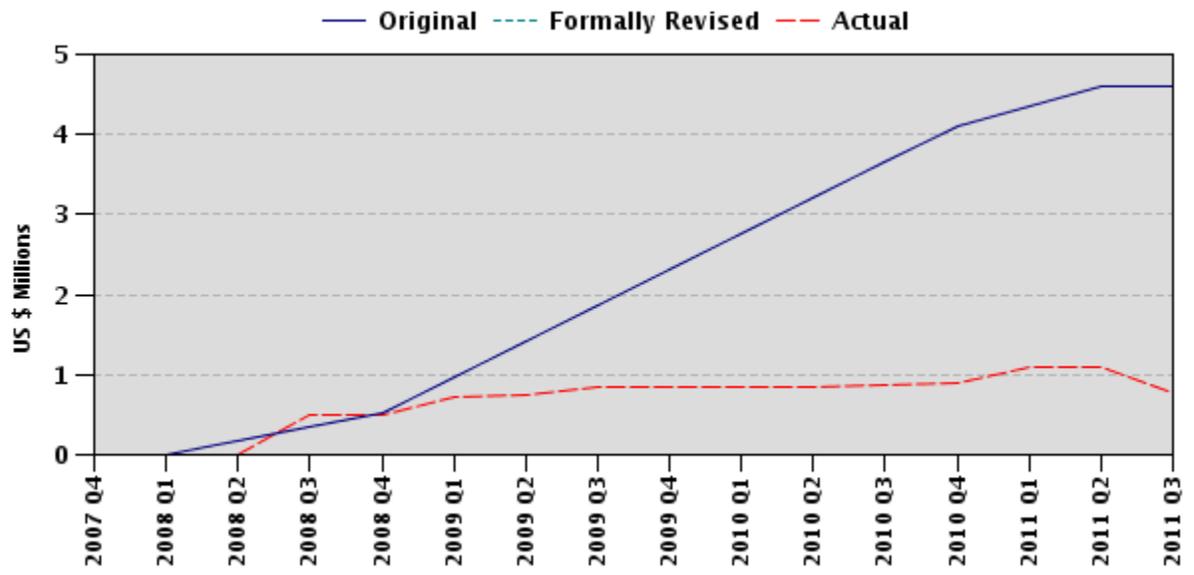
**H. Restructuring (if any)**

Not Applicable

---

<sup>6</sup> The amount indicated in this column as disbursements was automatically generated by SAP. It appears to have been based on commitments and not actual disbursements. There is therefore a discrepancy between the final amount provided in this column and the disbursement amount (US0.77 million) presented in Client Connection and the Portal, and corroborated by actual data from the contracts.

## I. Disbursement Profile



## 1. Project Context, Global Environment Objectives and Design

### 1.1 Context at Appraisal

**Country Background:** Moldova is a relatively small country in Eastern Europe, with a population of about 4.3 million people. It is one of the seventeen countries of the Black Sea basin. The country is mostly rural, about 60 percent of the population was living in towns and villages of fewer than 10,000 people and 20 percent in the capital, Chisinau, at the time the project was appraised. Like many other Former Soviet Union (FSU) nations, Moldova initially underwent a series of economic and social challenges during its transition to a market economy following independence in 1991. However, the economy registered a period of steady growth between 2000 and 2008, largely fueled by worker remittances from overseas. During this period the poverty rate halved from 70 to 35 percent. Nonetheless, with a per capita GNP of US\$ 720, Moldova was still the poorest country in Europe when the project was appraised in early 2007.

**Sector Background:** The Nistru River, which flows through Ukraine and Moldova to the Black Sea, is the main source of drinking water for Moldova and part of Ukraine. The Nistru faced environmental pressure from municipal and industrial point source pollution, as well as from agricultural non-point pollution when the project was identified. Heavy nutrient loads and loss of wetlands from these sources contributed to severe eutrophication of the Black Sea, once a rich regional fishing ground and tourism destination. A Trans-boundary Diagnostic Analysis (TDA) carried out earlier had estimated that Moldova accounted for about 2 percent of the Black Sea's nutrient load.

Key sector issues: Moldova inherited most of its water and sanitation infrastructure from the FSU. The quality and reliability of water and sanitation services had however deteriorated seriously due to ageing and under-maintained infrastructure. While about 80 percent of urban residents had access to centralized water supply and 63 percent to sewerage service, coverage in small and medium sized towns was much lower, at about 60 and 35 percent, respectively. Wastewater infrastructure in many areas had insufficient capacity and did not meet effluent standards. Of about 100 Wastewater Treatment Plants (WWTPs) in Moldova at the time, only four were able to meet required discharge standards. The sector also faced institutional and regulatory challenges that affected its operations and service delivery. Many Apa Canals, the local institutions responsible for provision of water and wastewater services, were weak and financially unviable. Most were unable to collect sufficient revenues to pay for adequate operations and maintenance, much less capital investments. Moreover, tariff setting was highly politicized and the sector lacked proper regulation.

Project area: The Municipality of Soroca, the project's primary target area, is a town of about 30,000 people, located on the west bank of the Nistru River, across the border with Ukraine. Soroca was one of five cities, including Orhei, Balti, Cahul, and Stefan Voda, that were benefitting from an ongoing Pilot Water Supply and Sanitation Project (PWSSP) approved by the Bank in 2003 to support the improvement and reform of

Moldova's water and sanitation sector. The Bank's active involvement in the sector aimed at reversing water quality deterioration, the threat to public health, and environmental deterioration.

The Soroca Apa Canal, owned by the Soroca Municipality, was responsible for its water supply and wastewater services. Like other areas in Moldova, the relatively high statistics for access to these services in comparison with many counties of similar income was in sharp contrast to the quality of delivery, with wastewater lagging far behind water supply. About 98 percent of the population had access to water supply and 63 percent were connected to the sewerage network. Soroca's sewer system was about 40 years old and had received little or no maintenance for many years. Several sections of its sewer system were near collapse. Prior to independence Soroca's wastewater had been treated at a WWTP located across the river on the Ukrainian side, and it was transferred to the Plant through an underwater pipeline which eventually failed. Construction of a new pipeline commenced but was never completed due to high costs, technical risks associated with the underwater crossing, and political uncertainties. Attempts to identify an affordable solution after access to that plant ceased were unsuccessful and Soroca's waste water was discharged untreated into the river.

Pollution from Soroca's waste discharge contributed to environmental degradation of a stretch of the trans-boundary Nistru River running 550 km downstream of the town before entering the Black Sea. There were several towns and cities, including the city of Odessa in Ukraine with a population of about a million people, which depended on the River for their water supply, and this upstream pollution was of serious concern to them.

