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PROJECT PERFORMANCE ASSESSMENT REPORT

ROMANIA

BUCHAREST WATER SUPPLY PROJECT

(LOAN 4079-RO)

June 9, 2003

*Sector and Thematic Evaluation Group
Operations Evaluation Department*

Currency Equivalents (Effective November 25, 2002)

Currency Unit: Leu (ROL)

ROL 1,000,000 = US\$ 30.0
US\$1 = ROL 33,300

Abbreviations and Acronyms

ANB	Apă Nova București (Bucharest water supply private concessionaire)
ARA	Romanian Water Association
ARBAC	Agency for Regulating Water Supply and Sewerage in Bucharest
CAS	Country Assistance Strategy
CPI	Consumer price index
EBRD	European Bank for Reconstruction and Development
ERR	Economic rate of return
EU	European Union
GDP	Gross domestic product
GNP	Gross national product
GOB	Government of Romania
ICB	International competitive bidding
ICR	Implementation Completion Report
IFC	International Finance Corporation
MOF	Ministry of Finance
NCB	National competitive bidding
PHRD	Policy and Human Resources Development Program
PIU	Project Implementation Unit
OED	Operations Evaluation Department
RADET	Bucharest District Heating Company (<i>Regia Autonomă de Distribuție a Energiei Termice</i>)
RENEL	Romania Power Company
RGAB	Bucharest Water and Sewerage Company (<i>Regia Autonomă de Apă București – Bucharest Municipal Water Company</i>)
STAP	Short-term Action Program
UNDP	United Nations Development Program

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Summary

The Bulgaria Water Supply Project (Loan 4079-RO) was approved on August 1, 1996 and made effective on November 25, 1996. The loan was closed on December 31, 2001 with a delay of one and a half years. During the course of project implementation a private concession was prepared and bid and a private concessionaire, Apanova, took over management from the public operator, RGAB, on November 17, 2000. At closing \$6.1 million of the original loan of \$ 25.0 million was canceled. The cost savings were possible due to efficient procurement that resulted in lower prices than those estimated at appraisal.

The OED project performance assessment rates the outcome of the project as “satisfactory”, its sustainability as “likely”, its institutional development impact as “substantial”, Bank performance as “satisfactory” and Borrower performance as “highly satisfactory”. The project is an example of successful assistance by the World Bank Group where the Bank helped prepare and finance much needed rehabilitation investments which facilitated the private concession for which the Government of Romania was assisted by the International Finance Corporation. Once a private concession became a possibility the Bank vigorously supported it.

There are four valuable lessons from the project. The first lesson is that it may be preferable in some circumstances to opt for a simple and quick project that focuses on the most urgent rehabilitation needs rather than aim for more comprehensive but time-consuming alternatives. In the particular case of the Bucharest Water Supply Project most of the rehabilitation works were of such a nature that they would benefit either continued operations by a public operator or operations by a private concessionaire.

The second lesson is that it is advisable to defer large and costly investments (in this particular case a water treatment plant and a wastewater treatment plant) when there is potential scope for demand management alternatives to meet a city’s consumption. Bucharest had excessive water production and consumption levels due to ineffective metering and high leakage in the distribution system. The project rightly concentrated on resolving these weaknesses as a cheaper way of balancing supply and demand and improving quality as compared to the alternative of increasing treatment capacity.

The third lesson is the importance of investing early in a better data base through a project focusing on expanded metering and the modernization of the public operator’s commercial system. Ideally, a set of baseline data should be created prior to project inception and performance indicators monitored through the project implementation period.

The fourth lesson is the importance of reliable regulation of both the quality and efficiency of service under either public or private operations. However, the success of regulation is contingent upon the timely submission of accurate data from the private concessionaire. Given the information asymmetry inherent in such arrangements, it may be necessary to strengthen the monitoring of the performance of the concessionaire, including possibly the commissioning of periodic consumer satisfaction surveys.

Gregory K. Ingram
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About this Report

The Operations Evaluation Department assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the Bank's self-evaluation process and to verify that the Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, OED annually assesses about 25 percent of the Bank's lending operations. Assessments are conducted one to seven years after a project has closed. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming country evaluations; those for which Executive Directors or Bank management have requested assessments; and those that are likely to generate important lessons. The projects, topics, and analytical approaches selected for assessment support larger evaluation studies.

A Project Performance Assessment Report (PPAR) is based on a review of the Implementation Completion Report (a self-evaluation by the responsible Bank department) and fieldwork conducted by OED. To prepare PPARs, OED staff examine project files and other documents, interview operational staff, and in most cases visit the borrowing country for onsite discussions with project staff and beneficiaries. The PPAR thereby seeks to validate and augment the information provided in the ICR, as well as examine issues of special interest to broader OED studies.

Each PPAR is subject to a peer review process and OED management approval. Once cleared internally, the PPAR is reviewed by the responsible Bank department and amended as necessary. The completed PPAR is then sent to the borrower for review; the borrowers' comments are incorporated into the document that is sent to the Bank's Board. When an assessment report is released to the Board, it is also widely distributed within the Bank and to concerned authorities in member countries.

