OFFICIAL USE ONLY

IDA/R2017-0217/1

June 8, 2017

Closing Date: Tuesday, June 27, 2017 at 6 p.m.

FROM: Vice President and Corporate Secretary

Guinea - Urban Water Project

Project Appraisal Document

Attached is the Project Appraisal Document regarding a proposed grant to Guinea for an Urban Water Project (IDA/R2017-0217), which is being processed on an absence-of-objection basis.

Distribution:

Executive Directors and Alternates
President
Bank Group Senior Management
Vice Presidents, Bank, IFC and MIGA
Directors and Department Heads, Bank, IFC and MIGA

Document of
The World Bank

FOR OFFICIAL USE ONLY

Report No: PAD1873

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED GRANT

IN THE AMOUNT OF SDR 21.9 MILLION
(US$30 MILLION EQUIVALENT)

TO THE

REPUBLIC OF GUINEA

FOR AN

URBAN WATER PROJECT

June 6, 2017

Water Global Practice
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective April 30, 2017)

Currency Unit	=	Guinean Franc (GNF)
US$1	=	GNF 9,065
US$1	=	SDR0.7293

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

ABEDA	Arab Bank for Economic Development for Africa
AfDB	African Development Bank
AMO	Technical Assistance to Service Provider *(Assistance à Maitrise d'Ouvrage)*
AREEG	Regulatory Agency for Water and Electricity of Guinea *(Agence de Regulation de l'Electricité et l'Eau de Guinée)*
AWP&B	Annual Work Plan and Budget
CERC	Contingent Emergency Response Component
CPS	Country Partnership Strategy
DA	Designated Account
DATU	National Directorate of Territory Administration, Urban Planning, Roads and Infrastructures (*Direction Nationale de l'Aménagement du Territoire, de l'Urbanisme, de la Voirie et des Infrastructures*)
DNH	National Hydraulic Directorate *(Direction Nationale de l'Hydraulique)*
EDG	Electricity of Guinea *(l'Electricité de Guinée)*
EIRR	Economic Internal Rate of Return
EROM	Emergency Response Operational Manual
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
EVD	Ebola Virus Disease
FIRR	Financial Internal Rate of Return
FM	Financial Management
GDP	Gross Domestic Product
GEF	Global Environment Facility
GNPC	Guinea National Population Census
GoG	Government of Guinea
ICB	International Competitive Bidding
IDA	International Development Association
IFR	Interim Financial Report
IPF	Investment Project Financing
IRR	Internal Rate of Return
IsDB	Islamic Development Bank
ISP	Implementation Support Plan

IT	Information Technology
JICA	Japan International Cooperation Agency
M&E	Monitoring and Evaluation
MEF	Ministry of Economy and Finance *(Ministère de l'Economie et des Finances)*
MEH	Ministry of Energy and Hydraulics (*Ministère de l'Énergie et de l'Hydraulique)*
MPCI	Ministry of Planning and International Cooperation *(Ministère du Plan et de la Coopération Internationale)*
MTR	Midterm Review
MVAT	Ministry of Cities and Territory Administration *(Ministère de la Ville et de l'Aménagement du Territoire)*
NCB	National Competitive Bidding
NGO	Nongovernmental Organization
NIS	Network Information System
NPV	Net Present Value
NRW	Nonrevenue Water
O&M	Operation and Maintenance
OPEC	Organization of the Petroleum Exporting Countries
PAP	Project-affected People
PDO	Project Development Objective
PIM	Project Implementation Manual
PIU	Project Implementation Unit
PSC	Project Steering Committee
QCBS	Quality- and Cost-Based Selection
RAP	Resettlement Action Plan
REDISSE	Regional Disease Surveillance Systems Enhancement
RPF	Resettlement Policy Framework
SEG	Guinea Water Company *(Société des Eaux de Guinée)*
SERP	Socioeconomic Recovery Plan
SNAPE	National Water Points Service *(Service National d'Aménagement des Points d'Eau)*
SOE	Statement of Expenditures
ToR	Terms of Reference
UCP	Project Coordination Unit (*Unité de Coordination du Projet)*
UNDB	United Nations Development Business
UNICEF	United Nations Children's Fund
WASH	Water, Sanitation, and Hygiene
WET	Water Expertise Team
WHO	World Health Organization

Regional Vice President:	Makhtar Diop
Country Director:	Soukeyna Kane
Senior Global Practice Director:	Guang Zhe Chen
Practice Manager:	Alexander Bakalian
Task Team Leader:	Oumar Diallo/Deo-Marcel Niyungeko

GUINEA
Urban Water Project

TABLE OF CONTENTS

Page

I. STRATEGIC CONTEXT 1
A. Country Context 1
B. Sectoral and Institutional Context 2
C. Higher Level Objectives to which the Project Contributes 6

II. PROJECT DEVELOPMENT OBJECTIVES 7
A. PDO 7
Project Beneficiaries 7
PDO Level Results Indicators 8

III. PROJECT DESCRIPTION 8
A. Project Components 8
B. Project Financing 10
Project Cost and Financing 10
C. Lessons Learned and Reflected in the Project Design 11

IV. IMPLEMENTATION 11
A. Institutional and Implementation Arrangements 11
B. Results Monitoring and Evaluation (M&E) 12
C. Sustainability 13

V. KEY RISKS and MITIGATION MEASURES 14
A. Overall Risk Rating and Explanation of Key Risks 14

VI. APPRAISAL SUMMARY 15
A. Economic and Financial Analysis 15
B. Technical 18
C. Financial Management 18
D. Procurement 19
E. Social (including Safeguards) 20
F. Environment (including Safeguards) 21

G. Other Safeguards Policies Triggered 22
H. Climate and Disaster Risk Screening 22
I. World Bank Grievance Redress 23
Annex 1: Results Framework and Monitoring **24**
Annex 2: Detailed Project Description **30**
Annex 3: Implementation Arrangements **38**
Annex 4: Implementation Support Plan **52**
Annex 5: Economic and Financial Analysis **55**
Annex 6: Climate and Disaster Risk Screening **63**
Annex 7: Major Related Projects Supported by Other Development Partners **68**

PAD DATA SHEET

GUINEA

Urban Water Project (P157782)

PROJECT APPRAISAL DOCUMENT

Water Global Practice

Report No.: PAD1873

Basic Information		
Project ID P157782	EA Category B - Partial Assessment	Team Leader(s) Oumar Diallo / Deo-Marcel Niyungeko
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ] Financial Intermediaries [ ] Series of Projects [ ]	
Project Implementation Start Date 27-Jun-2017	Project Implementation End Date 31-January-2022	
Expected Effectiveness Date 15-Sept-2017	Expected Closing Date 30-Jun-2022	
Joint IFC No		

Practice Manager/Manager	Senior Global Practice Director	Country Director	Regional Vice President
Alexander E. Bakalian	Guang Zhe Chen	Soukeyna Kane	Makhtar Diop