**Rationale for Bank assistance:** The project was aligned with the Bank's Country Assistance Strategy (CAS) for Moldova, which assigned priority to the protection of the country's ecology and rich biodiversity from mismanagement of land resources, land based pollution, and impacts of the tourism industry. It was expected to leverage the Bank's on-going initiatives under the PWSSP by: (a) expanding and strengthening the physical and sector objectives of the PWSSP; (b) improving the probability of obtaining additional donor commitments; and (c) assisting Moldova in addressing the trans-boundary environmental problems with Ukraine and the Black Sea. The higher level objectives of the project were (a) to reduce the nutrient load of the Nistru River by reducing organic pollution from the Soroca municipal sewer system, and (b) improving the water quality of the Black Sea. It was therefore included under the Black Sea Danube Investment Fund for Nutrient Reduction, a Strategic Partnership between the World Bank and the Global Environment Facility (GEF) to reduce nutrient pollution in the Black Sea.

The project objectives complied with GEF eligibility criteria and its Operational Strategy for International Waters, as well as for the Water Body Based Operational Programme-8 (OP-8) through: (i) the focus on addressing specific impairments of the water body, such as reducing eutrophication or toxic substances on inland waters; and (ii) support for the learning process for countries to work cooperatively and collectively in addressing imminent threats to their trans-boundary water resources. The project also complemented an on-going Bank-GEF project for Agricultural Pollution Control, also part of the above-

mentioned Investment Fund, which aimed at reducing agricultural discharges of nutrients into local water bodies and ultimately into the Black Sea. It was envisioned to be a pilot that could be replicated in other parts of Moldova.

## **1.2 Original Global Environment Objectives (GEO) and Key Indicators**

The key development objectives of the project were:

- a) to improve the quality of sanitation services in Soroca;
- b) to reduce the discharge of pollutants, including nutrients, from Soroca municipal sources that flow into the Nistru River and subsequently into the Black Sea; and
- c) to demonstrate and disseminate through feasibility studies and workshops, cost-effective and affordable technologies for municipal wastewater treatment for the potential benefit of similar projects for Moldova's existing WWTPs, for those towns in Moldova that have no wastewater treatment, and for the countries that drain into the Black Sea.

The key indicators to measure achievement of the development objectives were:

- The reduction of biological and nutrient wastes discharged from Soroca; and
- The number of events for dissemination and replication of CW technology pioneered in Soroca.

Monitoring and performance indicators for the project were also to include:

- the volume of wastewater effectively treated before and after the project completion (m<sup>3</sup>/year);
- the reduction of pollutants (including suspended solids, BOD, and P and N nutrients), calculated as the difference between the pollutants discharged before and after the project (tons/year); and
- the number of proposed replications of the low-cost wastewater treatment technology in feasibility studies planned for Moldova and its neighboring countries.

## **1.3 Revised GEO (*as approved by original approving authority*) and Key Indicators, and reasons/justification**

The GEO was not revised.

## **1.4 Main Beneficiaries**

The primary beneficiaries of the project were the population of Soroca, which was expected to benefit directly in terms of improved quality of sanitation services, and indirectly from impacts of a less polluted Nistru River, such as reduced negative health impacts, aesthetic, and environmental benefits. Likewise, several downstream communities along the Nistru River, including Rezina, Ribnitsa, Dubasari, Criuleni, Grigoriopol, Tighina, Vadul-lui-Voda, Tiraspol, Slobozia, Dnestrovsk, Olonesti, and Odessa, with a combined population of 1.4 million, many of which depend on the Nistru river for their own water supplies, were expected to benefit from the improved water

quality protection of the river as a result of the reduced discharge of pollutants and nutrients from Soroca. Benefits in this regard entail, inter-alia, reduced operational costs for treating their drinking water and avoidance of potential negative health impacts.

## **1.5 Original Components**

The project had four main components:

**Component 1-A: Wastewater Management in Soroca (US\$7.89 million – 79.7% of project cost).** This component was to finance: (i) the rehabilitation of the wastewater collection system, necessary sewerage pressure pipelines and the construction of a wastewater treatment facility using constructed wetlands technology for the municipality of Soroca; and (ii) six months' operations of the facility in order to train the Apa Canal staff in the proper operations and maintenance of the facility. These activities were intended to support achievement of the first development objective of improving the quality of sanitation services in Soroca.

**Component 1-B: Engineering Consultant and TA (US\$1.48 million – 14% of project cost).** This component was to support: (i) engineering services for WWTP and sewer network design, procurement, supervision support, and six months' operational assistance for the WWTP; and (ii) feasibility studies for 10 towns and pre-feasibility studies for an additional 5 towns, including replication of constructed wetland system in the studies.

**Component 2: Dissemination and Replication Component related to Constructed Wetlands (US\$0.10 million – 1% of project cost).** This component was to target the dissemination of experience and knowledge obtained from operation of the new Soroca WWTP. This was considered of particular importance due to the pioneering nature of this GEF project, which could prove exemplary to many other WWTPs in Moldova and in Ukraine. To this end, the new operation building at the WWTP was to include facilities suited for seminars and workshops. The annual water monitoring workshops were expected to expand in scope and participation with the growing data base and with the progress of treatment of the Soroca wastewater. It was expected that the first annual workshop in year 3 would mainly have Moldovan participation; while the second annual workshop in year 4 would have Moldovan and Ukrainian participation, and possibly wider international participation in coordination with the Istanbul Commission.

**Component 3: Institutional Strengthening Component (US\$0.15 million – 1.5% of project cost).** This component was to finance: (i) the development of a communication strategy and capacity building for media campaign and community and civil- society outreach to prepare for the necessary increase of a sewage treatment surcharge; and (ii) Apa Canal staff training for operational efficiency improvements.

**Component 4: Project Management (US\$0.28 million – 2.8% of project cost).** This component was to support management and implementation of the project, including auditing services, by the PIU in the ACTD.

## **1.6 Revised Components**

The project components were not revised.