About the OED Rating System

The time-tested evaluation methods used by OED are suited to the broad range of the World Bank's work. The methods offer both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. OED evaluators all apply the same basic method to arrive at their project ratings. Following is the definition and rating scale used for each evaluation criterion (complete definitions and descriptions of factors considered are available on the OED website: <http://wbln1023.worldbank.org/oed/oeddoclib.nsf/232d43ae09e87ac985256966007cc257/acaeb95358e99e578525698c005190da?OpenDocument>).

Relevance of Objectives: The extent to which the project's objectives are consistent with the country's current development priorities and with current Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, Sector Strategy Papers, Operational Policies). *Possible ratings:* High, Substantial, Modest, Negligible.

Efficacy: The extent to which the project's objectives were achieved, or expected to be achieved, taking into account their relative importance. *Possible ratings:* High, Substantial, Modest, Negligible.

Efficiency: The extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared to alternatives. *Possible ratings:* High, Substantial, Modest, Negligible.

Sustainability: The resilience to risk of net benefits flows over time. *Possible ratings:* Highly Likely, Likely, Unlikely, Highly Unlikely, Not Evaluable.

Institutional Development Impact: The extent to which a project improves the ability of a country or region to make more efficient, equitable and sustainable use of its human, financial, and natural resources through: (a) better definition, stability, transparency, enforceability, and predictability of institutional arrangements and/or (b) better alignment of the mission and capacity of an organization with its mandate, which derives from these institutional arrangements. Institutional Development Impact includes both intended and unintended effects of a project. *Possible ratings:* High, Substantial, Modest, Negligible.

Outcome: The extent to which the project's major relevant objectives were achieved, or are expected to be achieved, efficiently. *Possible ratings:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Bank Performance: The extent to which services provided by the Bank ensured quality at entry and supported implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of the project). *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

Borrower Performance: The extent to which the borrower assumed ownership and responsibility to ensure quality of preparation and implementation, and complied with covenants and agreements, toward the achievement of development objectives and sustainability. *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

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<p>This report was prepared by Klas Ringskog (Consultant), who assessed the project in December 2002. William B. Hurlbut edited the report. Helen Phillip provided administrative support.</p>
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Principal Ratings

Bucharest Water Supply Project (Loan 4079-RO)	<i>Outcome</i>	<i>Sustainability</i>	<i>Institutional Development</i>	<i>Bank Performance</i>	<i>Borrower Performance</i>
ICR	Satisfactory	Likely	Substantial	Satisfactory	Satisfactory
Audit	Satisfactory	Likely	Substantial	Satisfactory	Highly Satisfactory

Key Staff Responsible

Bucharest Water Supply Project (Loan 4079-RO)	<i>Task Manager</i>	<i>Division Chief</i>	<i>Country Director</i>
Appraisal	Felix A. Jakob	Ricardo Halperin	Kenneth Lay
Completion	Sudipto Sarkar	Motoo Konishi	Andrew N. Vorkink

Preface

This Project Performance Assessment Report (PPAR) evaluates the Bucharest Water Supply project (Loan 4079-ROM), which financed rehabilitation and upgrading of the Bucharest water supply system. Loan 4079-ROM, in the amount of US\$25.0 million equivalent, was approved on August 1, 1996, became effective on November 25, 1996, and closed on December 31, 2001, 18 months after the original closing date of June 30, 2000. The closing date was extended to allow the concessionaire the use of a portion of the cost savings resulting from the first three years of efficient project implementation. Despite the combined support of the Government of Romania and the Bank, the concessionaire ultimately was unable to use the cost savings and the undisbursed balance of \$6.1 million was canceled at the closing of the loan. The main reason was the fact that in the early years of the contract the concessionaire Apanova focused on reducing staff (which could not be financed from the loan) and all investment programs were delayed. As a result, Apanova could not use the entire savings from the loan which closed before the company fully developed and financed an investment program.

During implementation of the project the RGAB, the public operator and project implementing authority, was successfully replaced by a private concessionaire, Apanova. The preparation and actual bidding process was assisted by the International Finance Corporation, with the full support of the World Bank. The PPAR focuses on the performance of the World Bank-assisted project and does not purport to assess the effectiveness and quality of the assistance extended by the IFC. However, the World Bank support and the IFC technical advice and assistance are intertwined. In particular, because Apanova's performance has a bearing on the sustainability and institutional development impact (IDI) of the Bank project, discussions were held during the PPAR mission with the private concessionaire. In addition to the customary analysis and ratings of the relevance, efficiency, efficacy, sustainability, and institutional development impact of the Bank project, the PPAR paid particular attention to three specific issues: (i) the evolution of water consumption during Romania's transition from a command economy to a market economy; (ii) the adequacy and performance of the regulation put in place for the Apanova concession contract; and (iii) the general performance of the private concessionaire compared to that of the former public water supply and sewerage company, RGAB.

The Bucharest Water Supply project was selected for an OED assessment because it represents a well-designed rehabilitation project in a transition economy and could provide a demonstration effect for similar projects in other transition economies. The experience from the contracting and the first years of a private concession could also guide the large number of countries and prospective borrowers who are considering private sector participation for managing their water supply and wastewater systems.

