

AFRICAN DEVELOPMENT FUND



ISLAMIC REPUBLIC OF MAURITANIA

APPRAISAL REPORT

SUPPLEMENTARY LOAN

**NOUAKCHOTT CITY “AFTOUT ESSAHELI” DRINKING WATER
SUPPLY PROJECT**

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CURRENCY EQUIVALENTS (November 2007)

UA 1 = MRO 400.332 = EUR 1.08804

WEIGHTS AND MEASURES

m	=	metre	m ²	=	square metre
ml	=	linear metre	m ³	=	cubic metre
km	=	kilometre	Mm ³	=	million cubic metre
km ²	=	square kilometre	m ³ /h	=	cubic meter per hour
l/s	=	litre per second	l/d/inhab.	=	litre per day per inhabitant

FISCAL YEAR

1 January – 31 December

LIST OF ABBREVIATIONS

ABEDA	:	Arab Bank for the Economic Development of Africa
ADB	:	African Development Bank
ADF	:	African Development Fund
AFD	:	French Development Agency
AFESD	:	Arab Fund for Economic and Social Development
AMR	:	Multisector Regulatory Authority
APAUS	:	Agency for the Promotion of Universal Access to Regulated Services
BCM	:	Central Bank of Mauritania
CDHLPI	:	Commission for Human Rights, Poverty Reduction and Integration
CSP	:	Country Strategy Paper
CV	:	Curriculum vitae
DWS	:	Drinking Water Supply
DWSS	:	Drinking Water Supply and Sanitation
EU	:	European Union
GCSH	:	Water Supply Sector Coordination Group
IDB	:	Islamic Development Bank
IERR	:	Internal Economic Rate of Return
IFRR	:	Internal Financial Rate of Return
KFAED	:	Kuwait Fund for Arab Economic Development
MHE	:	Ministry of Water Supply and Energy
NCB	:	National Competitive Bidding
NGO	:	Non-Governmental Organization
OMVS	:	River Senegal Development Organization
PARSEAE	:	Water, Sanitation and Energy Sectors Reform Support Project
PRSP	:	Poverty Reduction Strategy Paper
PVC	:	Polyvinyl Chloride
SFD	:	Saudi Fund for Development
SNDE	:	National Water Corporation
SNIM	:	National Industrial and Mining Corporation
SOMELEC	:	Mauritanian Electricity Corporation
SONELEC	:	National Water and Electricity Corporation
UA	:	Unit of Account
UM	:	Ouguiya (Currency of Mauritania)
UNDP	:	United Nations Development Programme
USA	:	United States of America

PROJECT LOGICAL FRAMEWORK

PROJECT NAME : **Nouakchott City Drinking Water Supply Project**
 PREPARATION DATE : **March 2008**

HIERARCHY OF OBJECTIVES	EXPECTED OUTPUTS	SCOPE	PERFORMANCE INDICATORS	TARGET INDICATORS AND TIME FRAME	ASSUMPTIONS / RISKS
<u>SECTOR GOAL</u> 1. Improve the living conditions of the populations by ensuring quality access to drinking water at the national level.	IMPACT (LONG-TERM OUTPUTS) 1.1 Increase access to drinking water at the national level 1.2 Reduce poverty at the national level 1.3 Better manage ground resources and optimize the use water at the national level	BENEFICIARIES 1. The population of Mauritania (mainly Nouakchott and neighboring populations of the aqueduct).	IMPACT INDICATORS 1.1. Achievement of MDG as regards access to drinking water 1.2. Decline in prevalence rate of water-borne diseases at the national level 1.3. Reduction in medical expenses due to water-borne diseases <u>Source:</u> Statistics (Water Resources and Health Ministries), SNDE, supervision mission, etc.	PROGRESS EXPECTED IN THE LONG TERM (2030) – at the national level – 1.1.. Increase rate of access to drinking water, from the current 64% to 74% in 2015 and more than 80% in 2020 1.2. Decline in average prevalence rate of waterborne diseases, from the current 13% to 7% in 2015 1.3. 50% reduction in national health spending on waterborne diseases in 2030	
<u>PROJECT OBJECTIVES</u> 1. Increase coverage of drinking water needs of Nouakchott residents and neighboring rural populations	IMPACT (MEDIUM TERM OUTPUTS) 1.1 Improve the drinking water supply of Nouakchott residents (about 1 million inhabitants in 2020) 1.2. Mobilize water for rural populations located along the aqueduct	BENEFICIARIES 1. Nouakchott residents and populations located along the aqueduct	IMPACT INDICATORS 1.1. The daily allocation of drinking water per inhabitant in Nouakchott 1.2. Drinking water connection rate in Nouakchott 1.3. Economic developments in the City of Nouakchott <u>Source:</u> SNDE, National Statistics, supervision mission.	PROGRESS EXPECTED IN THE MEDIUM TERM (2020) – at the level of the City of Nouakchott – 1.1. The daily allocation per inhabitant increases from the current 40 liters to 73 liters/d/inhab. In 2020. 1.2. The drinking water connection rate in Nouakchott increases from the current 35% to 65% in 2015 and 80% in 2020. 1.3 About 1 million inhabitants will be served from the treatment station by 2020 1.4. Several oil (including at least one refinery) and fish preservation industries will be established with the guarantee of a sufficient quantity of water. As well, several tourist units (including at least one luxury hotel) are under study in Nouakchott.	<u>Risks:</u> 1) Weak institutional and sectoral framework 2) Failure to invest in or delay in investing in rural areas <u>Mitigation:</u> 1) The institutional framework is strengthened with the establishment of a Regulatory Authority for the sector and the adoption of a Water Code 2) The ADB is currently financing the start-up phase of the RDWSS program. Several bilateral donors (European, Japanese and Arab) have undertaken to support this program (some financing arrangements are currently becoming effective)

INPUTS AND ACTIVITIES	OUTPUTS (SHORT-TERM ACHIEVEMENTS)	BENEFICIARIES	OUTPUT INDICATORS	AT PROJECT-END (2010)	Risks:
1. Drinking water supply aqueduct installed	1. Install an aqueduct 1200 mm in diameter and 1.91 km in length	1.1. The urban population in Nouakchott and the rural populations along the aqueduct.	1. Volume of additional water produced by the treatment station	1. Increase the volume of available water in Nouakchott from current 55 000 m ³ /d to 170 000 m ³ /d, for an urban population (Nouakchott) of about 700,000 inhabitants in 2010 (after rehabilitation of the distribution network)	1). Failure to invest or insufficient investments in rehabilitation or extension of drinking water distribution networks in Nouakchott
2. Nouakchott reservoir built.	2. Build a partially buried 5 000 m ³ capacity reservoir	1.2. The consulting firm and the enterprises concerned with the study, works and technical assistance	2. Rural population served directly from the pre-treatment station	2. A rural population of about 10 000 inhabitants will be served as of 2010.	2) Delay in the mobilization of resources and construction of waste water sanitation networks in Nouakchott
3. DWSS study for the rural populations completed.	3. Prepare the reports of DWSS study for the rural populations	1.3. Executing Agency (SNDE)	3. Number of studies conducted	3. A feasibility study report on connecting rural populations located along the main aqueduct to the Nouakchott supply system will be available	3) The institutional and organization capacities of SNDE are weak and need to be strengthened
4. Support for SNDE provided	4. Procure: (a) a set of computer equipment ; b) a set of tools for maintenance services of the drinking water network; and (c) a crane truck		4. Operational capacity of SNDE.	4. More than one thousand jobs created during the operation of the construction site	4) Insufficient or lack of ownership of project gains by the different stakeholders (SNDE administration and beneficiaries)
5. Technical environmental assistance on the provided to SNDE	5. Recruit an environmental consultant		5. Number of jobs created during the implementation of the project	5. Strengthen the capacities of SNDE to improve organization of management, operation and maintenance of drinking water production, supply and distribution services in the City of Nouakchott	Mitigation: 1) The AFESD has given its consent in principle to finance works that will be determined by the ongoing study on updating the Nouakchott distribution network master plan.
6. Raw water dewatering station built	6. Build a dewatering station with a 3 m ³ /s flow rate		6. Number of inhabitants concerned by the pre-treatment and treatment stations		2) A study to update the sanitation network master plan has been launched on own funds to determine the works for which financing requests will be submitted to donors
7. Pre-treatment station constructed	7. Build a pre-treatment station with a 170 000 m ³ /d capacity, limiting to 10 mg/l the water content with respect to built suspension		7. Organizational and institutional capacities of the SNDE		3) To strengthen the capacities of SNDE, 2 partnership agreements have been signed with SONEDE (Tunisia) and ONEP (Morocco) and a short-and medium-term general action plan has been prepared with support from AFESD. The project comprises several components for support and assistance to SNDE
8. Rural populations supplied with drinking water	8. Conduct a RDWSS study along the aqueduct				
9. Two pumping stations built	9. Build 2 pumping stations with flows of 1.8m ³ /s and 2.3 m ³ /s				
10. Raw water supply aqueducts installed	10. Construct 2 aqueducts, 1100 m in diameter and 6 km long, and a transportation pipe that is 1 400mm and 170 km long				
11. Pre-treated water reserve built	11. Build a 129 000 m ³ reservoir.				
12. Water treatment plant built	12. Build a 170 000 m ³ /d final				
			Source: Acceptance report, consultants' reports, project progress reports, supervision missions, technical assistance reports.		