## **1.7 Other significant changes**

The main changes to the project during implementation related to two main aspects: (a) interruption of the implementation schedule due to the premature grant cancellation; and (b) changes in the implementation arrangements due to changes in implementing agencies.

a) Changes to the Implementation Schedule: The project was approved on May 29, 2007 with an original closing date of December 15, 2011. It became effective on October 30, 2007. The project's overall implementation schedule was reduced by almost twelve months due to cancellation of the GEF grant on December 30, 2010. The outstanding balance under the grant in the amount of US\$3,791,063.66 (about 83%) was subsequently reimbursed to the Bank in accordance with relevant Bank procedures. The grant cancellation was primarily due to the lack of implementation progress, especially with respect to construction of the constructed wetland WWTP in Soroca. Factors that contributed to that situation are discussed below in more detail under Section 2 – Key factors affecting implementation and outcomes.

b) Changes in Implementation Agency: The Project Implementing Unit (PIU), which was the same PIU managing the PWSSP, was under the overall responsibility of the Agency for Territorial Development (AFTD) under the Ministry of Construction and Territorial Development at the time of project approval. In December 2007 however, the Bank was informed that the PIU had been transferred to Apele Moldovei, AFTD's lawful successor for matters related to water supply and wastewater policy, and a state agency under the Law on Government. The Ministry of Environment and Natural Resources, which later became the Ministry of Environment, took over the project from Apele Moldovei in 2009. Although Apele Moldovei was transferred to the Ministry of Environment after changes in the Government structure, the Ministry of Environment was legally responsible for the project, with the PWSSP and project PIU reporting directly to the Minister. This change necessitated changes in some of the key personnel responsible for the project.

## **2. Key Factors Affecting Implementation and Outcomes**

### **2.1 Project Preparation, Design and Quality at Entry**

Assessment of Project Design: The project design was sound in principle, and the appraisal process duly considered relevant technical, economic, financial, and environmental aspects. The development objectives were strategically relevant to the country and regional priorities of finding cost-effective ways of treating wastewater, and reducing nutrient pollution in the Black Sea, respectively. As noted in the official QAG QAE assessment, areas of strength during preparation related to design and

implementation aspects including, the choice of technology and the inclusion of a replication strategy from the outset, as well as the use of the PIU from the previous water sector project instead of creating a new one. Several important lessons from earlier operations were taken into account, including the importance of selecting a treatment technology that would be both within the limits of affordability and willingness to pay by the local Soroca community, as well as technically appropriate for Soroca Apa Canal to operate in a sustainable manner.

The choice of technology for wastewater treatment using constructed wetlands (CW) was based on a Least Cost Analysis, considering three other technically feasible design options: (a) Activated Sludge, (b) Extended Aeration, and (c) a Sequencing Batch Reactor. According to the PAD, the proposed CW technology, which was the least cost investment, though a relatively new<sup>7</sup> technology, had been proven elsewhere to be favorable for small cities and communities where sufficient land was available. It seemed ideal since at the time it was indicated that ten hectares of land was available for a WWTP in Egoreni Commune, about four kilometers from Soroca, which would have been sufficient to accommodate the wetlands. Moreover, according to the economic and financial analysis the CW technology was more economical to operate mainly due to the considerably lower associated energy costs, hence would be more affordable to users than the conventional treatment options. According to the analysis, with an Activated Sludge system Soroca Apa canal would have had to raise its domestic water tariff by an estimated 170 percent. This was an important consideration for Soroca which had a significant poor population, including a significant Roma community. Social analysis under the project focused more on the affordability aspects, but did not adequately address issues of acceptability of the new low-cost technology in the Moldovan context.

The CW technology was new to Moldova which had been accustomed to conventional highly inefficient wastewater treatment plants from the former Soviet legacy. Several stakeholders had strong reservations on its suitability, and there was a general perception of the technology as being inferior to other technologies. This perception persisted throughout the project's life, and was repeatedly brought up by various stakeholders at local and central government levels. An interesting consideration concerning this issue in the Moldovan context is the contrast with a similar project in the city of Orhei, involving a similar CW technology for WWTP, financed through a European Union (EU) grant executed by the World Bank. Surprisingly, the Orhei project has not experienced the opposition that the Soroca one did, and it is being implemented with support from stakeholders at all levels. Reasons for the differences between the two cases remain unclear.

A formal Quality Assessment of Lending Portfolio (QALP-2) was also conducted by IEG for the project for the review period ending December 2009. Interestingly, that assessment rated the quality of project design as moderately unsatisfactory. The main

---

<sup>7</sup> According to the PAD, the technology had been developed during the past two decades.

reasons given for the unsatisfactory rating were linked to weaknesses in the monitoring and evaluation (M&E) arrangements and in analysis of the financial and economic aspects.

Adequacy of Government's Commitment: According to the PAD, one lesson drawn from earlier operations was the importance of creating client ownership at all levels of Government by preparing the project in close collaboration with local stakeholders, and ensuring total commitment by the Ministry, Apa Canals, and Municipal Governments. Central government, represented by the Agency for Construction and Territorial Development (ACTD)'s commitment during project preparation appears to have been adequate as demonstrated by its overall collaboration with the Bank throughout the preparation phase to complete required procedures. ACTD took a lead in project preparation and both the Agency and the Soroca Apa Canal were consulted on the project and involved in the decision-making process concerning the choice of treatment technology. Public consultations involving the Egoreni commune residents were also conducted by the Bank's Environmental and Social Specialists. One key factor relating to government commitment was the lack of a strong local champion for the project.

Assessment of Risks: While the team identified in the PAD several important risks to implementation and measures to mitigate them, several critical risks that ultimately impeded project implementation were not addressed. First, the risk of stakeholders opposition to the location of the proposed CW in their territory was not identified. Secondly, the risk of objections to the choice of technology was not highlighted as an issue, yet it had been the subject of much contention and discussion during preparation. Although some consultations on the project were conducted in the context of the EIA public consultation process, the importance of these issues seems to have been underestimated. Finally, risks relating to the land transfer and registration process not being concluded were not highlighted. It however appears the issue was somewhat anticipated hence the team's decision to make provision of satisfactory evidence of completion of the process a condition of effectiveness and later of disbursement.

As a condition for negotiations the Government confirmed that the Commune of Egoreni local council took a decision on March 30, 2007 to unconditionally transfer a selected land of 10 hectares for the construction of the WWTP for the town of Soroca. The Government specifically agreed during negotiations to provide the Bank with (i) a copy of cadastral documentation that registers the said land to the ownership of Soroca by May 22, 2007; and (ii) a copy of the resolution of the council of the town of Soroca transferring the property of the 10 hectares to the Soroca Apa Canal so that the enterprise could construct the facility on the said land. Although satisfactory evidence was in fact provided, disputes and opposition to use of the land for the project reemerged during implementation.