The PPAR is based on the Staff Appraisal Report (Report No. 15307, July 8, 1996), Implementation Completion Report (Report No. 23912, June 24, 2002), loan agreement, project documents, and discussions with Bank staff. An OED mission visited Romania in December 2002 to discuss the loan with the borrower, project executing agencies, direct beneficiaries, and other stakeholders.

Following customary procedures, copies of the draft PPAR were sent to the relevant government officials and agencies for review and comments. The comments are attached as Annex X.

Introduction

1. The assessment of the project rates project performance based on OED's five evaluation criteria: outcome, institutional development impact (IDI), sustainability, Bank performance, and borrower performance. (For definitions see the explanatory note at the front of this report.) In turn, the project outcome rating is the composite of the ratings of project relevance, efficacy, and efficiency.

Country and Sector Background

2. Romania has an area of 283,000 square kilometers and, in 2001, had a population of about 22 million that was contracting at 0.3 percent per annum. The population was 56 percent urban and 44 percent rural. Bucharest, the capital, had a population of 1.95 million in 2002, and it was slowly decreasing. Per capita GNP reached US\$1,710 in 2001. Nationwide, about 50 percent of the population is connected to potable water, with urban coverage at 80 percent and rural water supply coverage at 20 percent. The corresponding sewerage coverage was 40 percent in urban areas and negligible in rural areas. Infant mortality was estimated at 29 per thousand live births in 1980 and had dropped to 19 per thousand live births by the year 2000. Over the same period, under-five child mortality declined from 36 per thousand to 23 per thousand live births.

3. The water supply and sanitation sector is formally under the Ministry of Public Administration, which was created in 1999. The Water Law of 1996 organizes the sector along lines of the French water sector with 14 river basin authorities. According to the law, municipalities are obliged to provide water supply and sanitation services for their populations. The Ministry of Health is responsible for monitoring the safety of public water supplies and the Ministry of Water, Forestry and Environment (MOWFEN) for monitoring the environmental state of the country's water resources. Law # 219 of 1998 is also relevant for the sector as it lays down the conditions for concessions of public services. It specifies that concessions should be contracted through international competitive bidding (ICB); that the ownership of public assets should remain public; and that sector regulation is required when the services are contracted out with private concessionaires. The quality, efficiency, and cost of water supply and wastewater services are regulated by the National Regulating Authority for Local Public Services, which is attached to the Ministry of Public Administration.

Project Objectives and Components

4. The objectives of the Bucharest Water Supply Project were to:
- Improve the reliability and quality of water supply in Bucharest;
 - Start to reduce water losses (both physical and commercial); and
 - Strengthen the public municipal company, RGAB's, operational, commercial, and financial management and help it acquire the expertise necessary for the preparation and implementation of future operations.

5. To meet the three objectives, a simple three-year investment program was designed that allocated (i) 33 percent of base cost to improving the reliability and quality of the water supply, mostly through rehabilitation of one of the water treatment plants and of pumping stations, and through controlling and metering the flows in the distribution system through the installation of macro water meters; (ii) 57 percent of base cost to repairing the primary distribution system, to rehabilitation of parts of the secondary distribution system, and to the installation of meters for large consumers, such as housing associations and commercial enterprises; and (iii) 9 percent to strengthen RGAB through a public awareness campaign to educate consumers to reduce wastage, to improving the management of customer accounts (with French bilateral assistance), to training of RGAB staff, and to consulting services to supervise project implementation.

6. The project objectives were clear and corresponded to the most pressing needs of the Bucharest water supply system where years of deferred maintenance had produced a situation with high levels of unaccounted water and intermittent service. Production levels were estimated in excess of 800 lcd. Considering that West European consumption levels are less than 200 lcd the suspicion was that leakage in the Bucharest water supply system was very high and that absence of metering and deteriorating infrastructure were the reasons for the high production levels. To remedy this the project focused on rehabilitation and efficiency improvements. The project components were consistent with the project objectives. Although rural areas in Romania had both lower income and service levels the decision was taken to select Bucharest as the first Bank-financed project in the sector in the expectation that the project would provide important demonstration effects that could benefit subsequent projects in the sector.

OUTCOME

7. The rating of project outcome is computed as a composite rating of each of the individual ratings for the project's relevance, efficacy, and efficiency.

Relevance

8. Relevance measures how well the project was aligned with the current development goals of the government and with the Bank's current assistance strategy to the country. By that token, **OED rates the relevance of the project as "substantial" since the objectives and the components were highly consistent with the country's needs and project objectives.** The project was designed in the mid-1990s when the expansion of the European Union eastwards emerged as a possibility and for which Romania and Bucharest had to prepare. It might be argued that the rural water supply would have been more relevant because both income and service levels are lower there than in Bucharest. However, the modernization of the inefficient Bucharest water supply system ranked high among the priorities because its quality and reliability were perceived by the Romanian authorities and by the Bank as inadequate and because it was expected that the project would have an important demonstration effect and possibly be followed by projects to rehabilitate other deteriorated systems. The design of the project was in line with the prevailing lending paradigm at the time that stressed the centrality of

improving the operating financial situation and database. Many projects at the time did attempt private sector participation, but the Bucharest water supply did not consider this option viable in the short term, only a possibility in the long term. However, there was no explicit Bank water supply sector strategy at the time that mandated private sector participation.