<p>13. Remote management system put in place</p> <p>14. Organizational study of SNDE completed</p> <p>15. Technical assistance to SNDE put in place</p> <p>FINANCIAL RESOURCES (UA)</p> <p>INITIAL TOTAL COST: UA 155.78 million</p> <p><u>Source</u> <u>Amount (UA million)</u> AFESD : UA 70.35 million KFAED : UA 23.24 million S F D : UA 21.13 million IDB :UA 6.69 million Government :UA 24.37 million ADF :UA 10.00 Million</p> <p>TOTAL REVISED COST: UA 330.35 million</p> <p><u>Source</u> <u>Amount (UA million)</u> AFESD : UA 153.15 million KFAED : UA 48.44 million SFD : UA 39.21 million IDB : UA 11.90 million Government : UA 46.25 million OPEC : UA 5.40 million ADF : UA 26.00 million</p>	<p>treatment station</p> <p>13. Put in place a water facilities remote management system</p> <p>14. Prepare an organizational study of the SNDE</p> <p>15. Procure equipment and provide technical assistance for SNDE</p>				<p>4) Establishing a regulatory agency, making the management organ accountable, decentralization and sensitization campaigns constitute measures aimed at assuming responsibility for problems related to maintenance and safe guarding project gains</p>
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EXECUTIVE SUMMARY

1. The drinking water requirements of Nouakchott, estimated at more than 100 000 m³/d in 2010, 170 000 m³/d in 2020, and 226 000 m³/d in 2030, can no longer be met by the production of the Trarza water table, mobilized from the Idini well field, currently estimated at 55 000 m³/d and representing the only available water resource for the capital. This water shortage currently hampers the social and economic development of the capital, especially with the country's entry into the oil production era. A guarantee of good quality drinking water in sufficient quantities would encourage investors to set up in the country, particularly in the industrial sector (processing of oil products, preservation of fish, etc.) and in the hotel industry (development of the Atlantic Coast).

2. To address the water shortage problem, the Government of Mauritania launched a study to explore the possibility of supplying the City of Nouakchott with water from the Senegal River. Following this study, the Government of Mauritania submitted a request to the Bank Group for the partial funding for this project to the tune of UA 10 million, in the form of an ADF loan, which was approved in September 2003. The project is jointly financed by AFESD (UA 70.35 million), KFAED (UA 23.24 million), IDB (UA 6.69 million), SFD (UA 21.13 million) and the Government of Mauritania (UA 24.37 million).

3. Launched in 2004, the project is, however, more than two-years behind the schedule proposed at appraisal. The delay is mainly due to: (i) the recruitment process for officers of the Aftout Project Management Unit (PIU), which requested additional time of more than one year; and (ii) fairly significant delays in the different procurement phases (preparation of bidding documents, competitive bidding and award of contracts, no objection opinions from donors, as well as finalizing and signing of contracts).

4. Notwithstanding this delay, Components F (consultancies and supervision of works) and G (institutional support and project management), partially financed by the ADF, were launched following the signing of a contract for the procurement of computer equipment for the PIU in 2006 and a contract for a study on rural drinking water supply for the populations along the aqueduct in 2007. On the other hand, Component E (works for the installation of drinking water transfer pipes) has not yet started due to difficulties in recruiting staff for the PIU and to procurement delays (cf. supra). Cumulative disbursements from the loan as at 15 February 2008 stood at the equivalent of UA 2 572 421.83, representing about 25.72% of the loan amount.

5. At the opening of bids for the "works" packages in 2006 (including the package relating to Component E financed by the ADF), it was noted that the costs of these packages had increased considerably owing primarily to increases in the prices of raw materials (notably ores and scrap iron). In addition to these price increases, the significant variation in the exchange rate (Euro/US dollar) over the 2003-2006 period resulted in a financing gap because the project was appraised in 2003 in dollars and the bids received in 2006 were in Euros. This immediately led to problems about how to finance the supplementary costs observed in all the "works" packages. The financing gap for these packages stands at about UA 174.57 million (discounted cost of UA 330.35 million, compared to an initial cost appraised in 2003 at UA 155.78 million, which represents a 112% increase).

6. Following a meeting convened by the Government of Mauritania in July 2007 to mobilize the additional resources needed to cover this significant cost overrun, all donors cofinancing the project, as well as OPEC, agreed in principle to help finance this gap. Since the resources allocated to Mauritania under ADF X had been completely used, it was pointed out that the Bank's contribution could only be envisaged under ADF XI. The Bank's contribution, through a supplementary loan, would aim to cover the additional costs of Component E, cofinanced by the ADF and the Government of Mauritania.
7. Following the appraisal mission conducted in September 2007, the additional costs of Component E, for which this ADF supplementary loan is being requested, were evaluated at about UA 16 million. This amount represents 100% of foreign exchange expenses and 25% of local currency expenses of the additional costs financed by the ADF.
8. The updated project cost estimate therefore stands at UA 330.35 million, comprising UA 286.29 million in foreign exchange and UA 44.06 million in local currency. This amount will be financed by the ADF (UA 26.00 million) as well as by AFESD (UA 150.74 million), KFAED (UA 47.68 million), IDB (UA 11.71 million), SFD (UA 38.59 millions), OPEC (UA 5.35 million) and the Government (UA 45.52 million).
9. Despite the delays in the procurements schedule, the project is still viable at the technical, economic, environmental, and social levels. In addition, the project can generate sufficient financial resources to meet its recurrent costs. This project is vital to covering the drinking water requirements of the inhabitants of Nouakchott who, to date, face enormous difficulties in drinking water supply. Furthermore, the project aims at achieving the Millennium Development Goals in the water sector by broadening access to drinking water in Mauritania (the country adopted the "Millennium Declaration" in 2000).
10. Taking into account the front-loading rule which states that a country cannot commit more than 50% of its allocation during the first year of the ADF cycle in question, it is recommended that the ADF should in 2008 grant to the Government of Mauritania a supplementary loan not exceeding UA 9.46 million, representing part of the UA 16 million required for completing the Nouakchott City "Aftout Essahli" Drinking Water Supply Project.
11. Furthermore, it is recommended that the request for approval of the balance of the amount required for completing the project – UA 6.54 million comprising a loan of UA 3.09 million and a grant of UA 3.45 million – should be submitted to the Board of Directors for approval on a lapse-of-time basis.

1. INTRODUCTION

1.1 The drinking water requirements of Nouakchott, estimated at more than 100 000 m³/d in 2010, can no longer be met by the production of the Trarza water table, mobilized from the Idini well field, currently estimated at 55 000 m³/d and representing the only available water resource for the capital.

1.2 To remedy the constraints due to water shortage, which hampers the social and economic development of the capital, the Government decided to meet the water supply requirements of the city from the Senegal River. A study conducted in September 2001 led to the preparation of a water supply project aimed at meeting the requirements of the city until 2030. In October 2002, the Mauritanian Government submitted a request to the Bank Group for the partial financing of this project to the tune of UA 10 million in the form of an ADF loan.

1.3 The ADF financing was approved by the Board of Directors of the Bank in September 2003. In addition to the ADF contribution (UA 10 million), the project is jointly financed by AFESD (UA 70.35 million), the Kuwaiti Fund (UA 23.24 million), IDB (UA 6.69 million), the Saudi Fund (UA 21.13 million), and the Government of Mauritania (UA 24.37 million).

1.4 At the opening of bids for the “works” packages in 2006, it was noted that the costs of these packages, which had been appraised in 2003, had increased considerably due mainly to increases in the prices of raw materials (particularly ores and scrap iron). This immediately raised the problem of financing the supplementary costs noted in all the “works” packages.

1.5 The financing gap of these packages (including provisions for physical contingencies and price escalation), which stands at a total of UA 174.57 million, is as follows:

- Package 1 “Treatment plants” (Component B): UA 27.21 million.
- Package 2 “Supply structures and pumping stations” (Component A): UA 20.27 millions.
- Package 3 “Pre-treated water reserve” (Component D): UA 7.64 million.
- Package 4 “Raw water transfer pipe” (Component C): UA 103.30 million.
- Package 5 “Treated water transfer pipe and Nouakchott reservoir” (Component E): UA 16.00 million.

1.6 To mobilize the resources needed to cover this substantial cost overrun, the Government of Mauritania invited all donors cofinancing the project to a meeting that took place in Nouakchott in July 2007. Following this meeting, all the donors, including the Bank, agreed in principle to help finance the gap. This report was prepared from data gathered during the supplementary loan appraisal mission, which took place in September 2007.

2. THE INITIAL PROJECT

2.1 Objectives and Description of the Components

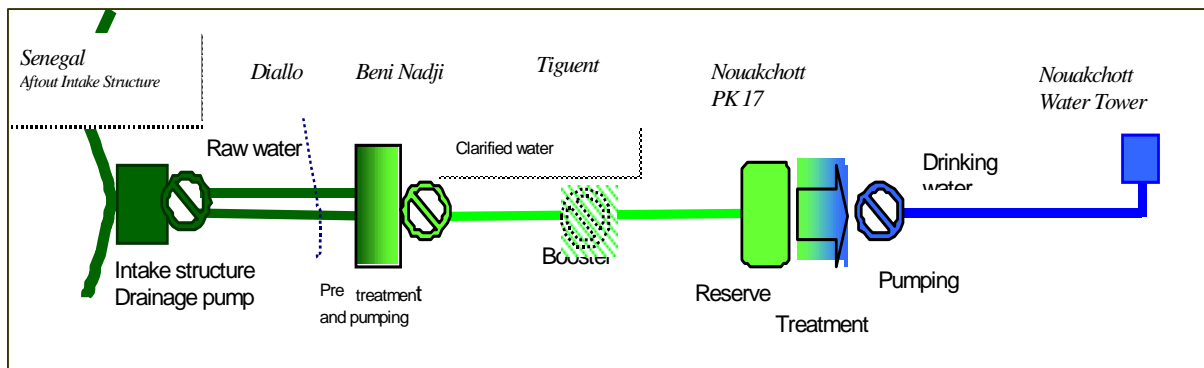
2.1.1 Objectives: At the sector level, the objective of the project is to improve the living conditions of the population by ensuring quality access to drinking water at the national level. More specifically, the project aims to increase coverage of the water requirements of the population of Nouakchott by increasing the daily production of drinking water from 55 000 m³/d in 2007 to 170 000 m³ by the year 2020 and 226 000 m³ by 2030.