Borrower: Republic of Guinea
Responsible Agency: Ministry of Energy and Hydraulics (*Ministère de l'Énergie et de l'Hydraulique)* (MEH)
Contact: Sékou Sanfina DIAKITE Title: *Secrétaire Général* Telephone: (+224) 622 622 100 Email: ssanfiina@gmail.com
Responsible Agency: Guinea Water Company (*Société des Eaux de Guinée*) (SEG)
Contact: Mamadou Diouldé DIALLO Title: General Manager Telephone: (224) 657 330 001 Email: dioulde_diallo@yahoo.fr
Responsible Agency: National Directorate of Territory Administration, Urban Planning, Roads and Infrastructures *(Direction de l'Aménagement du Territoire, de l'Urbanisme, des Voiries et des Infrastructures) (*DATU)
Contact: Ibrahima CAMARA Title: National Director Telephone: (224) 620 202 032 Email: ibrahimacamara@yahoo.fr

Project Financing Data (in US$, Millions)										
[ ] Loan	[X] IDA Grant	[ ] Guarantee								
[ ] Credit	[] Grant	[ ] Other								
Total Project Cost:		30.00	Total Bank Financing:		30.00					
Financing Gap:		0.00								

Financing Source	Amount
BORROWER/RECIPIENT	0.00
International Development Association (IDA)	30.00
Total	30.00

Expected Disbursements (in US$, Millions)

Fiscal Year	2018	2019	2020	2021	2022					
Annual	4.00	10.00	10.00	4.00	2.00					
Cumulative	4.00	14.00	24.00	28.00	30.00					

Institutional Data

Practice Area (Lead)

Water

Contributing Practice Areas

Social, Urban, Rural and Resilience Global Practice

Proposed Development Objective(s)

The objectives of the proposed project are to increase access to improved water services in the Greater Conakry area and improve the operational efficiency of the urban water utility.

Components

Component Name	Cost (US$, Millions)
Component 1- Urban Water	26.2
Component 2 - Urban Sanitation	1.0
Component 3 - Institutional Strengthening and Project Management	2.8
Component 4 - Contingent Emergency Response	0.0

Systematic Operations Risk- Rating Tool (SORT)

Risk Category	Rating
1. Political and Governance	Substantial
2. Macroeconomic	Substantial
3. Sector Strategies and Policies	Substantial

4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	High
7. Environment and Social	Moderate
8. Stakeholders	Moderate
9. Other: Climate Change and Disaster	Moderate
OVERALL	Substantial

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes [ ]	No [X]
Does the project require any waivers of Bank policies?	Yes [ ]	No [X]
Have these been approved by Bank management?	Yes [ ]	No [ ]
Is approval for any policy waiver sought from the Board?	Yes [ ]	No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X]	No [ ]

Safeguard Policies Triggered by the Project	**Yes**	**No**
Environmental Assessment OP/BP 4.01	X	
Natural Habitats OP/BP 4.04		X
Forests OP/BP 4.36		X
Pest Management OP 4.09		X
Physical Cultural Resources OP/BP 4.11	X	
Indigenous Peoples OP/BP 4.10		X
Involuntary Resettlement OP/BP 4.12	X	
Safety of Dams OP/BP 4.37	X	
Projects on International Waterways OP/BP 7.50		X
Projects in Disputed Areas OP/BP 7.60		X

Legal Covenants

Name	**Recurrent**	**Due Date**	**Frequency**
Project Implementation Manual Schedule 2, Section I, B.1.	No	15-December-2017	

Description of Covenant

The Recipient shall prepare and adopt, no later than three (3) months after the Effective Date, a Project Implementation Manual including governance and oversight arrangements, implementation arrangements, including roles and responsibilities of all involved stakeholders, financial management and procurement procedures for the Project, satisfactory to the Association.

Recruitment of key PIU Staff Schedule 2, Section V, A.1.	No	15-December 2017	

Description of Covenant

The Recipient shall, no later than three (3) months after the Effective Date, have recruited for the PIU key staff including Project coordinator, who shall be assisted by a core team comprised of, inter alia, a financial management specialist and accountant, a procurement specialist, an environmental and social safeguards specialist, a communications specialist and a monitoring & evaluation specialist ("Key Project Implementing Unit Staff") with qualifications, experience and TOR, satisfactory to the Association.

Recruitment of External Auditor Schedule 2, Section V, A.3.	No	15-March-2018	

Description of Covenant

The Recipient shall, no later than six (6) months after the Effective Date, have appointed an external auditor, whose qualifications and experience and terms of reference shall be acceptable to the Association.

Computerized Accounting Software Schedule 2, Section V, A.2.	No	15-December-2017	

Description of Covenant

The Recipient shall, no later than three (3) months after the Effective Date, have acquired and installed and made operational in the offices of the PIU computerized accounting software capable of correctly recording and for automatic generating interim and annual financial statements.

Recruitment of a technical assistance (*Assistance à Maitrise d'Ouvrage*) to SEG. Schedule 2, Section V, A.4.	No	15-March-2018	

Description of Covenant

The Recipient shall, no later than six (6) months after the Effective Date, appoint a consultant, with qualifications, experience and terms of reference satisfactory to the Association, to provide technical assistance (*Assistance à Maitrise d'Ouvrage*) to MEH and SEG.

Conditions

Source of Fund	Name	Type
IDAT	Schedule 2, Section IV, B.1. (b) Independent security of dams' specialist	Disbursement

Description of Condition

No withdrawal shall be made under Category 1, until the Recipient has (a) recruited for the PIU an independent security dams' specialist, with terms of reference, qualification and experience satisfactory to the Association.

Source of Fund	Name	Type
IDAT	Schedule 2, Section IV, B.1. (b) Independent Dam Safety Assessment	Disbursement

Description of Condition

No withdrawal shall be made under Category 1, until the Recipient has (b) in coordination with the Electricite de Guinee (EDG), carried out an independent dam safety assessment, including upgrading or

preparation of the operation and maintenance (O&M) plan and emergency preparedness plan, acceptable to the Association.

Source of Fund	Name	Type
IDAT	Schedule 2, Section IV, B.1. (b) Environmental Impact Assessment and Environmental Management Plan	Disbursement

Description of Condition

No withdrawal shall be made under Category 1, until the Recipient has (c) prepared an Environmental and Social Impact Assessment and Environmental and Social Management Framework acceptable to the Association, for the booster station and additional water processing line including water tank at Yessoulou.

Source of Fund	Name	Type
IDAT	Schedule 2, Section IV, B.1. (b) Subsidiary Agreement	Disbursement

Description of Condition

No withdrawal shall be made under Category 1, until the Subsidiary Agreement has been executed on behalf of the Recipient and SEG; and the Recipient has furnished to the Association a supplemental opinion to the effect that the Subsidiary Agreement has been duly authorized or ratified by the Recipient and is legally binding upon the Recipient and SEG in accordance with its terms.

Source of Fund	Name	Type
IDAT	Schedule 2, Section IV, B.1. (c) Emergency Expenditures	Disbursement

Description of Condition

No withdrawal shall be made under Category 4, unless and until the Association is satisfied, and notified the Recipient of its satisfaction that all of the conditions in Schedule 2, Section IV, B.1. (c) have been met in respect of said expenditures.