Efficacy

9. The efficacy rating measures the project's success in meeting its stated objectives, irrespective of the costs. The degree to which the project actually achieved its triple objective can be measured by the performance indicators collected during the assessment mission, which are summarized in Table 1.

Table 1. Efficacy of the Three Project Objectives as Measured by Performance Indicators

<i>Project Objective and Indicator</i>	<i>Before Project, 1995</i>	<i>After Project, 2001</i>
Improve Reliability and Quality of Supply:		
Share of population with continuous, 24-hour service	92%	93%
Share of water samples testing bacteriologically safe	100%	100%
Reduce Water Losses		
Percentage unaccounted water (metered production-metered consumption)/ metered production	55% (Estimated)	48% (Estimated)
Strengthen operational, commercial, and financial management of utility		
Utility staff productivity (no of staff per thousand households connected to piped water system and well served)	12	7
Working ratio (cash operating expenditure/cash operating revenue)	95%	94%
A number of other performance indicators would have been desirable to obtain, such as the ratio between total number of reliably metered connections as a share of total connections; the ratio between collections and billings etc. However, the concessionaire, Apanova, was less than forthcoming with data and the technical regulator, ARBAC, reported similar difficulties with receiving real-time performance data from the private concessionaire.	N.A.	N.A.

10. **Based on the performance indicators obtained, OED rates the efficacy of the project “substantial.”** Out of the three project objectives, progress was made in reducing unaccounted water and in improving staff productivity and presumably the quality of management. Following the project and the take-over by the private concessionaire, Apanova the reliability and quality of supply seem to have improved slightly judging by the performance indicators. More important perhaps is that there are practically no complaints to the technical regulator, ARBAC, from consumers because of inadequate service quality. Similarly, the opinion of the municipal authorities, interpreted by the Mayor of Bucharest, is that the concession has been successful in improving what was described as poor quality service before the Bank project. The rehabilitation of the pumping stations was successfully completed and resulted in better operating economy

and greater security. The major project shortcoming is the failure to expand metering, for which clear objectives had been set under the project, but where neither the public operator, RGAB, nor the private operator Apanova have made much headway. The failure to increase metering is the major shortcoming of Apanova and has several consequences: (i) it makes it difficult to track losses in the system and therefore perpetuates inefficiency; and (ii) it is the source of widespread consumer complaints. About 80 percent of all complaints that consumers file with the technical regulator, ARBAC, concern Apanova's failure to install a meter and allow consumers the option of saving on payments by reducing their level of consumption. The hesitant early start of the concession is illustrated by the fact that Apanova has invested mainly in the voluntary retirement program and relatively little in physical investment. Apanova's slow start is underlined by its inability to make use of the cost savings under the Bank loan despite agreement from the Bank and from the Guarantor, the Ministry of Public Finance, that would have enabled Apanova to borrow the balance of \$6 million for physical investment.

Efficiency

11. The project efficiency compares the benefits achieved under the project with the costs expended. Where such a comparison is difficult to make, project efficiency exists when it can be judged that the benefits were met more cheaply than any other alternative. Project data are so scarce that rigorous cost-benefit analysis is impossible. For instance, without good metering data on production and consumption, it is not possible to compute the economic returns on the investments in demand management that were made. Ordinarily, the economically most attractive investments would be in metering that should reduce consumption and permit production to be reduced. However, until recently, neither RGAB nor Apanova have had reliable consumption readings. Remarkably, even production has not been reliably metered until very recently.

12. The expended investment costs do provide some indications that project efficiency has been satisfactory. Eighty percent of the investments financed were for rehabilitation that will typically generate higher returns than replacement investments. The large investments in rehabilitation of the pumping stations were successful and have resulted in halving the energy consumption per cubic meter produced from 0.45 kWh to 0.24 kWh. Furthermore, good procurement resulted in actual unit prices substantially lower than appraisal forecasts with overall savings of about \$6 million, or 13 percent below appraisal estimates. By this token it can be estimated that the project efficiency was higher than forecast and **OED rates the overall efficiency as "satisfactory."**

Overall Outcome

13. As a consequence of a rating for project relevance of "substantial," for project efficacy as "substantial" and for project efficiency as "satisfactory" **OED rates the overall project outcome as "satisfactory."**

Institutional Development Impact

14. The institutional development impact (IDI) of the Bucharest Water Supply project must be analyzed in two stages:

- The IDI that the project produced in the publicly managed utility, RGAB, during the period November 25, 1996–November 17, 2000, at which date the private concessionaire, Apanova, took over operations; and
- The IDI that resulted from the takeover on November 17, 2000, until today under the private concession. A private concession was not within the original project objectives, but once it had become the option preferred by the Bucharest municipal council and by the national government, the Bank vigorously supported the concept.