2.1.2 Description of Components: The project comprises the following main components:

- A - Supply structure and pumping stations aimed at drawing water from the Senegal River and transferring it to the Béni-Nadji pre-treatment station;
- B - Water treatment structures
- C - Raw water transfer pipes from the Nouakchott supply structure, 170 km long;
- D - Pre-treated water conservation pool at Nouakchott PK17, with a 120 000 m³ capacity;
- E - Drinking water transfer pipes, 19 km long and the 5000 m³ reservoir in Nouakchott;
- F - Consultancies, inspection and supervision of works;
- G - Institutional support and project management

The general diagram of the project output system is presented below.

Figure.1: General Diagram of Project Outputs



2.1.3 A detailed description of ADF- financed components is presented below.

Component E: Drinking Water Transfer Pipes and 5000 M³ Reservoir

2.1.4 After pressurization at PK 17 on the Nouakchott-Rosso road, the drinking water will be transferred to the head-end of the capital's distribution network, into a new ground-level reservoir to be built on the site of the water tower. The aqueduct will be of ductile iron and about 19.1 km long. Reserved areas will be provided to facilitate supply to the quarters through the aqueduct passes, especially the poor areas in the southern part of the town. The proposed 5 000 m³ reservoir will be built on the site of the water tower to strengthen the existing capacity, comprised of 5 000 m³ and 1 000 m³ reservoirs currently receiving water supply from Idini.

Component F: Consultancies, Inspection and Supervision of Works

2.1.5 This component comprises studies, inspection and supervision of works. ADF financing covers the following specific activities:

2.1.6 DWSS Study for rural populations: Conduct a DWSS study for the rural populations living along the aqueduct (the rate of flow needed for the DWS for these rural populations was taken into consideration in the design of the aqueducts).

2.1.7 Environmental Consultant: An environmental expert will be recruited on a part-time basis by the ADF (3 months per year) and assigned to the project management unit to ensure the implementation of environmental measures, particularly the management of work sites, implementation of specific environmental and social works, and the search for solutions to ad hoc environmental problems. This expert will also provide training on environmental protection, management, and monitoring to SNDE officers.

Component G: Institutional Support and Project Management

2.1.8 This component comprises institutional support activities for the SNDE and project management. ADF financing covers the following activities specifically: (i) support to SNDE in the form of equipment and tools (a set of computer equipment to strengthen the commercial service, a crane truck for the maintenance of water pumps and a kit of tools for repairing and maintaining the water systems); and (ii) annual project audit.

2.2 Initial Project Cost and Financing Conditions

Initial Cost

2.2.1 Total project costs, excluding taxes and custom duties, was estimated at appraisal in 2003 at UA 155.78 million (about UM 54.41 billion), including provisions for physical contingencies and price escalation, broken down as follows: UA 123.68 million (UM 43.20 billion) in foreign exchange and UA 32.10 million (UM 11.21 billion) in local currency, representing 79.39% and 20.61% of total project cost respectively. The table below summarizes the total project cost estimates, excluding taxes and customs duties.

Table 2.1
Summary of Project Cost Estimates by Component

Component	In MRO million			In UA million		
	F.E.	L.C.	Total	F.E.	L.C.	Total
A. Supply structures and pumping stations	2.777	605	3.382	7.95	1.73	9.68
B. Treatment plants	4.491	999	5.490	12.86	2.86	15.72
C. Water transfer Aftout - Nouakchott	27.897	6.951	34.848	79.88	19.90	99.78
D. Nouakchott conservation pool (PK17)	2.337	868	3.205	6.69	2.49	9.18
E. Drinking water transfer and Nouakchott reservoir	3.198	1.050	4.248	9.16	3.01	12.16
F. Consultancies, works inspection and supervision	1.591	135	1.726	4.55	0.39	4.94
G. Institutional support and project management	906	603	1.508	2.59	1.73	4.32
TOTAL PROJECT COST	43.196	11.209	54.406	123.68	32.10	155.78
% TOTAL PROJECT COST	79.39%	20.61%	100%	79.39%	20.61%	100%

Financing Plan

2.2.2 The project is jointly financed by the ADF (6.42%), AFESD (45.16%), KFAED (14.92%), IDB (4.29%), SFD (13.56%) and the Government (15.64%). The financing plan proposed at appraisal is shown in the table below.

Table 2.2
Project Sources of Finance

Source	In MRO million			In UA million			% of Total
	F.E.	L.C.	Total	F.E.	L.C.	Total	
AFESD	23.59	0.98	24.57	67.54	2.81	70.35	45.16%
KFAED	7.26	0.86	8.12	20.78	2.46	23.24	14.92%
SFD	6.52	0.86	7.38	18.66	2.46	21.13	13.56%
IDB	2.34	-	2.34	6.69	-	6.69	4.30%
ADF	3.49	-	3.49	10.00	-	10.00	6.42%
Mauritanian Government	-	8.51	8.51	-	24.37	24.37	15.64%
Total	43.20	11.21	54.41	123.67	32.10	155.78	100%

2.3 Conditions of the Initial Loan

2.3.1 The loan agreement was signed in December 2003 and became effective in March 2004. The “conditions precedent to the first disbursement” were met in November 2005.

2.3.2 With respect to the “Other Conditions”, five (5) in total, two (2) were met: the condition relating to payment of the water bills of the Administration (done in December 2005) and the condition relating to the adoption of the Water Code (done in February 2005). The fulfillment of the two conditions relating to the mobilization of funds to construct the Nouakchott water supply distribution system and liquid sanitation system was delayed because of the cost overruns in the “Aftout Essahli” project and the absolute priority given to covering this overrun. However, studies to update the DWS and Nouakchott sanitation master

plans were launched, and firm intentions to finance the works were expressed by donors cofinancing the current project (AFESD, KFAED and SFD). The action plan to strengthen the capacity of SNDE in the short and medium terms, which was the fifth condition, was prepared with support from AFESD, and will be implemented as of the first half of 2008.

2.4 Project Implementation Status

2.4.1 Launched in 2004, the project is more than two-years behind the schedule proposed at appraisal. The delay is mainly due to: (i) the recruitment process for senior officers of the Aftout Project Management Unit (PIU), which took more than one year and was completed only in July 2005; and (ii) fairly significant delays in the different procurement phases (preparation of bidding documents, competitive bidding and award of contracts, no objection opinions from donors, as well as finalizing and signing of contracts), particularly, for package 4, “raw water transfer pipes from the supply structures to Nouakchott (Component C), financed mainly by AFESD. This package, which is the largest in terms of cost (about 2/3 of the total project cost), covered 33 months and affected the launching of all the other works packages. In addition, the pipes that had to be installed under package 4 are upstream the project activities and therefore affect the functioning of the whole project.

2.4.2 Component C, financed mainly by AFESD, started in June 2007. The contracts for the other components relating to works at the treatment plant, pumping stations and aqueducts, including Component E “Drinking water transfer and Nouakchott reservoir” financed by the ADF, have been awarded and the respective works are expected to start during the 1st quarter of 2008. The first activities of Components F and G were launched in February 2005 with the signing of the contract for the works inspection and supervision consulting engineer. Component E was launched in January 2008.

2.4.3 The implementation status of ADF-financed activities that are part of Components F and G is as follows:

Component F “Consultancies, works inspection and supervision”:

- (i) DWS study for the rural populations living along the aqueduct: the contract for this study was signed in March 2007, the preliminary report (1st phase) was submitted by the consulting firm in July 2007 and the report on the second phase (Preliminary Project Summary of DWSS systems) in December 2007. These reports have been reviewed and approved by the PIU and the Bank.
- (ii) Environmental Consultant: The terms of reference were finalized and the call for expression of interest in view of the preparation of a short list was published in January 2008.

Component G “Institutional Support and Project Management”:

- (i) Support for SNDE in the form of equipment and tools: a contract relating to the procurement of computer equipment for the PIU was notified in March 2006 and all services completed in December 2006, the competitive bidding concerning the procurement of the crane truck is at the contract negotiation stage.
- (ii) Project financial audit: A contract relating to the financial audit of the project for the 2006 fiscal year was signed in July 2007 and the audit report was received by the Bank in August 2007.

2.4.4 Cumulative disbursements on the loan as at 15 February 2008 stood at the equivalent of UA 2 572 421.83, representing about 25.72% of the loan amount. The first disbursement was made on 25 May 2006, more than two years following effectiveness of the loan agreement. On the other hand, the loan commitment rate stood at 96.5%, taking into account the signing of the contract relating to Component E.

3. APPRAISAL OF THE SUPPLEMENTARY LOAN

3.1 Rationale for the Supplementary Loan

3.1.1 The drinking water supply requirements of Nouakchott can no longer be met by the production of the Trarzat water table, the only available source of water for the capital. This water shortage currently hampers the social and economic development of the country, which faces considerable economic difficulties, particularly the development of port infrastructures with the port of Nouakchott, the construction of infrastructures adapted to the development of the oil industry as the country enters the oil era, and the development of the tourism sector with the construction of hotel infrastructures along the Atlantic coast. The availability of drinking water in sufficient quantities is a prerequisite for meeting these challenges.