Source of Fund	Name	Type
IDAT	Schedule 2, Section IV, B.1. (d) Project Implementation Manual	Disbursement

Description of Condition.

No withdrawal shall be made under any category, until the Recipient has prepared the Project Implementation Manual as described in Section I.B of the Schedule 2 in the Financing Agreement

Team Composition

Bank Staff

Name	Role	Title	Specialization	Unit
Oumar Diallo	Team Leader (ADM Responsible)	Senior Water and Sanitation Specialist	Water and Sanitation	GWA07
Deo-Marcel Niyungeko	Co-TTL	Senior Water and Sanitation Specialist	Water and Sanitation	GWA08

Carolina Dominguez Torres	Team Member	Senior Water and Sanitation Specialist	Water and Sanitation	GWA07
Alpha Mamoudou Bah	Procurement Specialist	Senior Procurement Specialist	Procurement	GGO07
Jean Charles Amon Kra	Financial Management Specialist	Senior Financial Management Specialist	Financial Management	GGO26
Cheikh Tidiane Sagna	Safeguards Specialist	Senior Social Development Specialist	Social Development	GSU01
Emeran Serge M. Menang Evouna	Safeguards Specialist	Senior Environmental Specialist	Environment	GEN07
Emmanuel Ngollo	Safeguards Specialist	Environmental Specialist	Environments	GENDR
Frank Fariello	Counsel	Lead Counsel	Counsel	LEGCF
Faly Diallo	Team Member	Finance Officer	Finance	WFALN
Issa Thiam	Team Member	Finance Analyst	Disbursement	WFALA
Thierno Hamidou Diallo	Team Member	Disbursement Assistant	Disbursement	AFMGN
Sophie Tremolet	Peer Reviewer	Senior Water and Sanitation Specialist	Economist	GWASP
Jean-Martin Brault	Peer Reviewer	Senior Water and Sanitation Specialist	Water and Sanitation	GWA05
Vinh Quang Nguyen	Peer Reviewer	Senior Water and Sanitation Specialist	Water and Sanitation	GWA07
Sylvie Ngo-Bodog	Team Member	Senior Program Assistant	ACS	GWA07
Racky Dia Camara	Team Member	Program Assistant	ACS	AFCW3

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Guinea	Conakry	Conakry Region	X		
Guinea	Kindia	Coyah	X		

.

I. STRATEGIC CONTEXT

A. Country Context

1. Guinea is a coastal country in West Africa bordered by Guinea-Bissau, Senegal, and Mali to the north and Sierra Leone, Liberia, and Cote d'Ivoire to the south. It spans 245,852 square kilometers. Guinea's total population is estimated to be 10.5 million (of which 51.7 percent are women) and is growing at 2.7 percent annually (Guinea National Population Census [GNPC] 2014).

2. The country has an abundance of natural resources, including a variety of large mineral deposits, specifically bauxite and iron ore, and fertile agricultural land, rich fisheries, and hydro electrical potential. The 2012 limited poverty assessment (Country Partnership Strategy FY14-17)[1] and the GNPC 2014 indicated that 55 percent of the population lived below the poverty line, compared to 53 percent in 2007. The poorest lived in rural areas, but the aggravation of poverty since 2007 was significantly more pronounced in urban areas. Indications are that these trends have continued during the last few years due to negative per capita economic growth, especially in urban areas, and the impact of the Ebola epidemic. The per capita income slightly increased from US$330 in 2007 to US$450 in 2012. Guinea is currently ranked 183rd out of 188 countries in the Human Development Index.

3. Conakry, with about 2.2 million inhabitants (GNPC 2014), is the capital city and main commercial center of the country. Guinea is experiencing urbanization with the share of the population living in cities having increased from 31 percent in 1990 to 37 percent in 2015. This urban growth has not been accompanied by matching expansion of infrastructure and basic services. Conakry represents more than 63 percent of the urban population and about 20 percent of the total population of the country. A large part of Conakry's population lives in overcrowded, underserviced hilly conditions, vulnerable to socioeconomic ills and disease. Using the 2012 poverty assessment survey and the GNPC 2014, the 'Guinea: Poverty and Vulnerability, World Bank 2017' report has mapped out the poverty incidence in the country and then disaggregated it by the five communes of Conakry including (a) Kaloum (33.9 percent); (b) Matam (36.2 percent); (c) Matoto (37.3 percent); (d) Ratoma (34 percent); and (e) Dixinn (35.7 percent).

4. The Ebola Virus Disease (EVD) outbreak of 2013–15 highlighted the continued vulnerability of Guinean society and institutions. The disease infected over 3,800 Guineans and claimed 2,536 lives. The human impact was aggravated by economic repercussions. The crisis has led to lower-than-projected economic performance, with gross domestic product (GDP) growth revised downward from 4.5 percent to 2.3 percent in 2013 and to 1.1 percent in 2014 and 0.15 percent in 2015. Moreover, these effects are exacerbated by the continued fall in global commodity prices, particularly minerals, on which Guinea's economy is particularly dependent.

5. The Ebola crisis in Guinea was rooted mainly in the weakness of the health system, which was unprepared to meet the challenge of the epidemic, including (a) the weakness of the epidemiological surveillance system; (b) the lack of adequate preparedness and of qualified personnel; and (c) the lack of access to safe water for the population and the lack of proper

[1] Report no. 76230, dated September 4, 2013

hygiene contributing to the propagation of the virus. The insufficient water, sanitation, and hygiene (WASH) facilities in schools as well as poor linkages between the health and education sectors contributed to the delayed reopening of schools, though safe and equipped schools could play a critical role in preventing the further spread of Ebola, protecting children and youth and catalyzing social and economic recovery.

6. The Government of Guinea (GoG) prepared a Socioeconomic Recovery Plan (SERP) 2015–2017 in response to the EVD epidemic. The SERP outlines a broad program of measures and investments to overcome the negative impacts of the EVD. In particular, the SERP strongly emphasizes the urgent need to address the structural deficiencies in the service delivery systems in the health sector and water and sanitation sector that the EVD epidemic highlighted.

B. Sectoral and Institutional Context

Institutional and Legal Setting

7. Since the 1990s, the water sector was equipped with a modern and relatively comprehensive legal framework based on four laws: the environment law (1987), the health law (1992), the land law (1992), and the water law (1994). This package is complemented by a set of regulations on public investment and control of public enterprises. Additional laws relating to (a) water abstraction fees and (b) penalties for violations of the water law were issued on July 4, 2005. In 2011, three decrees complementing the regulatory framework were signed, including (a) authorizations and licenses for abstracting water resources; (b) the National Fund of Hydraulics; (c) the National Water Commission; and (d) the new regulatory body for water and electricity, the *Agence de Régulation de l'Electricité et l'Eau de Guinée* (AREEG). Guinea made commendable progress on the international water resources front, by joining the other riparian countries of the Senegal River in the Organization for the Development of the Senegal River. However, the water sector policy adopted in 1996 needs updating based on the new developments.