IDI in the Public Utility, RGAB, during First Phase of the Project, 1996–2000

15. Institutional strengthening was one of three objectives in the original project design. To this end, a Short Term Action Program, STAP, was planned to finance (i) a campaign to increase public awareness of water use and help consumers reduce their high consumption and (ii) the development of a new commercial system to build on the effort that had begun with French bilateral assistance; and (iii) staff training. In addition, the RGAB's own budget financed the budget of a Project Implementation Unit (PIU) that received technical support financed by the Bank loan. The STAP was well conceived and addressed the priority needs that would make it possible to achieve a more efficient production and consumption pattern. It was implemented close to the original plan with a total of \$5.1 million expended compared to the appraisal estimate of \$4.5 million. Its impact was overtaken by events through the concession bidding process, and the subsequent take-over of operations by Apanova. It is difficult to judge how much of the STAP impact was superseded by Apanova's installation of its own proprietary management systems. Half of the STAP expenditure was for the implementation of a new commercial system by the French company LYSA. The choice of system was dictated by LYSA's parent, the Suez/Lyonnaise des Eaux group of companies. However, the winning bid for the concession was that of the rival French operator, Vivendi, which proceeded to replace the LYSA system with its own proprietary system. Under the circumstances, much of the LYSA effort must be rated as having only "negligible" IDI. Furthermore, a portion of the training financed under Phase One was lost, at least to the Bucharest water supply operation, when some 1,800 staff accepted voluntary retirement package offered by Apanova. However, the trained staff who left RGAB, were not necessarily lost to the sector or to Romania. For the above reasons **OED rates the overall IDI of Phase One as "modest."**

IDI in the Private Concessionaire, Apanova, during Phase Two of the Project, 2000-2001

16. The idea to consider a concession with a private operator originated in April 1997, less than one year after the Bank had approved the loan. The decision to explore the option of a private concession was made when RGAB management realized that the

Bank project of \$50 million (of which the Bank loan financed half, or \$25 million) was proving to be very much below the estimated investment needs. A study by the consulting company SAFEGE had estimated the investment needs at \$600 million. The Bank project was going to resolve 80 percent of the rehabilitation of pumping stations, the upgrading of the Arcuda water treatment plants, and some of the metering needs. However, it would address little of the distribution network rehabilitation, none of the termination of the ongoing construction of the Crivina water treatment plant, and none of the termination of the Glina wastewater treatment plant that had been initiated a number of years before the Bank loan. There were no prospects for a subsequent Bank loan that would be large enough to make a significant difference in meeting these investment needs and certainly not soon after the first one had been approved. As a result, the decision was made within the RGAB management and subsequently within parts of the Bucharest municipal administration to pursue the path of a concession.

17. The International Finance Corporation (IFC) had offered its advisory services in the fall of 1997 to assist RGAB in preparing and bidding for a concession and in negotiating a contract. (It is clear that the Bank was not involved as an advisor and consequently the Bank's role on this matter cannot be judged.) The actual preparations for a concession started in early 1998 and were concluded successfully in the spring of 2000. The IFC chose a bidding model that depended on frequent contacts with pre-qualified bidders, with the contract pre-negotiated with all bidders who subsequently participated in the bid, and with only one bid evaluation and award criterion: the average tariff that each bidder demanded over the 25-year concession period in return for agreeing to operate and expand the system. Six large operators with international experience were pre-qualified: (Anglian Water, Azurix, International Water, Suez/Lyonnaise des Eaux, Thames Water, and Vivendi.) Anglian Water and Thames Water opted not to participate in the final bid. The other four remained in the bidding process, but Azurix dropped out, leaving three bidders for the final round of financial bids.

18. The final bid was a two-envelope process. Envelope A contained the signed concession contract that had been pre-negotiated, the Bid Bond, and various certificates of compliance. Envelope B contained the tariff bid, indicating seven tariffs corresponding to years 1, 2, 3, 4, and 5, 6 through 10, 11 through 15, and 16 through 25, respectively. The tariffs were indicated in constant Romanian lei with the assumption that the actual tariff was going to be adjusted for inflation on a yearly basis. The bid award was on the basis of the weighted average tariff over the 25-year concession period. The winning bid proved to be Vivendi's with an average tariff of \$0.111 per cubic meter, followed by International Water with \$0.145 per cubic meter, and Suez Lyonnaise des Eaux with \$0.189 per cubic meter. The bids could be compared with the tariff of \$0.171 per cubic meter prevailing at the time of the bid.

19. The whole bidding process required two years until bid award in March 2000. Following a six-month period to allow the winning bidder to comply with the conditions precedent, Apanova took over operations on November 17, 2000. The first two years of operation have comprised a mutual learning process. Apanova's main effort has been to reduce staff through an voluntary incentive program. The number of employees in late 2002 was slightly less than 3,000, down from 4,800 in 1994.. Another indicator of the

slow start is the delay in expanding metering in response to consumer demand. Apanova claims to have detected a total of 6,000 unregistered connections (compared to a total of some 77,000 registered connections) but has so far been unable to incorporate them in its consumer database. Excluding these unregistered connections, the water supply and sewerage connections rates have changed only slightly over the first two years of the concession as shown in Table 2.

Table 2. Population Connected to Public Water Supply and Sewerage

<i>Indicator</i>	<i>Before Bank project, 1995</i>	<i>First year of concession, 2001</i>	<i>Second year of concession, 2002</i>
Water supply coverage (percent of total households)	85%	84%	86%
Sewerage coverage (percent of total households)	89%	84%	86%
Share of wastewater treated	0%	0%	0%

20. Based on these facts and on a number of visits to various departments of Apanova **OED nevertheless rates the institutional development impact under the Apanova concession so far as “substantial,” mostly because the process to contract with a private operator proved successful.** However, even if there had been no private concessionaire it is likely that there would have been a positive IDI from the Bank project alone, given that it was well-designed by very experienced sector professionals.