3.1.2 At the opening of financial bids for package 4 (corresponding to Component C, financed by AFESD) in February 2007, it was noted that bid amounts represented a supplementary cost of about 100% compared to the initial estimates in 2003. This was confirmed at the opening of the bids for the other packages, particularly those relating to works for cast iron pipes, which comprises package 5 corresponding to Component E and financed by the ADF.

3.1.3 An analysis of this supplementary cost, done by the consulting engineer responsible for the supervision of works, attributes this significant variation in costs to the increase in the price index of ores and scrap metals, which increased by 154% and 153% respectively, during the period under consideration (2003-2006) and to the increase (about 20%) in transportation costs (hydrocarbons). Another factor that contributed to the financing gap is the increase and considerable variation (about 40%) in the exchange rate (Euro/US dollar) owing to the fact that project costs were initially appraised (in 2003) in dollars, while the contracts awarded in 2006-2007 are expressed in Euros.

3.1.4 To address these significant cost overruns noted in practically all works packages, the Mauritanian Government organized a meeting in July 2007, to which it invited all the donors that cofinance the project to request their support in mobilizing the resources needed to cover the overruns.

3.1.5 Given that the implementation of the “Aftout Essahli” project is essential for covering the water requirements of the population of Nouakchott, who to date face enormous difficulties in drinking water supply, all the donors in the meeting, including the Bank, agreed in principle to help finance the increase in project costs.

3.2 Objectives and Description

3.2.1 The sector and specific objectives of the project remain unchanged from those defined at initial appraisal, namely, help to improve the living conditions of the populations by increasing coverage of the water requirements of the population of Nouakchott, increasing daily drinking water production from 55 000 m³ in 2007 to 170 000 m³ by 2010 and 226 000 m³/day in 2030.

3.2.2 The project is consistent with the Bank’s water and sanitation sector strategy. Water from the Senegal River will benefit *in fine* the poorest populations on the outskirts of the capital who have no access to basic DWS infrastructures and are often obliged to purchase water from the carts of vendors at exorbitant prices. The project will also supply drinking water to the rural populations living around the DWS installations. It also includes a study on water supply for the rural populations along the aqueduct. To that end, the project will also contribute to the achievement of the Bank’s *Rural Drinking Water Supply Initiative*.

3.2.3 The proposed project will contribute significantly to the achievement of the Government’s water sector objectives, as well as to the MDGs. This is a strategic project for Mauritania, and it will help to address constraints relating to water shortage in Nouakchott and protect the city from water shortage until 2030 at least, thanks to significant improvements in water production capacity.

3.2.4 The appraisal of the supplementary loan is also in line with the objectives of the Country Strategy Paper (CSP), notably the pillar aimed at broadening access to water and sanitation services.

3.2.5 The initial components of the project also remain unchanged and no technical modifications have been made to the expected project outcomes.

3.3 Revised Project Cost Estimates

3.3.1 The new total cost of the project is estimated at UA 330.35 million. This amount is broken down into UA 286.29 million in foreign currency and UA 44.06 million in local currency, representing 86.7% and 13.3 % respectively. The new costs of components A, B, C, D, and E were determined on the basis of the actual costs of the contracts signed, including a 5% provision for physical contingencies and 5% for price escalation. A summary of estimated costs by project component is presented in the following table.

*Table 3.1
Summary of revised cost estimates by component (2007)*

	Estimate in 2003 (in UA million)			Reassessed cost in 2007 (in UA million)			% increase
	F.E.	L.C.	Total	F.E.	L.C.	Total	Total
A. Supply structures and pumping stations (package 2)	7.95	1.73	9.68	20.90	9.05	29.95	209%
B. Water Treatment plants (package 1)	12.86	2.86	15.72	40.66	2.27	42.93	174%
C. Raw water transfer pipes (package 4)	79.88	19.90	99.78	178.89	24.19	203.08	104%
D. Nouakchott pretreated water reserve (package 3)	6.69	2.49	9.18	14.42	2.41	16.82	83%
E. Drinking water transfer and Nouakchott reservoir (package 5)	9.16	3.00	12.16	24.17	3.99	28.16	132%
F. Consultancies, works inspection and supervision (*)	4.55	0.39	4.94	4.62	0.40	5.02	-
G. Institutional support and project management (*)	2.59	1.73	4.32	2.63	1.76	4.39	-
TOTAL PROJECT COSTS	123.68	32.10	155.78	286.29	44.06	330.35	112%

(*) No modifications for Components F and G.

3.3.2 The summary costs of ADF-financed components by expenditure category are presented below.

*Table 3.2
Summary of Revised Costs of ADF-financed Components by Expenditure Category*

Expenditure Category	In EUR million			In UA million			% Currency
	F.E.	L.C.	Total	F.E.	L.C.	Total	
WORKS							
Drinking water transfer and Nouakchott reservoir	26.30	4.32	30.64	24.17	3.97	28.16	85.8%
Total Works	26.30	4.32	30.64	24.17	3.97	28.16	85.8%
GOODS							
Equipment/Tools	0.45	-	0.45	0.41	-	0.41	100%
CONSULTING SERVICES							
Rural DWSS	0.34	-	0.34	0.31	-	0.31	100%
Environmental expert	0.05	-	0.05	0.05	-	0.05	100%
Project audit	0.08	-	0.08	0.07	-	0.07	100%
Total Consulting services	0.47	-	0.47	0.43	-	0.43	100%
TOTAL	27.22	4.32	31.56	25.01	3.97	29.00	86.2%

3.4 Financing Plan

3.4.1 During the meeting of donors held in July 2007 in Nouakchott to mobilize resources needed to cover the cost overruns of components A, B, C, D, and E, it was proposed that each donor assume responsibility for the overrun in the component that it financed initially. This would allow for continuity in ongoing procurements (since donor procedures vary). The supplementary financing provided by the various donors that cofinance the project is as follows:

Table 3.3a
Revised Project Sources of Finance (in UA million)

Source	Appraisal in 2003			Re-appraisal in 2007			
	F.E.	L.C.	Total	F.E.	L.C.	Total	in %
AFESD	67.54	2.81	70.35	150.34	2.81	153.15	46.4%
KFAED	20.78	2.46	23.24	45.98	2.46	48.44	14.7%
SFD	18.66	2.46	21.13	36.75	2.46	39.21	11.9%
IDB	6.69	-	6.69	11.9	-	11.90	3.6%
ADF	10.00	-	10.00	25.01	0.99	26.00	7.9%
OPEC	-	-	-	5.4	-	5.40	1.6%
Mauritanian Government	-	24.37	24.37	10.91	35.34	46.25	14.0%
Total	123.67	32.10	155.78	286.29	44.06	330.35	100%

3.4.2 The ADF, which cofinances Component E (package 5: Drinking water transfer pipes and Nouakchott reservoir) with the Government, will cover the overruns for this component, in the amount—including a 5% provision for physical contingencies and 5% for price escalation — of about UA 16 million (EUR 17.41 million). Total ADF financing for the project (including the first loan approved in 2003) will therefore stand at about UA 26 million, or 100% of foreign currency costs and 25% of local currency costs. The cost breakdown for the ADF and Government-financed components is presented in the following tables.

Table 3.3b
Revised Financing Plan for ADF-financed Components

Source	Initial estimate (in UA million)			Revised cost (in UA million)			% ADF of Total
	ADF	Gov't	Total	ADF	Gov't	Total	
A/ Goods and services	0.84		0.84	0.84		0.84	100%
ADF		0.00	0.00		0.00	0.00	0%
Government							
B/ Works (package 5 – Component E)	9.16		9.16	25.16		25.16	89.3%
ADF		3.00	3.00		3.00	3.00	10.7%
Government							
<i>Total</i>	<i>10.00</i>	<i>3.00</i>	<i>13.00</i>	<i>26.00</i>	<i>3.00</i>	<i>29.00</i>	<i>89.7%</i>

3.5 Revised Implementation Schedule

In accordance with the revised project implementation schedule, works in all the work packages (Components A to E) were launched during the first quarter of 2008 (those relating to Component C had already started in June 2007). Under the proposed schedule, the project will be completed during the 1st half of 2010. Works in package 5, relating to Component E “Drinking water transfer pipes and Nouakchott reservoir”, financed by the ADF, were launched on 29 January 2008, with an implementation period of 22 months. The works will be completed during the 1st quarter of 2010 (including tests and provisional acceptance) and project closure is scheduled for end-2010. The implementation schedule of the different project components is presented in Annex 3.

3.6 Revised Expenditure Schedule

The supplementary ADF loan will only serve to cover expenses relating to Component E (package 5: Drinking water transfer and Nouakchott reservoir). Expenditures under the supplementary loan will only start during the 2nd half of 2008, after the use of initial loan funds. Expenditures on the supplementary loan will be made in accordance with the revised schedule presented in the following table.

*Table 3.4
ADF Loan Expenditure Schedule (in UA million)*

Description	2006	2007	2008	2009	2010	Total
Initial loan (UA 10 million)	0.1	0.3	9.6	-	-	10.0
Supplementary loan (UA 16 million)	-	-	3.0	8.0	5.0	16.0

3.7 Social and Environmental Impact

3.7.1 As at appraisal in 2003, the project, which did not undergo any technical modification, is still classified under Category II according to the Bank's environmental guidelines.

3.7.2 The project will help to increase access to drinking water from the current 60% to 74% in 2015, a level that is relatively close to the MDGs in this area. Forty-nine percent (49%) of the one million inhabitants that are beneficiaries of this project are women. Specifically, it is estimated that 5,000 rural women out of a population of 10,000 inhabitants in the project area will see their water burden reduced thanks to the water supply system.