8. As for the rural water sector, the National Water Points Service (SNAPE) takes the lead role. The territorial distribution of responsibility between the urban water supply utility, the *Société des Eaux de Guinée* (SEG) and the SNAPE is fixed by decree. However, the SNAPE supports water points in the peri-urban areas in close consultation with the SEG. At the local level, the decentralization law (2006) provides a mandate for water services delivery to local councils.

9. In urban areas, the SEG is responsible for water supply services. After a transition period, the Government decided in 2003 to keep urban water services under public management. The SEG was established as a Public Statutory Corporation to provide safe water supply services to 26 district (prefecture) capitals, including Conakry. The recent performance contract for 2014–2016 that has been signed between the State and SEG sets performance targets for the public utility and clarifies roles and responsibilities.

10. The fragmentation of the sanitation sector in several ministerial departments (Water, Health, Environment, and Cities) is a serious handicap for the focus on sustainable services

delivery. The urban sanitation sector is mapped to the Ministry of Cities and Territory Administration *(Ministère de la Ville et de l'Aménagement du Territoire)* (MVAT).

Situation of Water and Sanitation Services

11. **Water resources.** Guinea's surface water resources are abundant due to copious—albeit geographically uneven—rainfall, water retention by its marshes, and vast hydrographic basins. Certain areas in the northern region near the borders of Mali and Senegal are considerably drier than the rest of the country. In general, Guinea is well endowed with annual rainfall that normally varies between 1,300 mm and 2,300 mm in the southeastern region, to somewhere between 1,500 mm and 4,500 mm in the coastal zone. Of the 19 river basins in Guinea, 13 are shared with 12 other countries in the region. There is limited information about groundwater resources in Guinea, as exploratory studies are mainly focused on specific water supply development projects. However, the geological character and topography suggest the presence of a number of large aquifers. There is an urgent need to improve Guinea's integrated water resource management practices through improved knowledge of the surface and groundwater resources and water needs for drinking water supply, industry, mining, and agriculture.

12. **Access to urban water supply.** Access to safe drinking water in the urban sector is estimated at 72 percent. The service by type of access is as follows: house connections, 60 percent and access through a public standpost, 12 percent. However, these data should be considered with caution given the lack of a reliable information system (that is data on population, number of connections charged, number of people per connection, number of supply hours, and quality of water). The reliability of the supply is poor, and unaccounted water is high (about 45 percent). In fact, poor access to safe water and proper hygiene in the densely populated environment also contributed to the propagation of the Ebola virus and was even a critical factor in schools, as a report on Recovering from the Ebola Crisis highlighted. The report went on to recommend improving access in underserved, urban poor communities and areas affected by epidemics by expanding the distribution network and installing household connections (United Nations/World Bank/European Union/African Development Bank [AfDB] 2015).

13. **The deficit in the urban water sector.** With its actual production at 167,000 m^3 per day, there is a deficit of 141,000 m^3 per day, based on a water production need of 308,000 m^3 per day estimated by ARTELIA Consulting Firm in 2013. The distribution network does not cover upper Conakry where the city is expanding. Therefore, there is a need to reinforce production capacity in phases, including transportation, storage, and distribution capacity, as well as to develop a significant social connection program to guarantee a continuous provision of drinking water in poor targeted areas. In 2030, drinking water needs will be 494,000 m^3 per day. To cover this demand will require reinforcing production, transportation, storage, and distribution capacity up to 330,000 m^3 per day.

14. **Inadequate pressure levels in the urban supply area.** The current water supply system cannot provide continuous service and guarantee adequate citywide pressure. In Conakry, the supply of water to the highest reservoirs is ensured only every other day, which leads to distribution shedding from a few hours every other day to about 10 hours every day depending on the neighborhood. As an alternative, the population of Conakry mitigates the water rationing through (a) drilling their own water wells; (b) building reservoirs at their houses and storing

water for the time when there is no supply; and (c) buying water from water vendors. This has raised the issue of water quality in the city. The continuity of the water service will only be ensured once there is a significant increase in water production capacity and a restructuring of the distribution system to reach the upper periphery of the city.

15. **High non-revenue water (NRW) and weak utility performance.** Whereas it is challenging to provide precise estimates of the level of water losses, it appears that NRW has significantly deteriorated from 33 percent of the production in 2011 to 45 percent in 2016. The metering ratio stands at 56 percent. With the information currently available, it is difficult to accurately estimate the multiple causes of the high level of NRW. However, it is estimated that about three-quarters is due to physical losses and one-quarter due to commercial losses. The non-metered customers in Conakry are paying an average monthly fee. Further, the utility performs poorly on key indicators. Staff productivity, at 5.8 employees per thousand connections in 2016, has hardly improved since the levels of 2011. The billing ratio was only 57 percent of total water produced. Finally, according to the estimates provided by the SEG, the operational cost recovery for 2015 was barely above one, meaning that the utility is only able to pay for its operational expenses from its revenue but not able to finance service expansion. The SEG's operational and financial performance needs to be strengthened to reach the average regional levels among West African utilities. As per the SEG financial simulation model developed in 2013, as part of the urban water sector diagnostic study, the current water tariff is too low to allow the water company to recover its costs despite increases in 2008 and 2013. A tariff study, including affordability and efficiency in the analysis, would be highly useful for the SEG. For the sake of comparison and benchmarking carried out in 2014, Table 1 shows a comparison of performance of urban utilities including the SEG:

Table 1. Benchmarking of Operating Performance Indicators (2014)

Indicator	Guinea	Mali	Niger	Burkina Faso
Access to piped water (%)	71	68	85	86
Household connections ratio (%)	67	41	58	65
Unaccounted-for water (%)	42	28	16	19
Bill collection ratio, private sector (%)	67	93	96	97
Number of staff per 1,000 connections	6.1	5.1	3.6	3.2
Staff costs / total revenues (%)	15	26	21	20
Compliance with bacteriological standards (% of samples)	98.2	99	99	100
Average revenue (US$ per m^3 water sold)	0.45	0.57	0.70	1.03
Operating cost coverage (ratio)	0.96	1.15	1.17	0.82

Source: IBNET, SEG, SOMAPEP/SOMAGEP, and SPEN/SEEN.

16. **Pro-poor focus.** The GoG and SEG with the support of Japan International Cooperation Agency (JICA) and United Nations Children's Fund (UNICEF) are supporting a pro-poor program including the water supply to the five peri-urban neighborhoods of Conakry characterized by deep incidence of poverty, low or lack of access to water supply, and end of the distribution network with lack of adequate pressure including (a) Kaloum; (b) Matam; (c) Matoto; (d) Ratoma; and (e) Dixinn and Dubreka. These neighborhoods are supported through (a) the extension of the primary and secondary network to reach 122 additional stand posts and (b) the installation of approximately 81 stand-alone standpost kiosks equipped with a cistern to receive regular water supply from utility water and 41 stand posts equipped with borehole and

suspended tank. To ensure the sustainability of the above water service expansion investments, there is a need to complement the above undertakings to improve service quality and cost recovery at the public standpost, through production capacity reinforcement, extension of network, and technical assistance to a standpost operator program.