Regulation Of The Bucharest Water Supply And Wastewater Services

21. The regulation of the Bucharest concession follows the Concession Law No. 219 of 1998 that requires all private concessions to be explicitly regulated. Until now, the quality and efficiency regulation has been the duty of a Technical Regulator, ARBAC, that was established by the Municipal Council of Bucharest and became effective in May 2002. The economic regulation of the concession contract has been managed by the Romanian Office of Competition. In practice, the economic regulation has been limited to verifying that each of Apanova’s tariff adjustment requests has been formally correct, including the arithmetical calculations. This arrangement is “contract regulation” and is possible because of the explicit tariffs contained in the concession contract, specified for each year of the concession period. The Bank was not involved in either the creation of the technical regulator or in the arrangements for economic regulation.

22. The quality and efficiency regulation done by ARBAC has not been as simple as the economic regulation. ARBAC has had difficulties in obtaining real-time data from Apanova in order to comply with the regulation of a series of performance indicators. This is not rare under private sector participation where the private operators enjoy a large advantage over the regulator since it controls the collection, analysis, and release of information. The information asymmetry is illustrated by the difficulties of the OED project assessment mission to obtain simple financial data from Apanova. Apanova’s

reluctance to meet requests from ARBAC for operating data may be due to the fact that ARBAC is not the regulator that authorizes tariff adjustments.

23. Possibly in recognition that a regulator gains influence if it handles both economic and quality regulation the Romanian authorities established the National Regulating Authority for Local Public Services. The National Regulator was established through a Governmental Decision on December 6, 2002, under the Ministry of Public Administration. It is scheduled to assume the economic regulation of the Bucharest concession from the Office of Competition and is likely to play a more active role in the regulation of the Bucharest concession. It is unclear how rapidly the National Regulating Authority for Local Public Services will assume its responsibility given that the concession bid and contract specify another type of regulation that is akin to contract regulation. The latitude of the economic regulation is circumscribed by the clear tariff adjustment formula contained in the concession contract with Apanova. It is unclear at present what the relationship will be with the quality regulator, ARBAC. The expectations are that it will take some time for the amended regulatory framework to become fully effective.

24. Summarizing, **OED rates the institutional development impact of the entire Bank project as “substantial.”** It might be argued that IDI should only be rated for the original Bank project given that the Bank had a limited role compared to the Romanian authorities and the IFC in making the concession contract a reality. Moreover, once the political will in favor of a private concession was confirmed, the Bank did support the PSP vigorously and did amend the Loan Agreement through a formal Board decision to permit a “novation” of the balance of the loan in favor of the concessionaire. The Bank played a highly supportive role to the IFC’s lead in the successful private sector participation and in the establishment of the regulatory arrangements for the Bucharest concession. . The Bucharest concession could serve as a blueprint for similar contracts elsewhere in Romania. The extent to which this will happen depends on the conditions for the expected substantial financing from the European Union. If EU assistance is ruled out wherever private concessionaires operate and invest, the demonstration effect of the Bucharest concession will be limited. However, if a formula is found that will enable the concessionary EU aid to be targeted at types of investment (such as wastewater treatment or the like) where financial sustainability is difficult to achieve, and will allow private operators, future private contracts could benefit from the IDI lessons of the Bucharest concession.

Sustainability

25. The sustainability of the Bank-financed water supply project would ordinarily refer to the sustainability of the original Bank project design or as it emerged after being amended, either by a formal Bank Board decision or by a formal explicit agreement by Bank management of a change in project design and objectives. The Bank agreed to the process of the privatization and supported it vigorously once the borrower decided to pursue a concession. The sustainability of the project should be measured by the likelihood that the private concession, Apanova will be sustainable. Experience has shown that the sustainability of private sector contracts depends on five conditions being met:

- Strong and sustained political support from the national and municipal governments and from the consumers of the concession;
- Competitive contracting in a transparent fashion;
- Financial feasibility of the operation itself;
- Regulation by results; and
- Incentives for improvement for the operator.

26. Strong and sustained political support for the concession seems assured. During the preparatory and bidding phases, each major decision was referred to the Municipal Council for ratification. Currently, any change to the Concession Contract would require a two-thirds majority of the 65 votes of the Municipal Council and would seem to rule out any far-reaching modifications that could adversely affect the sustainability of the contract. In addition, the Bucharest Municipality has 14 percent of the shares of Apanova and creates an incentive to support the concession. The political support of the influential Mayor of Bucharest is in favor of the concession. The Mayor is directly elected and the present incumbent is of a different party than the majority of the Municipal Council. Some of the Mayor's strong support could be explained by his plans to outsource or concede the operations of the district heating company, RADET, to a private operator. Given such plans, it would hardly be in his interest to endanger the sustainability of the water supply and wastewater concession. The political support of the Bucharest population also seems assured. The complaints to the quality regulator, ARBAC, consist of matters relating to the failure of Apanova to install consumption meters (80 percent) and to billing disputes (20 percent). There are practically no complaints about inadequate service.