3.7.3 Access to drinking water at a price that is 10 times lower will have a social impact that is all the more important where 46.4% of the population live below the poverty line. The urban populations are most affected by monetary poverty. The water that will be distributed to rural as well as urban households will be of better consumption quality than the expensive water bought from the carts. The availability of water in larger quantities through the SNDE network (at more reasonable prices) will improve the living conditions of Mauritanian households in Nouakchott, and in particular those of Mauritanian women who are responsible for household tasks and are often the most affected by water shortages.

3.7.4 During the implementation of the project, about 1,000 jobs will be created thanks to activities relating to the construction of structures and installation of supply pipes; this will allow poor unemployed populations in the project area to benefit from additional incomes to meet their various family needs.

3.7.5 The implementation of the project will also help to substantially reduce the average prevalence rate of water-borne diseases from the current 13% to 7% in 2015; it will therefore reduce the morbidity rates and health costs related to these diseases among a population whose access to health services is already very low (34% according to the most recent statistics in 2004).

3.8 Project Implementation

Sector Institutional Framework

3.8.1 The main development in the organization of the sector since 2003 lies in institutional reporting. Indeed, while the water and sanitation sector was under the Ministry of Water Resources and Energy in 2003, it is now the responsibility of the Ministry of Water Resources, Energy, Information Technologies and Communications (MHETIC), following the political transition in 2007.

3.8.2 In addition, there were recent changes in the pricing of water services after a three-year freeze on rates. Indeed, after two revisions in December 2006 and March 2007, the Mauritanian Government revised rates in November 2007. Henceforth, the average selling price of water is 300 UM/m³, a 93% increase compared to the average price at project appraisal in 2003.

Project Executing Agency (SNDE)

3.8.3 In accordance with the provisions of the initial project, SNDE remains the project executing agency. The Aftout Essahli project implementation unit (PIU), created within the SNDE in 2004, will continue to monitor the physical, financial, and environmental implementation of the project. The PIU will be assisted by a consulting engineer for works supervision in Component F of the project, and by technical assistance to strengthen its project management capacity, provided by an institution specialized in the management, operation and maintenance of works similar to those of the Aftout Essahli project. In addition, an environmental expert is being recruited on the funds of the initial ADF loan to assist the PIU in monitoring the implementation of environmental measures, notably the management of work sites, the implementation of special social and environmental works, and the resolution of *ad hoc* environmental problems.

3.8.4 Despite the delays in launching the project, owing mainly to the fairly long delays in the recruitment of management staff and award of contracts by the Special Procurement Commission, the PIU, since its effective creation in 2005, has satisfactorily carried out the activities since the start of project implementation (preparation of bidding documents, assessment of bids, preparation and negotiation of contracts, etc.).

Monitoring of Project Implementation

3.8.6 The Bank will try, as it did during project appraisal in 2003, to coordinate the donors that cofinance the project. As much as possible, joint supervision missions will be conducted. In addition, specialists from the Bank's regional office in Senegal (SNFO) will provide the project management unit with the necessary assistance, particularly for the technical and financial management of the project (progress in works, financial audit, etc.).

3.9 Procurement of Goods, Works and Services

3.9.1 All purchases planned under the project have been completed, with the exception of those relating to the procurement of crane trucks, which is being finalized, and those relating to the recruitment of an environmental consultant. The consultancy bid was launched in January 2008 and the bid assessment process should be completed before the end of the first half of 2008.

3.9.2 The procurement of goods, works and services financed by the Bank was done in accordance with Bank Rules of Procedure and standard Bank documents were used to prepare calls for bids. The procedure for contracting out services complied with the provisions set forth in the project appraisal report prepared in 2003.

3.9.3 The contract relating to Component 5 “Works for drinking water transfer pipes and reservoir in Nouakchott” was signed in November 2007, following international competitive bidding launched in July 2006, following a pre-selection launched in May 2005. The amount of the contract that was signed in November 2007, excluding taxes and customs duties, stands at UM 1 448 581 857.00 and EU 23 940 442.00.

3.10 Disbursement Arrangements

In accordance with the provisions of the appraisal report prepared in 2003, disbursements for the implementation of works (package 5: transfer of drinking water and Nouakchott reservoir), supply of equipment (DWSS study, environmental consultant and audit) are made by direct payment to the suppliers concerned.

4. JUSTIFICATION IN RELATION TO SUPPLEMENTARY FINANCING POLICY

4.1 Justification in Relation to General Conditions

4.1.1 The proposed supplementary financing meets the conditions stipulated in the *Bank Group Policy and Procedures for Supplementary Financing*; in fact, the additional costs stem primarily from the substantial increase in the price index of ores and scrap metals and from the significant variation in exchange rates during the period under consideration (2003-2006), which obviously constitutes *a reason beyond the Borrower's control*.

4.1.2 The proposed supplementary financing also meets the other general conditions under Section (iii) of the *Bank Group Policy and Procedures for Supplementary Financing*:

- The original ADF loan has been committed to the tune of 96.5% after the signing of the contract relating to the component “transfer of drinking water and Nouakchott reservoir”, demonstrating that the project is currently in an advanced stage of implementation;
- The amount requested under the supplementary loan *should not exceed* the level of ADF XI allocations for the country, and the activities financed by the loan are consistent with the second pillar of the CSP 2006-2007 “Strengthening access to drinking water and to sanitation services” and its update;
- The supplementary loan will be subject to the same service charges applicable to ADF loans and the standard repayment period for ADF loans will apply.

4.2 Justification in Relation to Specific Conditions

The proposed supplementary financing meets the specific conditions under Section (iv) of the *Bank Group Policy and Procedures for Supplementary Financing*:

- The last supervision mission, which took place in June 2007, gave the project an overall supervision rating of 2.04, or “satisfactory”. This rating is justified by the progress made in 2007 by the project and which translated into the signing of different contracts relating to “works” packages and into a firm commitment by donors that cofinance the project to assume responsibility for the financing gap in the project.
- The country is eligible for ADF resources, based on its performance in the CPIA.
- The Government is making determined efforts in relation to national development and to the mobilization of internal and external resources. The latest example of these efforts is the preparation of a framework for a three-year plan (2008-2012) based on the PRSP. This plan was found satisfactory by development partners in the Paris Consultative Group who provided support in the amount of USD 2.1 billion, higher than the financing gap of its public investment program (PIP).
- The project implementation environment is favorable and the government is fully committed to achieving the development objectives of the project (in the year 2000 Mauritania adopted the “Millennium Declaration”, under which access to drinking water is one of the main pillars. This commitment by the Mauritanian government was strengthened by the 2006-2010 PRSP;
- The cost overrun is clearly due to circumstances beyond the control of the government given the risks of the ore, metals and hydrocarbons markets and the exchange rates during the 2003-2006 period;
- The Government cannot easily meet the cost overruns (especially with the difficulties stemming from the significant reduction during 2007 of oil production with respect to the initial estimates and to the substantial reduction in the ADF X allocation for Mauritania;
- It is not possible to reduce project costs by changing specifications given the need to ensure the security of the supply system (aggressive natural environment) and the continuing growth of the Nouakchott population (which even exceeds 2003 estimates);
- The project is technically and economically viable despite the cost overruns. In addition, it can meet its recurrent costs, thus ensuring the sustainability of the investment.

5. PROJECT SUSTAINABILITY AND RISKS

Recurrent Expenses

5.1 The implementation of the project will incur expenses stemming from the increased need for capital owing to the activities of the SNDE, on the one hand, and to allowances for depreciation of new investments. These two factors combined will lead to a decline in the company's operating revenue, which will decrease from + UM 221 million in 2006 to - UM4185 million in 2010, the year the equipment is put into service. However, the strong increase in water sales as of 2011 will allow the SNDE to quickly cover the deficit to show, as of 2015, positive operating results reaching more than 1 billion UM, close to five times the 2006 results. Thus, despite the decline in financial performance, an analysis of the forecast financial statements of the SNDE shows that the implementation of the project will help improve the financial situation of the SNDE, whose operating capital will increase from UM +2438 in 2006 to UM +5056 million in 2010 and UM +24 629 million in 2015. In any case, the company will have enough "cash flow" during the whole project operating period to meet its recurrent costs.

Project Risks

5.2 The main constraint to the success of this important project and its sustainability is the weak institutional framework within which it will be managed. To mitigate this risk, the provisions proposed during project appraisal in 2003 consisted mainly in (i) creating a sector Regulatory Authority, which has been operational since end-2006; (ii) adopting the Water Code (which was a condition under the initial ADF loan, to the benefit of the project), and its implementation since February 2005; and (iii) training and strengthening the SNDE (the project executing agency), in this regard, two partnership agreements were signed with SONEDE (Tunisia) and ONEP (Morocco) and a general action plan to strengthen the capacity of the SNDE in the short and medium terms was prepared by the SNDE, with support from the AFESD .

5.3 In addition, the sustainability of the project is closely tied to the establishment of efficient distribution and liquid sanitation networks for the City of Nouakchott to ensure the supply and evacuation of the quantity of additional water produced and transported. The completion of these two networks was a condition under the initial ADF loan. On this point, progress has been made with the launching of (i) the study to update the distribution network master plan, financed by the AFESD, which has given its agreement in principle to finance works that will be defined by the study; and (ii) the study to update the sanitation master plan, financed on own funds. The other project donors have also communicated their firm commitment to help finance the works.

5.4 Finally, the variation in the exchange rate between the EUR and the UA also represents a considerable risk for the completion of the project and was one of the main reasons for the financing gap in the project. To mitigate this risk, a decision was made to include a 5% provision for price increases in the reassessed project cost.