17. **Management accountability and regulation.** The current performance contract between the Government and SEG for 2014–2016 expired on December 31, 2016 and has not been renewed. The recently established regulatory body for water and electricity, the AREEG, needs capacity support to deliver on its mandate with regard to analytics and operation.

18. **Urban water sector reform.** Based on the 2013 diagnostic study (ARTELIA 2013), the GoG has committed to reform the urban water sector and has adopted the utility improvement plan for SEG. The diagnostic study confirmed the urgent need for (a) short-term critical investments to rehabilitate the aging water infrastructure including production reinforcement and (b) sector reform through a management contract for SEG. In preparation to the reform agenda, and based on lessons learned from the ongoing Guinea electricity sector project[2], also under the Ministry of Energy and Hydraulics (*Ministère de l'Énergie et de l'Hydraulique,* MEH), the GoG organized a round table with its development partners, on March 10–11, 2016, to present the reform agenda and seek support for its short-term investment program and laying the foundation for sector reform including through (a) an urban water supply master plan, with a baseline, and hydraulic modeling for Greater Conakry targeting the 2030 horizon; (b) a financial model for the SEG; (c) a tariff study for the urban water sector; and (d) updating the legal framework and the policy framework in the urban water sector. To demonstrate its commitment to reform, the Government has established an Interministerial Steering Committee chaired by the Prime Minister to monitor the reform process with a Technical Committee chaired by the MEH acting as the anchor. It has announced its preference to replicate the successful experience in the electricity sector with Electricity of Guinea *(Electricité de Guinée,* EDG) and its four-year management contract with the electricity operator VEOLIA. It is worth mentioning that urban water was privately managed from 1989 until 2000. However, after the failure of the negotiations of a new lease contract in 2000, the private partner withdrew. After a transition period, the Government decided in 2003 to keep urban water services under public management. The SEG was established as a public statutory corporation to provide safe water supply services to 26 district (prefecture) capitals, including Conakry. The failure of the lease contract (1989–2000) is explained by the lack of strong and stable institutions and inadequate dispute-resolution mechanisms among the parties involved. Further, there was no independent authority to monitor the lease contract effectively. The above lessons learned are taken into account in the proposed sector reform.

19. **Synergies and complementarities.** In the water sector, donors are funding selected infrastructure improvements**.** While investments in rural water supply predominantly consist of small schemes and point-source construction efforts led by nongovernmental organizations (NGOs), AfDB, the European Union, and UNICEF, larger undertakings in secondary urban areas are being supported by JICA, the Arab Bank for Economic Development in Africa, the Islamic Development Bank (IsDB), and the Organization of the Petroleum Exporting Countries (OPEC) Fund. On water resource management, the Global Environment Facility (GEF) and the Food and

[2] Guinea Power Sector Recovery Project (P146696)

Agricultural Organization of the United Nations support the integrated water resources management of Fouta-Djallon region and database at the central level. With the support of JICA and the Kingdom of Morocco, the SEG has undertaken a leak reduction and phased replacement program for the old and obsolete transfer and distribution pipelines (asbestos cement and gray cast iron). The current level of support is aiming to replace the first critical 7 km out of the estimated need of 30 km.

20. **Urban sanitation sector.** The Joint Monitoring Program (JMP), based on the compilation of household surveys, estimated, in 2015, the overall rate of access to improved sanitation to be 34 percent in urban areas (against 12 percent in rural areas). For shared sanitation, the access rate is 45 percent in urban areas against 9 percent in rural areas. For other unimproved sanitation, the access rates are 21 percent for urban and 55 percent for rural. Defecation in the open is especially common in rural areas where there is still a 24 percent rate. UNICEF, NGOs, and AfDB are supporting the GoG through interventions in the rural sanitation sector. As for urban areas, only Conakry has a sewerage network located in the district of Kaloum, five condominium sewerage systems on the sites of major collective facilities (university, hospital, and professor's blocks), and two fecal sludge treatment plants intended to serve the part of the city of Conakry not covered by the sewerage network. A private company has been managing the urban sanitation infrastructure since December 2005 under a leasing contract signed for a five-year term with the Government. This contract was renewed in January 2012 for a new period of five years. The contract is overseen from the Government side by the MVAT through DATU (*Direction Nationale de l'Aménagement du Territoire, de l'Urbanisme, de la Voirie et des Infrastructures*), the national directorate in charge of urban sanitation development. The operation of this infrastructure is severely handicapped by the non-functionality of the waste water treatment plant and vandalism of the fecal sludge treatment plants. This situation leads to ocean dumping of untreated wastewater collected from the sewer system and disposal of fecal sludge in open nature, leading to serious health and environmental problems. Therefore, the GoG wishes to be equipped with a citywide urban sanitation baseline and strategy and master plan to guide interventions in the sector.

Rationale for IDA's Involvement

21. The GoG has requested the World Bank Group support to reform the urban water sector. IDA has been a strong supporter of Guinea water and electricity sector reforms in the past years. In the water and sanitation sectors, the World Bank financed the Second Water Supply Project (P001044) Cr.1985-Gui), which was the first World Bank project to support private sector participation in the delivery of urban services and the Third Water Supply and Sanitation Project (P001075, 1997–2005). Importantly, IDA's presence in the water and sanitation sector at a critical time for deepening sectoral reforms will maintain the long-term partnership established with the GoG and stakeholders. IDA will thus continue to play a catalytic role in facilitating the reform process, taking into account lessons learned from its previous engagement, rather than seeking to push for off-the-shelf solutions.

C. Higher Level Objectives to which the Project Contributes

22. **The proposed project is aligned with the World Bank's twin-goals of ending extreme poverty and promoting shared prosperity.** A reliable and affordable source of clean water is

an essential precondition for a healthy population and robust economic activity, especially in Guinea's context of high WASH-related disease rates. The project will reduce exposure to unsafe drinking water and hygiene for tens of thousands of Guineans. This is expected to reduce poverty and boost shared prosperity by lowering health-related costs (directly through less need for treatments and indirectly through fewer hours of missed work), as well as reduce negative impacts associated with lower school attendance due to water and hygiene related tasks. This is particularly the case for females who are disproportionately responsible for fetching water.

23. **The proposed intervention reinforces the World Bank's Country Partnership Strategy (CPS) 2013–2017 (Report no. 76230, dated September 4, 2013), in particular, its pillar on Human Development, which seeks to achieve 'improved outcomes in basic services delivery, including education, social protection and health'.** In fact, the CPS has been adjusted to include a stronger focus on integrated basic social services in support to *Plan d'Actions Prioritaires Post-Ebola* (Post-Ebola Priority Action Plan) through restoring the national healthcare delivery services and putting in place a solid framework prioritizing other social services such as education, water, environmental sanitation, and hygiene. Therefore, the project will contribute to realizing the World Bank's pledge to support an 'effective and sustainable recovery' from the Ebola epidemic (World Bank, 2015) by supporting the expansion to 'access to sustainable water and sanitation services'.

24. **The project is in line with Guinea's socioeconomic development plan 2016–2020,** which calls for a 'major increase in the share of households, institutions, and communities that have access to improved water, sanitation, and hygiene facilities from the current 61 percent to 75.6 percent for water supply and from 30 percent to 38 percent for sanitation'.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

25. The objectives of the proposed project are to increase access to improved water services in the Greater Conakry area and improve the operational efficiency of the urban water utility.