## 2.2 Implementation

A number of issues, several of which were not entirely new, emerged during implementation and contributed to the project's ultimate outcome. The main issues are outlined below:

Implementation delays due to lack of consensus on the choice of technology: Objections to the choice of the CW technology, from various stakeholders, including the Center for Preventive Medicine (CFPM), the Building Permit Authority, Apele Moldovei, and the Ministry of Construction, led to substantial implementation delays. Key concerns related to the technology's operational efficiency and capacity to meet locally required norms and standards for wastewater discharges, environmental issues such as sludge management and mosquito proliferation, and potential impacts on the River Nistru. A substantial amount of time was spent by the Bank team and stakeholders discussing the merits of the technology vis-a-vis the conventional wastewater treatment alternatives considered for Soroca. The Bank organized two demonstration study tours to successfully operating CW wastewater treatment plants in Italy and France. The first study tour, to Italy, was financed through an ECA Innovation grant in June 2009. It was however not attended by any representatives from the Government, apparently due to failure to obtain visas in a timely manner. The second study tour, held in March 2010, was financed from the GEF grant, and was attended by a high level delegation comprising the Minister of Environment and representatives of the Ministry of Environment, CFPM, Mayors of Soroca and Orhei Municipalities and management of Apa Canals, academia, and the PIU, accompanied by the Bank's Operations Officer based in Chisinau. No representatives of Egoreni village participated in either study tour. The latter study tour appears to have convinced the participants of the merits of the technology, and a formal report was submitted by the participants to the Prime Minister's office, in support of the CW technology. After several targeted follow up meetings and workshops involving the Bank and Moldovan stakeholders to discuss the issue, the Government officially wrote to the Bank on December 11, 2009 confirming its support to continuing the project.

Stakeholder objections to proposed site: There was strong opposition from the local Egoreni commune mayor, to location of the CW for Soroca municipality in his village, citing apparent concerns with its impacts on the area's tourism potential. The land was supposed to have been transferred to Soroca municipality as a condition of negotiations for the grant. As mentioned above, that transfer of the land ownership from Egoreni Commune to Soroca Municipality was based on a Local Council decision issued by the Egoreni Commune on March 30, 2007. According to the land cadastre, 15 ha of the land had been designated earlier for construction of a WWTP. The Mayor of Egoreni signed the Decision of Egoreni local council on the land transfer. It was however brought to the attention of the Bank team during preparation of the CW design that construction could not proceed because there were apparent irregularities with the land registration and titling process. This raised questions on the credibility of the evidence provided by Government concerning the legal status of the land as a condition of effectiveness.

The Bank raised the issue with the Government and sent a notice threatening suspension of disbursements on July 5, 2010 with a deadline of July 31, 2010, informing them that the project would not proceed unless: (a) Egoreni village agreed to construction of the CW; (b) the legal status of land ownership and land titling for the land plot assigned for the CW plant was clarified; and (c) a formal agreement was concluded between the town of Soroca and Egoreni village committing both parties to future unimpeded implementation of the project. The Government responded to the Bank on July 31, 2010 stating that Egoreni village authorities had maintained their unfavorable position on the matter, and requested additional time to try to resolve the issue with the local authorities. The Bank provided thirty more days, which unfortunately didn't yield a positive response, leading to the decision to suspend disbursements and subsequently to cancel the project.

Land Acquisition issues: Issues relating to the land ownership and transfer process have been discussed above. Despite all efforts to resolve the land transfer issues in a satisfactory manner, as already described, the Egoreni Commune continued to oppose use of the land for the CW construction.

Changes in Implementing Agency: Transfer of the PIU from ACTD to Apele Moldovei and later to the Ministry of Environment, with associated changes in skills and levels of commitment to the project, affected implementation. Some of the new key personnel responsible for the project were opposed to the project, which affected the level of commitment and support to the project as a whole.

Political Issues: Changes in the local political landscape after elections that occurred during the course of project implementation, and subsequent differences in political priorities and motivations of key stakeholders, led to a lack of adequate commitment to and/or support for the project by these stakeholders, which had an impact on the project. The issue of opposition to the technology choice, which had appeared to have been resolved by appraisal, was resurrected after the project was transferred to Apele Moldovei, and after changes in key personnel from different political parties from the mayor following elections, which could suggest some political motives. According to available documentation, Apele Moldovei sent a letter to Government requesting it to finance instead a conventional WWTP based on the so called Checzech technology, which was being installed in parts of Moldova by a particular company. Its request was to either use the proposed alternative or combine it with the CW for tertiary level treatment or polishing of the wastewater. It is unclear whether cost-efficiency considerations were assessed for this method. The ICR has not addressed the merits of the proposed technology and there is no evidence whether it was seriously considered as an option. The new head of Apele Moldovei stopped implementation of the design contract in August 2008 with no apparent consideration for contractual breach. Implementation of this contract was only resumed in January 2010 after the Government officially informed the Bank that it was interested in proceeding with the project in December 2009.

Disbursement Suspension and Cancellation: Implementation of the project ultimately ceased following suspension of disbursements and ultimately cancellation of the project about a year before the closing date, with the project having failed to make any

meaningful investments apart from the CW designs. It was therefore unable to achieve any of the intended outcomes.

### **2.3 Monitoring and Evaluation (M&E) Design, Implementation and Utilization**

M&E design: The M&E process under the project was designed before the Bank introduced the more rigorous approach to results monitoring. Nonetheless, the results framework was weak and both the QAG QAE and QALP-2 cited this problem. While baseline values were identified for instance for the indicator concerning the amount of wastewater treated, no clear targets were identified. In addition, no indicators were included to measure certain aspects of the PDO for instance on improving the quality of sanitation services in Soroca. M&E of project results and outcomes during implementation was to be carried out in conjunction with that for the Pilot Water Supply and Sanitation Project, which had a proven capacity for producing timely data. The PIU was to collect and present data, results, and reports for review by the Bank team during supervision missions. On the Bank side, the project was to be closely monitored through the supervision missions to be carried out at least biannually.

M&E Implementation: Since the project did not support any significant investments M&E during implementation was very limited and the team's focus was mainly on trying to resolve the issues affecting implementation progress. None of the project results indicators were achieved since no investments were implemented.

### **2.4 Safeguard and Fiduciary Compliance**

The project triggered Bank Safeguards Policies on Environmental Assessment (OP 4.01) and Projects on International Waterways (OP 7.50).

Environmental Assessment (OP 4.01): The project was rated an Environmental Category B according to OP 4.01 guidance, and project design took into account and included procedures and implementation arrangements to ensure full consideration of environmental safeguards in accordance with the OP. Envisaged project impacts and mitigation measures to avert negative ones were addressed and public consultations were duly conducted as part of the EIA process. They targeted the local administration in Soroca, public health and environmental inspectors, water consumers living in the municipality, representatives of ethnic communities including Roma communities in the area, NGOs, and local business operators. Issues discussed focused on general aspects of the project including its design and implementation, expected impacts, and risks. Issues concerning the location of the CW and the choice of technology were also discussed as part of the EA. It was therefore surprising that these issues were later brought up by some key stakeholders, including the Egoreni village authorities and some central government agencies.