5.5 The risk relating to implementation delays recorded by the project during its first two years is largely mitigated by the fact that all purchases have been finalized, all contracts for works have been signed and works started in June 2007. In addition, the proximity of the Bank's regional office in Senegal (SNFO) will help improve the management and monitoring of project implementation.

6. ECONOMIC AND FINANCIAL ANALYSIS

6.1 Financial Analysis

6.1.1 The financial analysis conducted during the appraisal of the supplementary loan was done using the same methodology used at the appraisal of the initial loan in order to fully appreciate the impact of changes in investment costs and water tariffs between 2003 and 2007. The internal financial rate of return (IFRR) was calculated over a 25-year operating period, representing the average lifespan of project works. The investments are based on actual project costs as shown by activities already implemented and by offers presented by successful bidders on the packages. Since this project does not include works for the distribution of drinking water to end-users, but only transportation and storage infrastructures for water produced from the Senegal River, the financial analysis of the project was based on the average selling price of water to end-users (300 UM /m³), less the costs of distribution supported by the SNDE (about UM 100/m³, UM 200 /m³). The baseline assumptions used in the calculations are presented in Annex 2.

6.1.2 The analysis of the supplementary loan in 2007 shows that the IFRR stands at 3.9%, compared with 4.2% at appraisal of the initial loan in 2003. The decline in the rate of return is mainly due to the significant increase in investment costs (+109%) during this period. However, it should be noted that the increase, at the same time, of the average selling price of water (+93%) has largely compensated for the negative incidence of cost inflation and that the IFRR remains positive.

6.2 Economic Analysis

6.2.1 As well, the economic analysis was based on the method defined at the appraisal of the initial loan. In the present case, the economic gains reflect the economic value of the quantity of additional water resulting from the project. Contrary to the financial analysis where the selling price of water does not include the cost of distribution, economic analysis is based on revenues from the selling price of water to end-users. Specifically, economic benefits stem from a double valorization: on the one hand, the value of extra quantity of water for customers who already have access to water, whose average selling price is estimated in relation to that of the SNDE, or 300 MRO/ m³; on the other hand, the value of the quantity of additional water to populations not yet served by SNDE, whose selling price is estimated in relation to that practiced by resellers, which costs on average 900 MRO/ m³. It should be noted that in this regard, this supply, which is very constraining, is sometimes the only means of access to water for a significant part of the population, notably in peri-urban areas where there is very low pressure in the distribution network, which explains the consent to pay more.

6.2.2 Since the analysis conducted in 2003 defined the economic costs of investment in terms of financial costs, this analysis reprised this assumption, while noting that henceforth, it would be possible to estimate the average conversion factor of financial costs in economic costs to 0.82. Consequently, the re-appraisal in 2007 shows an economic internal rate of return (IERR) of 16.4%, compared with 17.4% at appraisal in 2003. The very slight decline in the IERR is attributable, as in the case of the financial analysis, to the increase in investment costs; however, the increased drinking water supply problems in the City of Nouakchott and the persistent drinking water problems experienced by the inhabitants contribute to the high valorization of the economic benefits of the project in 2007.

6.3 Sensitivity Analysis

6.3.1 **IFRR:** A 10% decrease in revenues decreases the IFRR from 3.9 % to 2.8%. A 10% increase in the overall charges means a rise to 3.6%. A combination of these two assumptions gives an IFRR of 2.5%. Based on these scenarios, the financial rate of return remains positive and higher than the weighted average cost of capital estimated at 1.8%. The break-even point where the IFRR is equal to the weighted average cost of capital is only reached with a joint 23% reduction in activities, which shows that the financial rate of return of the project is still guaranteed even in the case of the degraded scenarios in terms of demand or of production.

6.3.2 **IERR:** The increase in recurrent costs and/or decrease in revenues have little impact on the IERR because of the continuing high level of benefits that the profit brings to the community. Based on the assumption of a combination of these two negative factors, the IERR would move to 15%.

7. FRONT-LOADING CONSTRAINTS

The supplementary loan amount required for completing the Nouakchott City "Aftout Essahli" Drinking Water Supply Project – UA 16 million – represents 85% of the allocation of UA 18.93 million for Mauritania during the three years of the current ADF cycle. However, according to the Bank's rules, a country cannot commit more than 50% of its allocation during the first year of the ADF cycle in question. Consequently, the amount to be committed for Mauritania in 2008 cannot exceed UA 9.46 million. In order to ensure that the supplementary loan complies with the limits set by the front-loading rule, the loan will be limited to UA 9.46 million. Approval will be requested for the balance of UA 6.54 million, comprising a loan of UA 3.09 million and a grant of UA 3.45 million; the request will be submitted to the Board of Directors in 2009 for approval on a lapse-of-time basis. This procedure, which has been discussed with the Government of Mauritania, will not cause any delays in the expenditure schedule as demonstrated in paragraph 3.6 above.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

8.1.1 The supplementary loan is justified mainly because of the increase in the price index of ores and scrap metals, which rose 154% and 153%, respectively, during the period under consideration (2003 – 2006). Other factors contributed to this increase, notably the increase in transportation costs and the significant variation in exchange rates (Euro/US dollar/ Ouguiya).

8.1.2 In spite of the increase in its cost, the project is still justified at the technical, economic, financial, environmental, and social levels. This project is essential for meeting the growing drinking water needs of the population of Nouakchott City, which, to date, still faces difficulties relating drinking water supply.

8.2 Recommendations

8.2.1 It is recommended that the ADF should grant the Government of Mauritania a supplementary loan not exceeding UA 9.46 million, representing part of the UA 16 million required for completing the Nouakchott City “Aftout Essahli” Drinking Water Supply Project.

8.2.2 It is recommended, as regards the balance of the amount required for completing the project – UA 6.54 million, comprising a loan of UA 3.09 million and a grant of UA 3.45 million -, that the related request be submitted to the Board of Directors in 2009 for approval on a lapse-of-time basis.

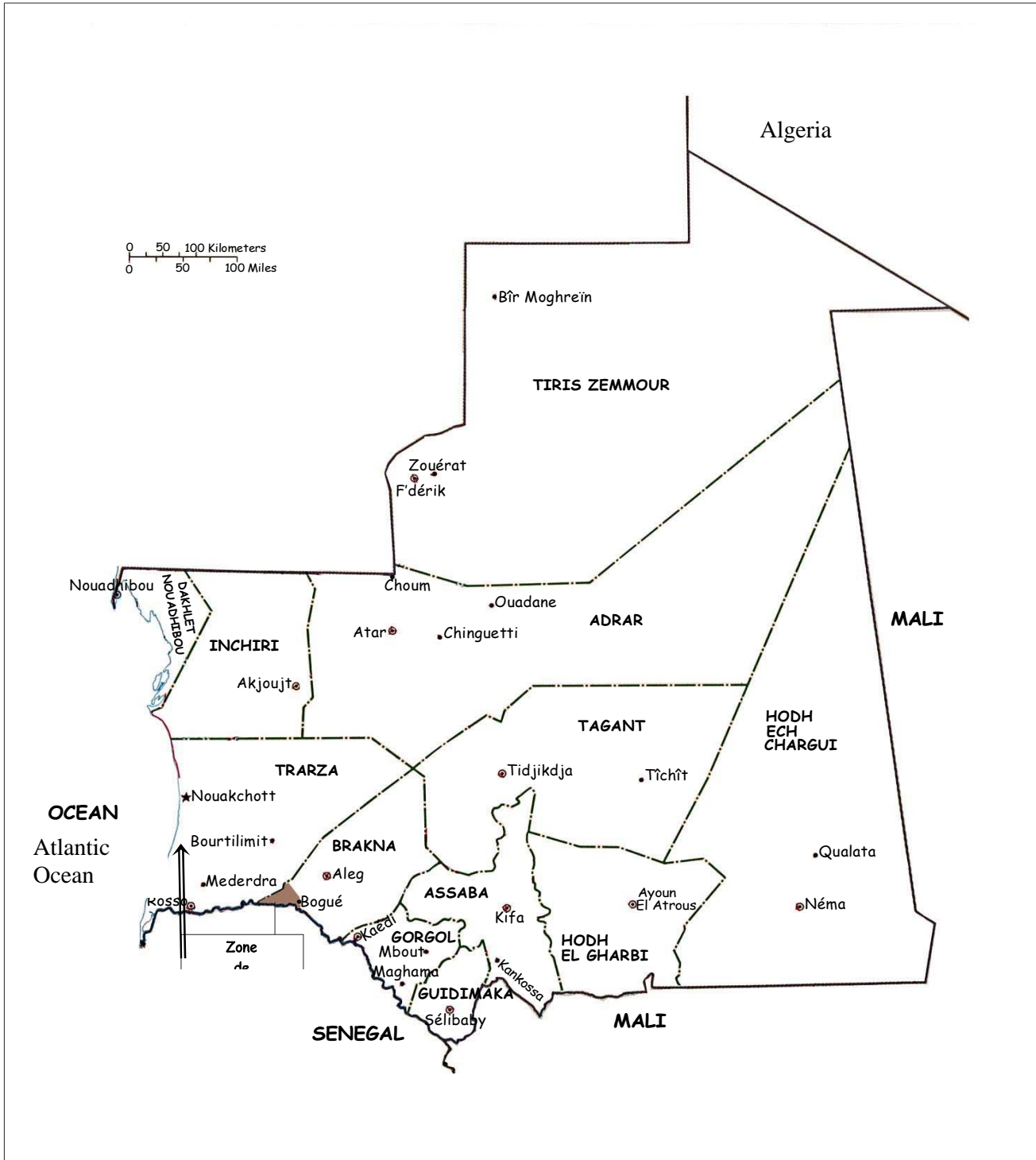
A. Conditions Precedent to Entry into Force of the Loan

8.2.3 The entry into force of the loan agreement shall be subject to fulfillment by the Borrower of the provisions of Section 5.01 of the General Conditions applicable to loan agreements and guarantee agreements.