27. The conditions of competitive contracting and of regulation by results were similarly satisfied. The IFC-sponsored process paid great attention to transparency in each step. Similarly, both the economic and the quality regulation are clearly spelt out in the concession contract and were known to the bidders at the time of the bid.

28. The financial feasibility of the concession and the incentives for improvement concern the operator's continued interest in investing funds and employing qualified staff in continuously improving coverage, quality, and efficiency of the operation. No recent data on the financial working ratio were provided to the OED assessment mission by Apanova. ARBAC estimates that the operation does generate a slight cash surplus since the working ratio is 0.94. All debt service on debt guaranteed by the Ministry of Public Finance has been paid by Apanova, which provides another indication that operations do generate a cash surplus.

29. The concessionaire's incentives for improvement are high since all efforts to raise operational and investment efficiency will increase profits directly. So far, the major shareholder, Vivendi (with 86 percent of the shares in Apanova), has invested \$35 million in the capitalization of Apanova. After the voluntary retirement program which cost about \$15 million, there should now be strong incentives for Apanova to continue improving the cash flow to permit dividend payments on the investment within a few years. The possible acceptance of Romania into the EU also creates strong incentives for the operator to stay with the concession.

30. For the above reasons OED rates the sustainability of the Apanova concession, and therefore of the Bank-financed investments as “likely.”

Bank Performance

31. Bank performance is measured by the quality at entry of the project and by the quality of supervision during project implementation. Both were “satisfactory.” The project was simple, but addressed the priority needs at the time. It could be argued that the Bank might have anticipated and capitalized on the political will to bring in a private operator during the design stage. This would have delayed the project. In the event, the existence of a Bank loan facilitated the subsequent concession that was handled by the IFC. The Bank did consider the possibility of private sector participation during preparation. However, it judged there would not be sufficient interest from the private sector because (i) the political commitment in favor of PSP did not exist at the time of preparation; (ii) lack of a good database would have made a private bid risky and therefore would have resulted in an expensive bid; and (iii) the uncertainty of the prospects for the Romanian economy and the failure of other attempts to enlist the private sector in other branches of the economy. The Bank felt that a small project as proposed would create the conditions that could facilitate, in the longer-term, a possible involvement of the private sector.

32. The quality of supervision was similarly “satisfactory” and benefited from the presence of a relatively large Bank country office in Bucharest that provided some supervision. The Bank insisted on international competitive bidding for as many project components as possible. In the end, ICB was used for 17 out of the 21 components and was likely a factor explaining the cost savings of the project. There was no evidence of misprocurement and all bid contracts developed normally. The prospects for private sector participation were considered during preparation and deemed premature. Once the reality of a private concessionaire was a fact, the Bank and the borrower did agree to “novate” the remaining balance of the loan for use by the private concessionaire. The loan agreement was amended accordingly through a formal decision by the Board of the World Bank. The support of the Bank of “novation” of the undisbursed balance of the Bank loan would in effect have amounted to entrusting public funds for the use of the private sector, while retaining Bank procurement rules to ensure competitive and transparent bids. This pragmatic solution would have been a mechanism to improve efficiency through the participation of the private sector as an operator.

33. Given that both quality at entry and supervision quality are rated satisfactory, **OED rates the Bank performance “satisfactory.”** The interaction between the Bank and the IFC during the preparatory stage for a private concessionaire could be described as satisfactory. However, it must be recalled that the IFC performed with the incentive of a possible substantial success fee, which might have created the appearance of a possible loss of objectivity for the Bank in case it had been perceived as working too closely with the IFC in an effort in obtaining a private concession. For this reason, the Bank opted to promote a more efficient water supply and sewerage system in general, which would be of benefit for either a public or private operator. Once the private concessionaire had been selected, the “novation” of the loan balance in favor of the concessionaire selected was an effort to support the concession. The Bank followed the principles of maintaining a “fire wall” for transactions where parts of the Bank group (IFC) were advisors.

Borrower Performance

34. Borrower performance is rated on the borrower's contributions to the original project design and during project implementation. Both were highly positive in this project. The bulk of the bids were concluded largely as planned during Phase One of the project. Phase Two of the project created more difficulties since it proved impossible for Apanova to make use of the cost savings of \$6 million. However, this failure should not be attributed to the borrower, the Ministry of Public Finance, who had declared its willingness to allow Apanova to make use of the funding. The only condition was for Apanova to provide the Ministry of Public Finance with an equivalent Bank guarantee to help offset the ministry's additional guarantee exposure. The explanation is rather the inexperience of the Apanova management and board that prevented them from taking advantage of this financing opportunity. In particular, in the early years of the contract Apanova focused on reducing staff costs (which could not be financed from the novated Bank loan) and all investment plans were delayed. As a result, Apanova could not use the entire savings from the loan which closed before the company fully developed and financed an investment program that might have been eligible for Bank financing.

35. In contrast, the actions and political ownership of the RGAB management and of the Bucharest and national governments in favor of the private concession must be rated "highly satisfactory." The strong ownership in favor of the concession did reduce somewhat the commitment to the implementation of the Short-Term Action Program (STAP), which became less of a priority given it was highly likely that a private concessionaire would prefer to implement its own management systems and training programs. The actions of the municipal and national governments to establish economic and technical regulation are rated as "highly satisfactory." In summary, **OED rates the borrower performance "highly satisfactory"** for the reasons provided.