Due diligence on the issue of land ownership was conducted during appraisal, and resolution of land ownership issues was a condition of grant effectiveness. While

documents confirming resolution of the issue were submitted to confirm the government's compliance with the conditions of effectiveness, apparent politically motivated disputes concerning the land use for the WWTP emerged during implementation leading to local opposition to the project, ultimately contributing to the cancellation of the project.

Projects on International Waterways (OP 7.50): The project was assessed as falling within the exception to the notification requirement under this policy which applies for any ongoing schemes, projects involving additions or alterations that require rehabilitation, construction or other changes that in the judgment of the Bank (i) would not adversely change the quality or quantity of water flows to the other riparians; and (ii) would not be adversely affected by other riparians possible water use. In this case an exemption was granted because it was deemed that in reducing the discharge of untreated sewage to the Nistru River the project would have a positive impact on the quality and quantity of water in the river and the Black Sea.

Procurement: The PIU, overseen by ACTD and later by Apele Modovei and the Ministry of Environment, was responsible for procurement under the project. There was only one contract procured under the project, the contract for detailed design of the wastewater investments. Procurement arrangements were carried out in accordance with Bank Procurement Guidelines as outlined in the Grant Agreement, and reviewed periodically as part of Bank supervision. Apart from the obvious lack of adherence with the Procurement Plan due to the implementation issues the project was facing, procurement procedures under the project, where implemented, were otherwise satisfactory.

Financial Management: The PIU was responsible for the Financial Management (FM) function under the project. FM arrangements under the Project were reviewed periodically as part of Bank supervisions and found to be satisfactory. After the grant was cancelled, a waiver was granted for the FY2010 audited Entity financial statements since no investments were carried out and no goods procured and transmitted to Soroca Apa Canal. Otherwise, there were no major FM issues.

## **2.5 Post-completion Operation/Next Phase**

This section is not applicable since all the key investments envisaged under the project were not implemented.

## **3. Assessment of Outcomes**

### **3.1 Relevance of Objectives, Design and Implementation**

The relevance of the PDOs as defined in the PAD was high. The PDOs, as discussed above, were in line with Moldova's development priorities at identification and appraisal. At the time of preparing this ICR, the priorities remain relevant and the PDOs remain in line with one of the pillars of Moldova's Joint World Bank-IFC Country Partnership Strategy for the 2009-2012 period, which focuses, inter alia, on minimizing social and

environmental risks. Environmental degradation, including through surface water pollution from runoff and lack of sustainable waste management, is recognized in the CPS as a significant challenge facing the country. The PDO concerning improving the quality of sanitation services in Soroca is also indirectly in line with the Millennium Development Goal (MDG) of ensuring environmental sustainability by improving access to sanitation facilities. Finally, it would contribute to the regional priority of reducing pollution of the Black Sea.

The project complied with the GEF eligibility criteria and its Operational Strategy for International Waters, as well as for the water body based Operational Programme-8 (OP-8) through its focus on addressing impairments of the water body, such as reducing eutrophication or toxic substances on inland waters; and its support for the learning process for countries to work cooperatively and collectively in addressing imminent threats to their trans-boundary water resources.

### **3.2 Achievement of Global Environmental Objectives**

(a) GEO 1 - Improving the quality of sanitation services in Soroca.

The project did not achieve the intended GEO since critical investments in wastewater collection and treatment in Soroca, including rehabilitation of the wastewater collection system and construction of the WWTP, which were supposed to contribute to its achievement were not realized.

(b) GEO 2 - Reducing the discharge of pollutants, including nutrients from Soroca municipal sources that flow into the Nistru River, and subsequently into the Black Sea.

The project did not achieve the second GEO either because the WWTP which was designed to reduce the discharge of pollutants, including nutrients from Soroca municipal sources into the Nistru River was not constructed.

(c) GEO 3 - Demonstrating and Disseminating through feasibility studies and workshops, cost-effective and affordable technologies for municipal wastewater treatment for the potential benefit of similar projects for Moldova's existing wastewater treatment plants, for those towns that do not have wastewater treatment and for other countries that drain into the Black Sea.

The project was not able to achieve this GEO since it is primarily linked with achievement of the first two GEOs, which were not achieved due to failure to successfully implement investments under Component A.

### **3.3 Efficiency**

The project was highly inefficient since it did not achieve the project objectives and there were no benefits. The ICR has therefore made no attempt to carry out an economic analysis of the project.

### **3.4 Justification of Overall Outcome Rating**

Rating: *Highly Unsatisfactory*

Although the project was relevant at appraisal and remains relevant in terms of national priorities for reducing environmental risks and regional priorities for reducing pollution of the Black Sea, its outcome is rated ‘highly unsatisfactory’ given its failure to achieve all of its intended GEOs, and its subsequently high inefficiency.

### **3.5 Overarching Themes, Other Outcomes and Impacts**

#### **(a) Poverty Impacts, Gender Aspects, and Social Development**

The project had no significant poverty impacts since planned investments were not implemented. There is no evidence that it considered any gender aspects in design or implementation, and there is no evidence of any social development impacts.

#### **(b) Institutional Change/Strengthening**

The project’s third component (*Institutional Strengthening*) was designed to focus on two main issues: (i) developing a communication strategy and capacity building for a media campaign and community and civil society outreach to prepare for the expected increase of a sewage treatment surcharge; and (ii) Apa Canal staff training for operational efficiency improvements. Both of these activities did not take place prior to project cancellation, hence there were no associated intended outcomes.

#### **(c) Other Unintended Outcomes and Impacts**

Not applicable.

### **3.6 Summary of Findings of Beneficiary Survey and/or Stakeholder Workshops**

No beneficiary survey or stakeholder workshops were conducted for the project.

## **4. Assessment of Risk to Development Outcome**

Rating: *Non evaluable*

The risk to development outcome for this project is non evaluable given the fact that most key activities under the project were not implemented, and there was no discernible positive development outcome.

## 5. Assessment of Bank and Borrower Performance

### 5.1 Bank

#### (a) Bank Performance in Ensuring Quality at Entry

Rating: *Moderately Unsatisfactory*

Bank inputs and processes during preparation were adequate. The Bank preparation team consisted of fourteen staff who included a Sanitary and an Environmental engineer, a Social Development specialist, and several fiduciary specialists (Procurement and Financial Management). Preparation was conducted over a period of three years and five months between Project Concept Note review and Board approval. The team conducted technical, economic, and financial background analysis for project design in a satisfactory manner, leading to the recommended design alternative combining wastewater investments with institutional strengthening activities. The borrower's fiduciary capacity was adequately assessed, and a decision was made to implement the project through the existing PIU responsible for the PWSSP, which had adequate skills and experience.