B. Conditions Precedent to First Disbursement

8.2.4 The conditions precedent to the first disbursement of the initial loan, which will be passed on to the supplementary loan, were fulfilled in November 2005. It is not necessary to impose other conditions for the first disbursement of the supplementary loan.

MAURITANIA: NOUAKCHOTT DWS PROJECT
MAP OF PROJECT AREA



This map is provided by the staff of the African Development Bank exclusively for the use of readers of the report to which it is attached. The names used and the borders shown do not imply on the part of the Bank Group and its members any judgment concerning the legal status of a territory nor any approval or acceptance of these borders.

MAURITANIA: NOUAKCHOTT CITY “AFTOUT-ESSAHLI” DWS PROJECT**Economic and Financial Analysis*****Summary of Assumptions made for the IFRR and IERR Calculations
(In accordance with the special regulation on consultation of enterprises)***

- The operating period for civil engineering works was estimated at 25 years, as of 2010, representing their average lifespan.
- The operating period for equipment was estimated at 10 years, as of 2010, representing their average lifespan; investments for replacements were thus taken into account in the financial analysis as demonstrated by the amounts indicated under fiscal years 2020 and 2031.
- The investment amount is the real amount, i.e. as shown on the provisional offers of the successful bidders;
- The investment amount given for the year 2007 takes into account consolidated investments for the 2005-2007 period, i.e. effectively made since the launching of the project
- Energy expenditures were established at UM 40/KWh, in line with effect rates;
- The average annual cost of maintenance was set at 0.5% of the acquisition cost new for civil engineering and at 2.0% for equipment and installations, in accordance with consulting guidelines ;
- The average non-distribution selling price of water was set at UM 200/m³; with a planned 5% decrease every five years, as of 2010 ;
- the average selling price of water distributed by SNDE to consumers was set at UM 300/m³; consent to pay by populations not yet served y SNDE was set at UM 900/m³; based on information gathered from the field.
- Charges related to royalties to OMVS for withdrawal of water from the Senegal River were calculated on the basis of tariffs set under Resolution N° 00287/CM/MN/N of the OMVS Council of Ministers, i.e. CFAF 1/m³; this will be raised to CFAF 2/m³ as of 2015 based on guidelines provided.

MAURITANIA: NOUAKCHOTT DWS PROJECT*Detailed calculation of financial viability
(Financial amounts in Ouguiya)*

YEAR	WATER PRODUCTION (m ³)	BENEFITS RELATED TO ADDITIONAL PRODUCTION OF WATER	INVESTMENTS	Total Cost ENERGY	Total Cost CHEMICAL PRODUCTS	Total Cost MAINTENANCE	Total OMVS Charges	Total Income WATER SALES	CASH-FLOW
2,007	-		17,353,200,000	-	-	-	-	-	-17,353,200,000
2,008	-		55,387,800,000	-	-	-	-	-	-55,387,800,000
2,009	-		50,723,000,000	-	-	-	-	-	-50,723,000,000
2,010	31,025,000	18,615,000,000		505,929,232	473,405,000	668,390,682	19,939,950	6,205,310,250	4,537,645,385
2,011	32,838,320	19,702,992,000		570,808,338	501,071,139	668,390,682	21,105,241	6,567,992,383	4,806,616,983
2,012	34,852,716	20,911,629,600		648,682,248	531,808,943	668,390,682	22,399,928	6,970,891,727	5,099,609,925
2,013	36,788,715	22,073,229,000		729,955,355	561,349,768	668,390,682	23,644,195	7,358,110,887	5,374,770,887
2,014	38,938,565	23,363,139,000		837,849,826	594,156,443	668,390,682	25,026,033	7,788,102,386	5,662,679,401
2,015	41,214,340	24,728,604,000		949,500,745	628,880,845	668,390,682	26,488,628	8,655,444,151	6,382,183,250
2,016	43,742,490	26,245,494,000		1,095,065,663	667,459,436	668,390,682	28,113,579	9,186,382,196	6,727,352,836
2,017	46,172,500	27,703,500,000		1,162,984,377	704,535,786	668,390,682	29,675,232	9,696,709,811	7,131,123,734
2,018	48,870,945	29,322,567,000		1,326,474,663	745,712,378	668,390,682	31,409,609	10,263,411,595	7,491,424,263
2,019	51,727,070	31,036,242,000		1,521,075,802	789,293,984	668,390,682	33,245,280	10,863,227,834	7,851,222,086
2,020	54,900,000	32,940,000,000	9,984,017,228	1,657,644,195	810,214,200	668,390,682	33,990,786	12,106,055,273	-1,048,201,819
2,021	56,147,585	33,688,551,000		1,307,457,092	828,623,799	668,390,682	34,763,109	12,381,161,520	9,541,926,836
2,022	57,380,575	34,548,345,000		1,392,886,783	849,778,364	668,390,682	35,650,637	12,697,151,613	9,750,445,148
2,023	59,050,430	35,430,258,000		1,463,574,229	871,466,528	668,390,682	36,560,497	13,021,270,846	9,981,278,910
2,024	60,723,792	36,434,275,200		1,559,944,776	896,163,422	668,390,682	37,596,609	13,390,265,616	10,228,170,127
2,025	62,103,655	37,262,193,000		1,650,818,097	916,524,610	668,390,682	38,450,804	14,379,267,651	11,105,083,458
2,026	63,688,850	38,213,310,000		1,750,529,909	939,918,636	668,390,682	39,432,248	14,746,298,274	11,348,026,799
2,027	65,314,560	39,188,736,000		1,853,509,140	963,911,429	668,390,682	40,438,817	15,122,709,602	11,596,459,534
2,028	67,165,392	40,299,235,200		1,976,740,543	991,225,722	668,390,682	41,584,727	15,551,244,906	11,873,303,232
2,029	68,691,540	41,214,924,000		2,082,969,063	1,013,750,595	668,390,682	42,529,720	15,904,603,989	12,096,963,928
2,030	70,445,000	42,267,000,000		2,312,367,089	1,070,420,900	668,390,682	45,064,287	17,126,123,820	13,029,880,861
2,031	70,445,000	42,267,000,000	9,984,017,228	2,312,367,089	1,070,420,900	668,390,682	45,064,287	17,126,123,820	3,045,863,633
2,032	70,638,000	42,382,800,000		2,318,702,341	1,073,353,560	668,390,682	45,187,751	17,173,044,707	13,067,410,372
2,033	70,445,000	42,267,000,000		2,312,367,089	1,070,420,900	668,390,682	45,064,287	17,126,123,820	13,029,880,861
2,034	70,445,000	42,267,000,000	-6,988,812,060	2,312,367,089	1,070,420,900	668,390,682	45,064,287	17,126,123,820	20,018,692,921
TOTAL	1,373,955,040	824,373,024,000		24,829,220,482	20,634,288,186	16,709,767,062	867,490,527	308,533,152,495	219,729,813,549
								Financial Rate of Return (IRR)	3.9%

MAURITANIA: NOUAKCHOTT DWS PROJECT

*Detailed Calculation of the Margin of Economic Viability
(Financial Amounts in Ouguiya)*