Lessons

Lesson One:

36. It may be preferable in some circumstances to opt for a simple project that can be rapidly prepared and implemented rather than aim for more comprehensive but time-consuming alternatives. The Bank project was prepared and became effective in a little over one year and enabled high-priority rehabilitation needs to be addressed. An alternative might have been for the Bank to insist on a private concession from the very beginning, but this would undoubtedly have delayed the rehabilitation investments by three years or more. However, it is advisable to limit a simple intermediate project to investments that would remain beneficial even though a private contractor would take over and implement its own proprietary information systems.

Lesson Two:

37. The Bank was correct to resist financing the completion of the Crivina water treatment plant and of the Glina wastewater treatment plant, both of which had been initiated well before the Bank project. The Bank's decision was dictated by a conviction that the consumption pattern of Bucharest was so inefficient that adding capacity would not be a least cost solution until the effect of metering and rehabilitation and changed incentives for producers and consumers to become more efficient had been allowed to work. In the event, in December 2002, the concessionaire, Apanova, received a loan from the EBRD to finance the completion of the Crivina water treatment plant. Similarly, there are now good prospects that there will be EU-grants and financing from the European Investment Bank (EIB) forthcoming to finish the Glina wastewater treatment plant on which work was initiated but then stopped.

Lesson Three:

34. Given that the technical and commercial data of RGAB were of poor quality, the Bank was justified in focusing on improving the database through (i) financing production and consumption meters; and (ii) financing a modernization of the RGAB commercial system. Investing in more reliable data has high returns in the form of better demand forecasting, a more economical project design and implementation where capacity increments can be better fitted to the more reliable demand forecast, and in the form of improved financial viability through strengthened billings and collections. In such a situation it is essential to set up a monitoring system based on selected performance indicators that would start out with a baseline set of data, immediately before project initiation and then assign forecast levels on an annual basis.

Lesson Four:

35. The quality regulation of private operator contracts is contingent on the willingness of the private operator to report reliably and timely on the contractual performance indicators. This creates an information asymmetry since the private operator is able to control the release of data that are essential to determine whether the private operator is in fact complying with the contract with regards to service quality and

standards. It may be necessary to strengthen the monitoring of the performance of the concessionaire, including possibly through the commissioning of periodic consumer satisfaction surveys, in order to reduce the information asymmetry. One way to strengthen the hand of the regulator is to ensure that both quality and tariffs be regulated by the same body because this gives the regulator added leverage in demanding strict compliance with reporting requirements and compliance with quality and service standards.

Annex A. Basic Data Sheet

BUCHAREST WATER SUPPLY PROJECT (LOAN 4079-ROM)

Key Project Data *(Amounts in US\$ million)*

	Appraisal Estimate	Actual or current estimate	Actual as % of Appraisal estimate
Total project costs	50.0	48.8	98%
Of which			
• physical investments	45.5	43.7	96%
• technical assistance	4.5	5.1	128%
Loan amount	25.0	18.9	76%

Cumulative Estimate and Actual Disbursements

	FY96	FY97	FY98	FY99	FY00	FY01	FY02
Appraisal estimate	0	4.0	13.5	21.0	24.0	25.0	25.0
Actual (US\$M)	0	0.8	3.0	9.0	13.8	16.0	18.9
Actual as % of estimate	0	20	22	43	58	64	76

Date of Final disbursement: December 31, 2001

Project Dates

	Original	Actual
Identification (PCD)	4/95	4/95
Appraisal	12/95	12/95
Board Approval	8/96	8/96
Effectiveness	10/96	11/96
Mid-term Review	6/98	2/99
Loan Closing	6/00	12/01

Mission Data

	<i>Date (month/year)</i>	<i>No. of persons</i>	<i>Specialization represented**</i>	<i>Performance rating*</i>	
				<i>Implementati on Status</i>	<i>Developmen t objectives</i>
Identification/Preparation	01/95	5	TM,PO,2 ME,FMS		
	04/95	2	TM,PO		
	06/95	6	TM,PO,3ME,FMS		
	09/95	2	TM,FMS		
Appraisal/Negotiation	12/95	6	TM,PO,2ME, ENV,FMS		
	06/96		Bank negotiating team		
Supervision 1	02/97	2	TM,PO		
Supervision 2	06/97	3	TM,PO,C		
Supervision 3	05/98	3	TM,PO,C	S	S
Supervision 4	02/99	4	TM,PO,2C	S	S
Supervision 5	12/99	4	TM,ME,FMS,C	S	S
Supervision 6	01/00	1	C	N/R	N/R
Supervision 7	10/00	1	ME	S	S
Supervision 8	03/01	3	PO,ME,C	S	S
Supervision 9	04/01	1	C	S	S
Supervision 10	05/01	2	ME,C	S	S
ICR Preparation	02/02	1	C		

* S = Satisfactory N/R = Not rated

** TM=Task Manager; PO=Project Officer; ME=Municipal Engineer; FMS = Financial Management Specialist; ENV = Environment Specialist; C = Consultant

Annex B: Comments from the Borrower