Project Beneficiaries

26. People currently affected by water shortages will benefit from enhanced services through the increased water production. These beneficiaries live in Conakry metropolitan and periphery area and would mainly benefit in the form of more connections, more hours of water supply, adequate pressure levels in the system, fewer interruptions in water service delivery, closer proximity of the water supply, or a combination of these enhancements. The main benefits will stem from improved access to services and associated better living conditions, as well as from job opportunities created during the construction activities. The SEG will also benefit from support to gradually improve its management capacity, provide services to the city inhabitants, and generate additional revenues. Furthermore, the GoG and the City of Conakry will be supported to adopt better policies, implement reforms, strengthen institutions, and build capacity in urban sanitation.

27. The expected outcomes from the project are (a) at least 730,000 direct beneficiaries (of which 51.7 percent are female) benefitting from improved services and (b) an improvement in

the operational efficiency of SEG with a working ratio (WR) under 1. As a precise, reliable baseline for WR is currently not available, the baseline and expected outcome for WR may be adjusted at midterm review (MTR).

PDO Level Results Indicators

28. Progress toward the project development objective (PDO) will be measured through the following indicators:

(a) Number of people in urban areas provided with access to 'improved water sources' under the project

(b) Number of people in urban areas already connected and provided with access to 'enhanced water supply services' under the project (of which female)

(c) Working ratio of water utility (ratio between O&M cost and revenue)

III. PROJECT DESCRIPTION

A. Project Components

29. The project components were selected on the basis of (a) the Guinea urban water supply diagnostic study and reinforcement plan, 2013 (ARTELIA) and (b) the urban water supply master plan for Conakry (1996) with further refinements during preparation (including the urban water supply for Conakry options, World Bank 2016) and lessons learned from the recent World Bank engagement in the water and sanitation sectors in Conakry. The proposed project will thus consist of four components, which are summarized below:

30. **Component 1 - Urban Water, SDR 19.1 million (US$26.2 million equivalent).** This component will invest approximately US$26.2 million to increase water production capacity and rehabilitate obsolete parts of the distribution network including targeted extension to improve water service delivery in Conakry in general and the peri-urban poor in particular. The targeted activities are (a) construction of a booster station at Grandes Chutes Dam to transfer additional water flow (86,000 m^3 per day) through two existing pipelines (DN 1100 and DN 700) to the existing Yessoulou treatment plant, which will be reinforced with a new process line and a treated water tank of 6,000 m^3 capacity; (b) rehabilitation of the distribution network, in particular by replacing old and obsolete pipelines (asbestos cement and gray cast iron) and restructuring/extending networks in the targeted areas to reduce NRW (including area metering and restructuring the spaghetti connections) and reach the targeted peri-urban poor; (c) an update of an urban water supply master plan, baseline, and hydraulic modeling for Greater Conakry targeting the 2030 horizon; and (d) improving customer service through helping the SEG/customer department to be more responsive to customer complaints and requests by investing in a best-practice grievance redress system to track requests/complaints and their resolution. Training of SEG staff in the use of new management and operational tools will also be undertaken under this component.

31. Component 1 will also contribute to energy savings and greenhouse gas reduction and climate change mitigation as a result of NRW reduction for Conakry. This will result in annual CO_2 emissions reduction.

32. **Component 2 - Urban Sanitation, SDR 0.8 million (US$1 million equivalent).** This component aims to support the Government with a citywide baseline survey on the current condition of urban sanitation in Greater Conakry, together with the development of a sanitation strategy and master plan for its improvement that would guide interventions in the sector (that is, on-site sanitation, fecal sludge management, and sewerage system). The project will also facilitate the knowledge exchange between DATU and other well performing urban sanitations agencies in the sub region, like the Benin the urban sanitation agency SONEB, which has just completed a citywide inclusive sanitation baseline to inform the strategy.

33. **Component 3 - Institutional strengthening and project management, SDR 2 million (US$2.8 million equivalent).** This component aims to support the water sector institutions and the urban water sector reform and to enable the Project Implementation Unit (PIU) to exercise its responsibilities through the following activities:

(a) **Water resources management.** The project intends to support the National Hydraulic Directorate (DNH) with the modeling of the underground water table of the Conakry peninsula and the development of a database of water resources users and levels of abstraction.

(b) **Urban water sector reform.** The project will provide funding to the MEH for the preparation of the foundation for the urban water reform including (i) the development of a financial model for the SEG; (ii) conducting a tariff study for the urban water sector, which includes affordability and efficiency in the analysis; and (iii) updating the legal framework and the sectoral policy letter in the urban water sector.

(c) **PIU.** To mitigate institutional capacity risks at the MEH and SEG, the project will support a strong, carefully recruited PIU with key staff—a PIU coordinator, a financial management (FM) specialist, a procurement specialist, a communication specialist, a safeguards specialist, and a monitoring and evaluation (M&E) specialist. The contracting of key PIU staff will include a provision for periodic contract renewal based on performance. Further, the project will encourage use of the cluster approach between IDA projects in the country to share support from existing safeguards/communication staff of the PIUs.

34. Due to budget constraints, at this stage, the project will not provide funding for financing a management contract for the SEG, nor for rehabilitating the sanitation infrastructure in Conakry. However, conditional on the project implementation meeting the required criteria, an additional financing by IDA is envisaged to provide support to the foreseen management contract for the SEG and critical investment in the sanitation sector in Greater Conakry. Currently, under Component 2, the project will prepare the required preparatory studies. The management contract is estimated by the diagnostic study at US$15 million and would be signed between the Government (MEH and Ministry of Economy and Finance [MEF]) and a private

firm (the operator) with sufficient technical and fiduciary capacity to provide management, operation, and capacity-building services for the SEG over four—five years and the auditing services for the monitoring and control of the management contract (compare also the urban water sector diagnostic study, 2013). Component 3 of this project will support the foundation and prerequisite for the urban water reform. A performance contract for 2017–2019 will be signed between the State and SEG and will set performance targets for the public utility and clarify roles and responsibilities.

35. **Component 4 - Contingent Emergency Response (US$0).** The objective of this component is to improve the Government's response capacity in the event of an emergency, following the procedures governed by OP/BP 10.00 paragraph 13 (Rapid Response to Crisis and Emergencies). There is a moderate to high probability that, during the life of the project, one or more countries will experience an epidemic or outbreak of public health importance or other disaster that causes a major adverse economic and/or social impact (for example, Ebola), which would result in a request to the World Bank to support mitigation, response, and recovery in the regions affected by such an emergency. In anticipation of such an event, this contingent emergency response component (CERC) provides for a request from a Regional Disease Surveillance Systems Enhancement (REDISSE) affected country to the World Bank to support mitigation, response, and recovery in the districts affected by such an epidemic. The CERC will serve as a first-line financing option during an emergency response, and only country IDA funds will be used in such case.