YEAR	WATER PRODUCTION (m ³)	BENEFITS RELATED TO ADDITIONAL PRODUCTION OF WATER	INVESTMENT	Total Cost ENERGY	Total Cost CHEMICAL PRODUCTS	Total Cost MAINTENANCE	Total Charges OMVS	Total Income WATER SALES	CASH-FLOW)
2,007	-		17,353,200,000	-	-	-	-	-	-17,353,200,000
2,008	-		55,387,800,000	-	-	-	-	-	-55,387,800,000
2,009	-		50,723,000,000	-	-	-	-	-	-50,723,000,000
2,010	31,025,000	18,615,000,000		505,929,232	473,405,000	668,390,682	19,939,950	6,205,310,250	16,947,335,135
2,011	32,838,320	19,702,992,000		570,808,338	501,071,139	668,390,682	21,105,241	6,567,992,383	17,941,616,600
2,012	34,852,716	20,911,629,600		648,682,248	531,808,943	668,390,682	22,399,928	6,970,891,727	19,040,347,798
2,013	36,788,715	22,073,229,000		729,955,355	561,349,768	668,390,682	23,644,195	7,358,110,887	20,089,889,000
2,014	38,938,565	23,363,139,000		837,849,826	594,156,443	668,390,682	25,026,033	7,788,102,386	21,237,716,016
2,015	41,214,340	24,728,604,000		949,500,745	628,880,845	668,390,682	26,488,628	8,655,444,151	22,455,343,099
2,016	43,742,490	26,245,494,000		1,095,065,663	667,459,436	668,390,682	28,113,579	9,186,382,196	23,786,464,640
2,017	46,172,500	27,703,500,000		1,162,984,377	704,535,786	668,390,682	29,675,232	9,696,709,811	25,137,913,922
2,018	48,870,945	29,322,567,000		1,326,474,663	745,712,378	668,390,682	31,409,609	10,263,411,595	26,550,579,668
2,019	51,727,070	31,036,242,000		1,521,075,802	789,293,984	668,390,682	33,245,280	10,863,227,834	28,024,236,252
2,020	54,900,000	32,940,000,000	9,984,017,228	1,657,644,195	810,214,200	668,390,682	33,990,786	12,106,055,273	29,769,760,137
2,021	56,147,585	33,688,551,000		1,307,457,092	828,623,799	668,390,682	34,763,109	12,381,161,520	30,849,316,316
2,022	57,580,575	34,548,345,000		1,392,886,783	849,778,364	668,390,682	35,650,637	12,697,151,613	31,601,638,534
2,023	59,050,430	35,430,258,000		1,463,574,229	871,466,528	668,390,682	36,560,497	13,021,270,846	32,390,266,064
2,024	60,723,792	36,434,275,200		1,559,944,776	896,163,422	668,390,682	37,596,609	13,390,265,616	33,272,179,711
2,025	62,103,655	37,262,193,000		1,650,818,097	916,524,610	668,390,682	38,450,804	14,379,267,651	33,988,008,807
2,026	63,688,850	38,213,310,000		1,750,529,909	939,918,636	668,390,682	39,432,248	14,746,298,274	34,815,038,525
2,027	65,314,560	39,188,736,000		1,853,509,140	963,911,429	668,390,682	40,438,817	15,122,709,602	35,662,485,932
2,028	67,165,392	40,299,235,200		1,976,740,543	991,225,722	668,390,682	41,584,727	15,551,244,906	36,621,293,525
2,029	68,691,540	41,214,924,000		2,082,969,063	1,013,750,595	668,390,682	42,529,720	15,904,603,989	37,407,283,939
2,030	70,445,000	42,267,000,000	9,984,017,228	2,312,367,089	1,070,420,900	668,390,682	45,064,287	17,126,123,820	38,170,757,041
2,031	70,445,000	42,267,000,000		2,312,367,089	1,070,420,900	668,390,682	45,064,287	17,126,123,820	38,170,757,041
2,032	70,638,000	42,382,800,000		2,318,702,341	1,073,353,560	668,390,682	45,187,751	17,173,044,707	38,277,165,665
2,033	70,445,000	42,267,000,000		2,312,367,089	1,070,420,900	668,390,682	45,064,287	17,126,123,820	38,170,757,041
2,034	70,445,000	42,267,000,000	-6,988,812,060	2,312,367,089	1,070,420,900	668,390,682	45,064,287	17,126,123,820	38,170,757,041
TOTAL	1,373,955,040	824,373,024,000		24,829,220,482	20,634,288,186	16,709,767,062	867,490,527	308,533,152,495	748,548,907,451
								Economic Rate of Return (ERR)	16.4%

Annex

Introduction

1. Under its intervention strategy in Mauritania, the African Development Bank Group in September 2003 approved a loan of UA 10 million to finance the Nouakchott City Drinking Water Supply Project. The project is intended to address the critical problem of water shortage in the Mauritanian capital. As a result of this shortage, the populations of Nouakchott and its outskirts are currently facing enormous difficulties with respect to drinking water supply. However, the project implementation is behind schedule mainly because of long delays in the procurement of goods and services, particularly the selection of companies to carry out the works. Furthermore, the project cost, which was UA 155.78 million at appraisal in 2003, has increased considerably. It has increased to UA 330.35 million mainly because of the increase in the cost of shipping and materials, particularly iron, and because of variations in the exchange rates (appreciation of the Euro, the currency of the contracts, against the dollar). This situation has created a financing gap of UA 174.57 million.

2. Since the project is vital for the country, the Government of Mauritania in July 2007 organized a donor conference to mobilize additional resources to cover the above-mentioned financing gap. All the other donors participating in the project, the Arab Fund for Economic and Social Development, (AFESD), the Kuwaiti Fund for Arab Economic Development (KFAED), the Saudi Fund for Development (SFD), the Islamic Development Bank (IDB), and the Organization of Petroleum Exporting Countries (OPEC) pledged to provide supplementary financing, which for most of them was more than double their initial contributions, to enable the Government to implement the project. It is within this context that this proposal is being made to the ADF to grant a supplementary financing of UA 16 million for the implementation of the project.

3. The purpose of this Note is to provide the Boards of Directors with additional information on the proposed supplementary financing, particularly the consistency of the project with the development goals of the Government of Mauritania and the Bank's intervention strategy in Mauritania. It also provides information on recent developments in Mauritania, which help to place the project within its context.

Recent Developments

4. The supplementary loan proposal for the financing of the Nouakchott City Drinking Water Supply Project falls within a context marked by political transition to democracy and economic recovery of the country. At the political level, Mauritania achieved a peaceful transition to democracy with the organization of free and transparent council, legislative, senatorial and presidential elections in 2006-2007. The new Government, which assumed office in April 2007, is committed to deepening democracy, good governance and economic reforms.

5. At the economic level, Mauritania entered the oil era in 2006, which enabled the country to achieve a record GDP growth rate of 11.4%. The Government received IMF support under the Poverty Reduction and Growth Facility (PRGF), approved in December 2006 for a period of three years. Under the implementation of its 2005-2007 development programme, the Government succeeded in consolidating economic

stability as shown by the conclusion of the second review of the PRGF with the IMF in September 2007, despite the decline in oil production, which brought down GDP to 0.9%. Significant progress was also made in the implementation of several structural reforms, particularly in the reorganization of public finance, the enhancement of transparency in the management of oil resources, the development of the financial sector, and the improvement of the investment climate. As a result of these reforms, the extension of iron ore and gold production capacities, and a more gradual decline in oil production than in 2007, the GDP growth rate should stand at about 4.5% in 2008.

6. The Government is determined to pursue reforms to address the weaknesses that continue to hamper the development of the country, in particular the high dependence of the economy on natural resources, the poor quality of infrastructures (transport, water and energy, telecommunications), as well as inadequacies with respect to human resources, public administration and the business climate. To that end, the Government has prepared a three-year development plan covering the 2008-2010 period and based on the implementation of the strategic orientations defined in the Poverty Reduction Strategy Paper (PRSP). The Government's main objectives in the plan are as follows: (i) reduce poverty; (ii) improve the level of education; (iii) improve the health status of the populations; (iv) improve access to drinking water; (v) improve governance and strengthen institutional capacities; and (vi) increase incomes and improve the living conditions of the rural populations. This plan is supported by the development partners, who during the Consultative Group Meeting on Mauritania held in Paris in December 2007, undertook to support it by contributing an amount of US\$ 2.1 billion.

The Project as a Priority for the Government

7. The Nouakchott City Drinking Water Supply Project is a priority in the implementation of the Government's development plan. It is consistent with the strategic orientations of the action plan and PRSP mentioned in paragraph 6 above. It is intended to solve the problems of water shortage in Nouakchott and its outskirts; these problems hamper the development of industrial and commercial activities and affect the lives and health status of the populations. It will supply drinking water on a regular basis to nearly one million people, who represent one-third of the population of the country. Consequently, it is a vital project for the country. It is consistent with the development objectives of the Government, which considers its implementation as a high priority.

Consistency of the Project with Bank Strategy

8. The project is also consistent with the Bank's intervention strategy in Mauritania. Water is one of the priority sectors of the Bank's intervention because of its importance for the living conditions and health of the populations and the environment, its impact on many other sectors, and particularly on the development of industrial and commercial activities, and its contribution to the achievement of the millennium development goals. The Bank's last two country strategy papers for Mauritania (2002-2004 and 2006-2007) laid emphasis on water and, in particular, improvement of access to drinking water, as one of the key pillars of the Bank's strategy. The completion report of the Bank's strategy for the 2006-2007 period

confirmed the relevance of this choice. The country strategy paper covering the 2008-2012 period is being prepared, and should be presented to the Board of Directors during the fourth quarter of 2008. However, initial indications show that the water sector will continue to be a priority in the Bank's strategy in Mauritania, in accordance with the orientations of the 2008-2010 three-year development plan.

9. The proposed supplementary financing is not for a new project. It is intended to enable the Government to successfully implement a project that has already been approved by the Bank Group in accordance with the CSP in force at the time of its approval. Without this supplementary financing, the project will not be able to achieve the development objectives set for its implementation, and the Bank will dissociate itself from the other development partners and the Government in this vital project. Despite the initial delays, the project has been implemented satisfactorily since the works started in 2007. All the procurements of goods, services and works have been finalized, and the works are being carried out normally. Consequently, it is necessary for the Bank to grant a supplementary financing to ensure that the works are carried out and the project completed. The financing will enable not only the Government of Mauritania to implement one of the top priorities of its development programme, but also the Bank to achieve one of its major objectives in Mauritania, namely improve access by the populations to drinking water.

10. The proposed financing, which amounts to UA 16 million, represents about 85% of the total allocation of UA 18.93 million earmarked for Mauritania during the three-year period of the ADF XI cycle. However, the ADF XI rules state that a country cannot commit more than 50% of its allocation during the first year of the ADF cycle in question. Consequently, the maximum resources that can be committed for Mauritania for 2008 cannot exceed UA 9.46 million. In order to ensure that the proposed supplementary financing complies with the limits set by the front-loading rule, it is proposed that the financing be limited to UA 9.46 million in 2008 to be granted in the form of a loan. Since Mauritania is eligible for a mixed financing of a loan and a grant, the balance of UA 6.54 million, which will be submitted to the Board in 2009 for approval on a lapse-of-time basis, will comprise UA 3.09 million as loan and UA 3.45 million as grant.

Conclusion

11. The Nouakchott Drinking Water Supply Project is vital for the economic and social development of Mauritania. Its implementation will enable the country to make progress in the achievement of the millennium development goals. The project is not only a priority for the Government, but it is also consistent with the Bank's intervention strategy in Mauritania.