Although the official QAG assessment rated Quality at Entry for the project as *Satisfactory*, the ICR in retrospect rates it *Moderately Unsatisfactory* because while certain aspects of project design were addressed in a satisfactory manner, there were significant shortcomings during identification, preparation, and appraisal of the project that contributed to its undesirable outcome.

The formal quality at entry assessment for the project was undertaken in November 2007, before the project began to register any major problems. The ICR agrees with that assessment for instance in rating strategic relevance and approach, technical, financial and economic aspects, *Moderately Satisfactory*, while other quality dimensions were rated *Satisfactory*. The ICR however considers in retrospect that the risk assessment failed to identify and address risks to implementation due to the opposition to the choice of technology and issues of political support. These risks materialized during implementation and contributed to the unsatisfactory outcome of the project. The QAG assessment acknowledged key areas of strength as well as areas of the project design needing improvement. Areas of strength identified at the time mainly related to design and implementation aspects including, the choice of technology and the inclusion of a replication strategy from the outset, as well as the use of the PIU from the previous water sector project instead of creating a new one. Areas identified as needing improvement included the project's financial and economic analysis, the project's strategy for long-term sustainability, and the results framework.

Although Safeguards assessments, including the Environmental Assessment (OP 4.01), were conducted in accordance with relevant Bank procedures, it appears that the significance of the unresolved land acquisition issues concerning transfer and registration

of the land for the CW in Egoreni and its potential impact on the project were underestimated. The Social Analysis also failed to adequately focus on issues such as local acceptability of the technology, and focused mainly on issues of affordability and willingness to pay for the water and wastewater services in Soroca. The Communications Strategy should have been implemented in parallel with the technical design preparation and the broader stakeholder consultations at Soroca and Egoreni.

**(b) Quality of Supervision**

Rating: *Moderately Unsatisfactory*

The quality of project supervision carried out by the Bank is rated *Moderately Unsatisfactory* in light of shortcomings in the supervision which outweighed the strengths in affecting the project's outcome. Teams were adequately staffed. Given the nature of the operation, the skill mix usually included at least one Sanitary engineer and a Financial Specialist or Economist, joined by a field-based Bank Operations Officer who provided close continuous coordination and liaison with the client, and a Safeguards Specialist. Project supervision reports were generally well written and highlighted the key issues. Over the course of implementation the project had two Task Team leaders as a result of the normal reassignment process within the Bank, and continuity in project supervision was ensured through a joint handover mission and regular dialogue and consultation. Although the quality of supervision was satisfactory in terms of supervision of safeguards and fiduciary aspects, and in candor and quality of performance reporting, there were shortcomings, in particular in failing to implement timely proactivity measures to address the serious implementation issues the project faced.

Key issues impeding progress were identified as early as mid 2008 after a supervision mission during which it was found that the design contract for the CW had been terminated by the Director of Apele Moldovei. The PDO and implementation progress ratings were downgraded to *Unsatisfactory* in the next ISR dated December 12, 2008. The Bank considered cancellation of the grant due to the implementation impasse caused by the continued opposition to construction of the CW. A decision was however made to defer the proposed action until the next supervision mission with the expectation that the new government which at the time was expected to be in place after national elections scheduled for the following February (2009), would be able to resolve the issues. Unfortunately, the new administration only took office in September 2009, much longer than planned, and even when in place it was unable to resolve the issues. Throughout this period the team made efforts to try to address the problems the project was facing with Moldovan officials, through continuous dialogue, workshops, and two study tours organized to try to convince stakeholders of the merits of the proposed technology. The approach concentrated on insistence on the already agreed technology since there was no flexibility under the GEF grant to introduce another technology. In retrospect, the project could have been suspended at the point it was first suggested to management and not after three years of implementation as eventually happened.

### **(c) Justification of Rating for Overall Bank Performance:**

Rating: *Moderately Unsatisfactory*

The rating for overall Bank performance is based on combined assessment of the Moderately Unsatisfactory quality at entry and Moderately Unsatisfactory quality of supervision, and the unsatisfactory project outcome.

## **5.2 Borrower**

### **(a) Government Performance**

Rating: *Moderately Unsatisfactory*

The rating for government performance has been based on assessment of the performance of not just the central government, but also local government administrations involved in the project. Government performance is rated *Moderately Unsatisfactory* on the basis of its role during project preparation and implementation. Its performance during preparation is assessed as having been *moderately satisfactory*, but during implementation it is assessed as having been *moderately unsatisfactory* on balance.

Government's performance during project preparation was moderately satisfactory, considering that the project was the first operation of its kind in Moldova. The Government was supportive to the project overall and there was close coordination and dialogue between relevant central and local government officials and the Bank. It could however have pushed harder to ensure timely resolution of the land transfer and registration issues for the constructed wetlands from Egoreni Commune to Soroca Municipality prior to effectiveness.

During implementation, the Government's performance is assessed as having been unsatisfactory due to shortcomings in conducting their oversight role that either affected implementation or failed to adequately respond to the critical implementation issues that impeded progress and eventually led to its cancellation. The Government made several changes in the project implementing arrangements during the course of implementation. Changes in some government representatives' roles subsequently affected the pace of implementation progress. For instance, the new Minister of Ecology and Natural Resources raised concerns with the choice of wastewater treatment technology when he was appointed in mid 2008, contributing to further delays. Moreover, following elections in mid 2009, there were changes in the ruling party, in addition to the individual government personnel in the project's line of responsibility. Some of the individuals affected by the changes were allegedly politically motivated to oppose the project by discouraging support for it at the village level. Through the continued dialogue with the Bank team to reach a consensus and agree on a feasible way forward, a common position was eventually reached at the Government level concerning this issue leading to the temporary resumption of project implementation. Ultimately however, the project was cancelled due to failure of the Borrower to effectively resolve the land usage issues in Egoreni.

## **(b) Implementing Agency or Agencies Performance**

*Rating: Moderately Unsatisfactory*

PIU: The PIU carried out its roles during project preparation and implementation in a moderately satisfactory manner, despite issues that were sometimes beyond its control. Routine fiduciary and project management tasks for instance remained rated in the satisfactory range even when the project was facing major problems. The PIU however, could have been more proactive in facilitating consultations with stakeholders at the local or central government levels to resolve issues affecting implementation. There were however major issues at the level of the agencies overseeing the PIU, which affected overall implementation progress.