36. An Emergency Response Operational Manual (EROM) will be prepared by each country as a condition of disbursement. Countries will begin drafting the EROM immediately to ensure that the CERC is in place as soon as possible in the event that an emergency occurs early in the implementation of the project. Triggers for the CERC will be clearly outlined in the EROM acceptable to the World Bank. Disbursements will be made against an approved list of goods, works, and services required to support crisis mitigation, response, and recovery.

B. Project Financing

37. The financing instrument is Investment Project Financing (IPF), consisting of an IDA grant equivalent to US$30 million, over five years. The selection of the IPF instrument is based on its flexibility and suitability to finance a range of activities, including works, equipment, and capacity building. The project will be financed 100 percent from the IDA grant.

38. Project costs are provided in the table below by components and subcomponents as described above:

Project Cost and Financing

Project Costs by Component and Source of Financing (US$, millions)

Project Components	Project Cost	IDA Financing	% Financing
A - Urban water	25.1	25.1	100
B - Urban sanitation	1.0	1.0	100
C - Institutional strengthening and project management	2.8	2.8	100
D - Contingent Emergency Response	0	0	0

Project Components	Project Cost	IDA Financing	% Financing
Project Preparation Advance on Component 1	1.1	1.1	100
Total Costs	30.0	30.0	100
Total Financing Required	30.0	30.0	100

C. Lessons Learned and Reflected in the Project Design

39. Most of the lessons incorporated in the proposed project design are derived from previous IDA operations in Guinea and also from the experience accumulated in Africa in developing access to water and sanitation services. The following lessons have been reflected in the project design:

40. **Sector governance, policy, and strategy.** Previous project implementation has demonstrated a need for a clear sector policy and strategy setting a vision for sector development that should build resilience to democratic changes. In a country where policy decisions are highly centralized, the World Bank should be prepared to integrate sectoral reforms at the macro policy dialogue including that the Government needs to pay for its water bills, to adjust tariffs based on real costs of service delivery and build strong regulatory bodies. Drawing on the above lessons, to help improve the SEG's operational performance, the project interventions will be oriented in three directions: (a) restoring water production and distribution capacities to improve quality of service; (b) strengthening tools including baseline and tariff reviews; and (c) supporting the Government to prepare for the transition toward a management contract for the SEG to sustainably improve the management of the urban water sector.

41. **Coordination with other donors and stakeholders is critical.** This project's focus on the production capacity reinforcement was purposefully designed to complement activities of other major donors, in particular, JICA, (Yessoulou II and key distribution lines) and the Kingdom of Morocco funded NRW and rehabilitation of critical parts (7 km) of the transmission and distribution network in Conakry, as well as the IsDB financing of the rehabilitation of 8 km of the transmission network DN 700, 2 km of primary network DN 600, and 13,000 existing spaghetti connections.

42. **Importance of avoiding delays related to the resettlement framework.** Past projects in post-conflict countries have incurred delays related to resettlements and associated compensation payments. While no major resettlements and compensation payments are expected in this project, agreements to rebuild, after pipe laying, those structures that encroach on the right-of-way will be made with occupants of affected buildings, and such work must be reflected in work orders with contractors to avoid unnecessary delays and disagreements.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

43. The MEH will be the overall coordinator of the project. Given the limited capacity of the MEH, a PIU will be established within the MEH. The key PIU staff are expected to be a project coordinator, an FM specialist and accountant, a procurement specialist, a communication specialist, a safeguards specialist, and an M&E specialist. The contracting of key PIU staff will

include a provision for periodic contract renewal based on performance. Further, the project will encourage use of the cluster approach between IDA projects in the country to share support from existing safeguards/communication staff of the PIUs.

44. The responsibilities of the PIU have been defined in close collaboration with the MEH, SEG, and DATU to avoid overlaps or frictions with existing departments of the implementing agencies through, where relevant, a subsidiary agreement.

45. In fact, the PIU will work closely with all of the relevant departments within the MEH, SEG, and DATU to ensure the smooth execution of both investments and institutional support activities. For this, in addition to the role of coordination, the MEH will be the implementation agency for Component 3 of the project on institutional support, while Component 1 on urban water supply will be implemented by the SEG, and Component 2 on urban sanitation by DATU. To reinforce the existing capacity at the MEH and SEG, a technical assistance (*Assistance à Maitrise d'Ouvrage*, AMO) will be supported to help the MEH undertake the reform agenda and assigned within the SEG for the daily management of the urban water supply component, which represents roughly 87 percent of the project amount. The project will encourage twinning arrangements with a well-performing utility in the sub region as an alternative to hiring consulting firms.

46. The PIU will conduct the daily tasks of the IDA project coordination and periodic assessments of its progress in close collaboration with the SEG and DATU. The PIU will also be responsible for the FM of the project and for the preparation of the quarterly unaudited interim financial reports (IFRs) regarding the project. It will ensure that all of the project activities are performed and that quarterly IFRs, progress reports, and annual financial audits are submitted on time. The PIU will maintain a fixed assets register for the assets to be generated by the project. Such assets will be turned over to the SEG at the end of the project. The PIU will receive financial support through the project, thus ensuring that it has the technical and management resources necessary to oversee the technical studies as well as the technical, safeguards, and fiduciary aspects of implementation.

47. A Project Steering Committee (PSC) will be responsible for the overall strategic guidance and oversight of the project. The PSC is formed by representatives of the MEH, MVAT, SEG, DATU, MEF, and the Ministry of Planning and International Cooperation (MPCI).

48. Where relevant, a subsidiary agreement will be foreseen between the implementing agencies and MEH including the MEF.

B. Results Monitoring and Evaluation (M&E)

49. The Results Framework detailed in Annex 1 identifies results indicators for the project as a whole, as well as for each of its components. The PIU will be responsible for collecting, verifying, and consolidating information and submitting progress reports to the World Bank, on an annual basis for PDO indicators and on a semiannual basis for the intermediate indicators at the component level.

50. Regular M&E will be an integral part of the project. This function will be under the responsibility of the PIU. The project will benefit from the M&E tools, skills, and processes

developed during project implementation including (a) water supply in the Greater Conakry master plan, which will be updated before the launch of the project activities; (b) a distribution network information system (NIS); (c) district metered areas; and (d) utility financial modeling, sanitation master plan for Greater Conakry, and the tariff study for the SEG.

51. The PIU will consolidate quarterly progress reports on the project to the MEH and to the World Bank. The PIU will compile the data necessary to monitor the progress of intermediate project indicators, and each quarterly report will provide a detailed update on these indicators, including updates to the Results Framework of the project appraisal document. For ease of reporting, the format of the report is simple and streamlined, as presented in the Project Implementation Manual (PIM).

52. An MTR will be conducted, and an impact assessment with a beneficiary satisfaction survey will be carried out at project closing.

53. **Partnership with others donors.** For the sake of coordination and synergies between interventions, the project has been prepared in coordination with JICA, the IsDB, the Arab Bank for Economic development in Africa, and the Kingdom of Morocco, which are active in the urban water and sanitation sector in general and in Conakry in particular.