Other Implementing Agencies: During the course of implementation the PIU was transferred from ACTD to Apele Moldovei and later to the Ministry of Ecology and Natural Resources, changes that affected overall implementation. When responsibility for implementing the project was transferred to Apele Moldovei, the project did not receive adequate support from the Agency mainly due to the General Director's reservations with the project design. The Agency was subsequently not supportive of measures to try to move the project forward. It was for instance reluctant to participate in the first study tour organized by the Bank to demonstrate successful use of similar technologies elsewhere, or to support the implementation of a communications strategy to explain the recommended technology to the public. At one point the PIU Director was dismissed<sup>8</sup> and a new one was hired by Apele Moldovei without prior consultation with the Bank in breach of the terms of the Grant Agreement and the Project Operational Manual.

In the summer of 2008 the project stalled when the General Director of Apele Moldovei terminated the contract for design of the CW, allegedly pending further guidance from Government on the potential for implementation of a conventional WWTP in Soroca. This action caused project implementation to stall. Apele Moldovei subsequently failed to provide an Action Plan requested by the Bank, outlining the Government's plans for either restarting implementation or cancelling the project. After renewed efforts including continued dialogue, workshops targeting key stakeholders, and the second study tour in March 2010 to demonstrate the merits of CW, the Ministry of Environment and Natural Resources submitted an Action Plan to proceed with implementation to the Bank in December 2009.

## **(c) Justification of Rating for Overall Borrower Performance**

*Rating: Unsatisfactory*

Overall Borrower performance takes into consideration the performance of both the

---

<sup>8</sup> The reasons for this dismissal were linked to the PWSSP, which was managed by the same PIU. Nonetheless this situation affected the project.

Government and the Implementing Agencies', including the PIU and its oversight agencies, during project preparation and implementation, combined with the highly unsatisfactory project outcome. On the basis of the justification provided above, Borrower performance is rated Unsatisfactory.

## 6. Lessons Learned

- Risks related to the political economy of projects should be identified and realistically addressed during project preparation. Project preparation often focuses on conventional aspects such as technical design, economic and financial considerations, and safeguards issues, but does not adequately identify or confront the potential effects of the existing political economy on projects. Changes in the local political landscape and subsequently in key personnel following the national and local elections resulted in changing political priorities and motivations of key stakeholders. This contributed to the renewed opposition to the proposed technical design that ultimately led to the implementation impasse that ultimately led to the project's cancellation. The successful experience from the on-going Wastewater Project in Orhei<sup>9</sup>, another city in Moldova, based on a similar design approach and technology (CW), illustrates the fact that political support and commitment are critical to the success of a project. All stakeholders in Orhei were supportive of the project, and it appears that politics did not play a major factor in influencing motivations for or against the project. On the other hand, in the Soroca case, politics played a major role in influencing the final position, and although the project eventually had the support of central government and local government at the municipal level, strong opposition to construction of the new CW plant from the local commune mayor, apparently supported by some individuals from the opposition, led to the project's failure.
- The Bank should be proactive in making the decision to either withdraw from a project or adopt other alternative measures to change a project's course when it is recognized that critical implementation issues cannot be resolved in a timely manner. Despite the obvious lack of progress with respect to implementation of the wastewater management component, flagged to management by the team as early as January 2008 with a recommendation to consider cancelling the grant, a decision was made to defer the proposed action. At the time it was hoped that the new government - which incidentally was not yet in place and took much longer to elect than earlier envisaged - would be able to make requisite changes. The problems dragged on even after the new government was elected, and disbursements were only suspended in October 2010 after three years of implementation.

---

<sup>9</sup> The Orhei project is being financed through an EU grant supervised by the Bank.

- Willingness to adopt new appropriate low-cost technologies can take time even where technical and economic analysis is provided if they are perceived to be inferior. The proposed CW technology was new to Moldova, which had been used to the oversized former Soviet conventional WWTPs. The proposed technology was perceived as inferior and therefore unacceptable. Moreover, the Bank may face a reputational risk in appearing to be promoting and/or ‘overselling’ specific activities or technologies with strong resistance from critical stakeholders even where the activities may be technically and economically justified. In this case several clients referred to the proposed technology as “the Bank’s” technology which increases the Bank’s reputational risk.
- The importance of preparing a sound Results Framework comprising adequate indicators to capture key project outcomes, with baseline data and reasonable targets or a clear plan to obtain this data as soon as possible after the onset of implementation if not available, cannot be over-emphasized for good project design and implementation readiness.

## **7. Comments on Issues Raised by Borrower/Implementing Agencies/Partners**

### **(a) Borrower/implementing agencies**

### **(b) Cofinanciers**

There were no external co-financiers for the project.

### **(c) Other partners and stakeholders**

*(e.g. NGOs/private sector/civil society)*

## Annex 1. Project Costs and Financing

### (a) Project Cost by Component (in USD Million equivalent)

Components	Appraisal Estimate (USD millions)	Actual/Latest Estimate (USD millions)	Percentage of Appraisal
Component 1-A - Physical Investment	4.965	0	0
Component 1-B - Engineering Consultant and TA	0.100	0.076	76
Component 2 – Dissemination and Replication of CW	0.100	0	0
Component 3 – Institutional Strengthening	0.100		
Component 4 – Project Management	0.280		
<b>Total Baseline Cost</b>	<b>5.545</b>		
Physical Contingencies	0.00		
Price Contingencies	0.00		
<b>Total Project Costs</b>			
Project Preparation Facility (PPF)	0.00	N/A	
Front-end fee IBRD	0.00	N/A	
<b>Total Financing Required</b>	<b>5.545</b>	<b>0.076</b>	

### (b) Financing

Source of Funds	Type of Cofinancing	Appraisal Estimate (USD millions)	Actual/Latest Estimate (USD millions)	Percentage of Appraisal
Borrower	Counterpart Funds/In kind	2.13	0	0
GLOBAL ENVIRONMENT - Associated IDA Fund	Credit	3.21	0	0
Global Environment Facility (GEF)	Grant	4.56	0.77	16.9

## **Annex 2. Outputs by Component**

**Component 1-A: Wastewater Management in Soroca (US\$7.89 million).** This component was to finance: (i) the rehabilitation of the wastewater collection system, necessary sewerage pressure pipelines and the construction of a wastewater treatment facility using constructed wetlands technology for the municipality of Soroca; and (ii) six months' operations of the facility in order to train the Apa Canal staff in the proper operations and maintenance of the facility.

None of the planned investments were implemented.

**Component 1-B: Engineering Consultant and TA (US\$1.48 million).** This component was to support: (i) Engineering services for WWTP and sewer network design, procurement, supervision support, and six months' operational assistance for the WWTP; and (ii) Feasibility studies for 10 towns and pre-feasibility studies for an additional 5 towns, including replication of constructed wetland system in the studies.

The engineering consulting work for the WWTP, i.e., the constructed wetland and the sewer network was done. However supervision support and the six months operational assistance tasks under the same contract were not undertaken since investments were not implemented.

The feasibility studies for the 10 towns and pre-feasibility studies for the additional 5 towns were not prepared.

**Component 2: Dissemination and Replication Component related to Constructed Wetlands (US\$0.10 million).** This component was to target the dissemination of experience and knowledge obtained from operation of the new Soroca WWTP. This was considered of particular importance due to the pioneering character of this GEF project, which could prove exemplary to many other WWTPs in Moldova and in Ukraine. To this end, the new operation building at the WWTP was to include facilities suited for seminars and workshops. The annual water monitoring workshops were expected to expand in scope and participation with the growing data base and with the progress of treatment of the Soroca wastewater. It was expected that the first annual workshop in year 3 would mainly have Moldovan participation; while the second annual workshop in year 4 would have Moldovan and Ukrainian participation, and possibly wider international participation in coordination with the Istanbul Commission.

This activity was not implemented.

**Component 3: Institutional Strengthening Component (US\$0.15 million).** This component was to finance: (i) the development of a communication strategy and capacity building for media campaign and community and civil- society outreach to prepare for

the necessary increase of a sewage treatment surcharge; and (ii) Apa Canal staff training for operational efficiency improvements.

This activity was not implemented.

**Component 4: Project Management (US\$0.28 million).** This component was to support management and implementation of the project, including auditing services, by PIU in the ACTD.

Audit services amounting to about USD 90,000 were financed under this component.

### **Annex 3. Economic and Financial Analysis**

An economic and financial analysis has not been conducted at ICR stage given that none of the project benefits were achieved.

## Annex 4. Bank Lending and Implementation Support/Supervision Processes

### (a) Task Team members

Names	Title	Unit	Responsibility/ Specialty
<b>Lending</b>			
Takao Ikegami	Sr. Sanitary Engineer	ECSSD	Task Team Leader
Seema Manghee	Sr. Infrastructure Specialist	ECSSD	Task Team Leader
Klas Ringskog	Consultant	ECSSD	
Sandu Ghidirim	Project Officer	ECSSD	Operations Specialist
Delphine Hamilton	Sr. Program Assistant	ECSSD	Program Assistant
Ruxandra Floroiu	Environmental Engineer	ECSSD	Safeguards Specialist
Lucian Bucur Pop	Sr. Social Development Specialist	ECSSD	Social Specialist
Philip Moeller	Consultant	ECSSD	Social Specialist
Gucharan Singh	Sr. Procurement Specialist	ECSPS	Procurement Specialist
Dara Goldstein	Sr. Counsel	LEGEC	
Irina Babich	Financial Management Spec.	ECSPS	
Hannah Koilpillai	Sr. Finance Officer	LOAG1	Loan Officer
Arcadie Capcelea	Consultant	ECSSD	
Arben Bakllamaja	Consultant	ECSSD	Financial Analyst
<b>Supervision/ICR</b>			
Maria Angelica Sotomayor Araujo	Senior Economist	ECSS6	Task Team Leader
Konrad Buchauer	Consultant	EASIN	Technical Specialist
Arcadii Capcelea	Senior Environmental Specialist	ECSS3	
Kashmira Daruwalla	Senior Procurement Specialist	ECSO2	Procurement Specialist
Oxana Druta	Financial Management Analyst	ECSO3	
Ruxandra Maria Floroiu	Senior Environmental Engineer	ECSS3	Environmental Safeguards Specialist
Sandu Ghidirim	Operations Officer	ECSS2	
Takao Ikegami	Sr Sanitary Engineer	EASIN	Task Team

			Leader
Alexei Ionascu	Operations Analyst	ECSS5	
Galina S. Kuznetsova	Sr Financial Management Special	ECSS03	
Kishore Nadkarni	Consultant	ECSS2	Financial Analyst
Lucian Bucur Pop	Senior Economist	HDNSP	Social Safeguards Specialist
Klas B. Ringskog	Consultant	TWIWA	
Gurcharan Singh	Senior Procurement Specialist	TWICT	Procurement Specialist
Sanyu Lutalo	ICR Author	ECSS6	

**(b) Staff Time and Cost**

Stage of Project Cycle	Staff Time and Cost (Bank Budget Only)	
	No. of staff weeks	USD Thousands (including travel and consultant costs)
<b>Lending</b>		
FY02		66.73
FY03		95.47
FY04		84.52
FY05		146.57
FY06		42.98
FY07		102.69
FY08		0.84
	<b>Total:</b>	539.80
<b>Supervision/ICR</b>		
FY02		0.00
FY03		0.00
FY04		0.00
FY05		0.00
FY06		0.00
FY07		0.00
FY08		65.58
	<b>Total:</b>	65.58

## **Annex 5. Beneficiary Survey Results**

Not applicable.

## **Annex 6. Stakeholder Workshop Report and Results**

Not applicable.

## **Annex 7. Summary of Borrower's ICR and/or Comments on Draft ICR**

*(Translation of official letter from the Borrower's representative)*

Republic of Moldova  
Ministry of the Environment

No.06-07/736 of 07.05.2012

Ref.: letter dated 29.03.2012

Attn.: World Bank

Hereby, the Ministry would like to thank you for the support you provided to the Republic of Moldova to improve the water supply and sanitation conditions in the country.

Having perused the draft Report on the Completion of the Implementation of the Environment Infrastructure Project funded by the Global Environment Facility (GEF), in particular the chapter on the building of a ZUC-type water treatment station in the town of Soroca, we would like to let you know the following.

The blueprint for the water treatment plant in the town of Soroca was meant to be a state-of-the-art technology project with a potentially beneficial impact on improving the environment in general and on bettering the living conditions of the people residing in the town of Soroca and the village of Egoreni.

Despite the positive feedback and endorsement by the relevant central public authorities of the aforesaid blueprint, certain misunderstanding emerged locally, thus putting the whole project to a halt.

Given all of the above and having perused your draft Report, we would like to let you know that we have no comments on it. Looking forward to having a great future collaboration, sincerely yours,

Gheorghe Salaru  
Minister

**Annex 8. Comments of Cofinanciers and Other Partners/Stakeholders**

Not applicable.

## **Annex 9. List of Supporting Documents**

- Joint World Bank-IFC Country Partnership Strategy for Moldova for FY09-12
- Country Partnership Strategy for Moldova for the FY05-08
- Project Information Document
- Project Integrated Safeguards Data Sheet
- Project Appraisal Document
- Environmental Impact Assessment
- Environmental Management Plans
- GEF Grant Agreement
- Aide Memoires
- Implementation Status Reports
- Quality Assurance Group (QAG) reports
- Project correspondence (letters, memos, etc)