C. Sustainability

54. Sustainability will hinge on the success of the project in strengthening (a) the operational, commercial, and FM capacities of the SEG; and (b) oversight of the utility by the Government and service users themselves.

55. **Sustainability of investments.** The project supports appropriate operation and maintenance (O&M) practices including (a) reducing NRW by improving the metering; and (b) developing and maintaining an NIS and hydraulic model.

56. **Institutional sustainability.** The project builds accountability within the SEG through (a) updating of the legal framework and the sectoral policy for urban water with a specific focus on customer care/complaint management system; (b) an update of the urban water master plan for the 2030 horizon; and (c) supporting of the AREEG to voice the interest of the consumers.

57. **Financial sustainability.** The project supports the development and enforcement of (a) a financial model that includes obligations aimed at ensuring at least the recovery of O&M costs based on a tariff study and (b) a tariff study for the urban water sector. In coordination with Public-Private Infrastructure Advisory Facility (PPIAF) support, the project will support activities for technical management of distribution networks to reduce leakages, improved billing efficiency, and commercial practices including the metering program.

58. **Fiscal sustainability.** The project seeks to ensure that the SEG will no longer need to rely on budgetary subsidy for its operating expenditures by 2023. By the end of the project cycle, the SEG is expected to generate enough cash flow from internal sources to adequately maintain its assets. Nevertheless, public funds through international credits or grants will likely still be required to fund the bulk of the SEG's long-term-investments necessary to significantly increase the rates of access to water and sewerage services in Greater Conakry.

V. KEY RISKS AND MITIGATION MEASURES

A. Overall Risk Rating and Explanation of Key Risks

59. The overall risk in achieving the development objective of the project is 'Substantial'. Below is an explanation of the most relevant risks and mitigation measures at the sector and project levels.

60. **Political and governance (Substantial).** The country is characterized by poor governance and a fragile political environment. It seems after the last presidential election and the advent of a new government that there is a political will to move ahead to achieve better economic management and inclusive development.

61. **Macroeconomic (Substantial).** The EVD outbreak in the past two years and decline in global commodity prices, particularly of minerals, on which Guinea's economy is highly dependent, have highlighted the vulnerability of the country's economy to shocks. The Government is facing a widening fiscal deficit that is constraining its scope to support investments in service delivery. The Post-Ebola Priority Action Plan has outlined strategic measures to overcome the above twin shocks including the diversification of the economy with the strong support of the development partners.

62. **Sector strategies and policies (Substantial).** After successful results of the energy sector reform, the Government is now keen to tackle water sector reform to boost investment, meet the increasing water demand, and eliminate the water supply deficit in the urban sector, which hampers economic and human development. The recent conference of donors held in March 2016 shows that this will go a long way toward engaging a sector dialogue with all stakeholders including donors and civil society and setting up a new institutional framework for improving the performance of the urban water utility.

63. **Technical design of the project (Substantial).** Project activities involve the rehabilitation and expansion of existing water supply infrastructure in Conakry. Project design documents are at the stage of preliminary preparation for all components and must be completed before effectiveness, by using the project preparation advance.

64. **Institutional capacity for implementation and sustainability (Substantial).** The MEH, SEG, and DATU do not have recent experience implementing World Bank water projects and compliance with fiduciary, safeguard, and project management requirements, which could involve a learning curve for them. The project is designed to reinforce the institutional capacity of key stakeholders to implement their roles through the hiring of key staff of the PIU and involving twinning arrangements with performing peer regional water utilities and agencies. With the support of the project preparation advance, the detailed design and tender documents by consulting firms for project components are underway and shall be completed before effectiveness.

65. **Fiduciary risk (High).** The procurement and financial management risks of the project are rated substantial and high respectively, due to the multiple implementation agencies involved and the lack of experience with the World Bank's fiduciary procedures. In addition, to the Project Implementing Unit which includes a well-qualified procurement specialist and financial

management specialist, the project will support training, technical assistance for the preparation of large procurement documents, and recruitment of consulting firms to control quality in the execution of works including enhanced IDA supervision and annual audits.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

66. The economic and financial analyses assess the economic and financial benefits and related costs arising from investments implemented under Component 1. The results of the economic and financial analyses show that the project is economically and financially viable. The financial internal rate of return (FIRR) is 51 percent and the economic internal rate of return (EIRR) is 30 percent. These analyses are presented in detail in Annex 5. Further, public financing is appropriate as improved and expanded water services will contribute to public health and social stability by rapidly improving access to basic water service for thousands of beneficiaries in the capital's outskirts, where the population is predominantly of low- and very low-income. The improvement of service coverage is expected to contribute to long-term human resources enrichment and economic growth by allowing children to attend school, and adults (especially women) to engage in additional productive activities instead of spending several hours each day searching for water. The World Bank is well positioned to support the project strategy of financing high-impact activities that address urgent unmet needs with quick return on investment for the utility, while providing planning and policy assistance for the mid- to long-term horizons including the foundation for the reform.

67. **Cost-benefit analysis.**[3] The economic/financial feasibility analysis of the project compares estimated economic/financial benefits of the project with its economic/financial costs. Costs include the investment costs of schemes under Component 1, which will be incurred during the project life; maintenance and rehabilitation cost, calculated as a percentage of the investment cost (3 percent used); and operational costs for the water supply facilities financed under Component 1.

68. The net benefit is the difference between the incremental benefits and the incremental costs of two scenarios: 'without' and 'with' the project. The 'without' project scenario considers utility consumers facing continuous water shortage. At present (the 'without' project scenario), in Conakry, water production is insufficient to supply the entire city of Conakry. Hence, one of the main challenges for the SEG is to provide continuous service and guarantee adequate levels of water. In Conakry, the supply of water to the highest reservoirs is ensured every other day, which leads to distribution shedding from a few hours every other day to about 10 hours every day depending on the neighborhood. Currently, the population served by the SEG consumes on average 57 L per capita per day, which is just above the minimum consumption required of 50 L per capita per day recommended by World Health Organization (WHO). The continuity of the

[3] The cost-benefit analysis is a method for comparing the economic pros and cons of policies and programs to help policy makers identify the best or most valuable options to pursue. Cost-benefit analysis monetizes all major benefits and all costs associated with a project so that they can be directly compared with each other as well as with reasonable alternatives to the proposed project. A cost-benefit analysis is generally considered the most comprehensive approach and, in many ways, the gold standard. World Bank, Investment Project Financing Economic Analysis Guidance Note, 2014.

water service will only be established once there is a significant increase in water production capacity. Currently, NRW is estimated at 42 percent of water production (as of 2016). With the information currently available, it is difficult to accurately estimate the multiple causes of the high level of NRW.

69. The 'with' project scenario considers that by the end of year 3 and owing to the significant enhancement in water production, the project is expected to provide an average of 85 L per capita per day to project beneficiaries, which represents an increase of 28 L per capita per day. As such, the increase in water production will contribute to reduce continuity problems and reliance on vendors. The project is expected to contribute to a reduction of NRW to 30 percent of the production by the end of the project by investing in the distribution network, in particular, restructuring distribution networks. Reductions in NRW are expected to boost the SEG's revenues, contributing to strengthening its financial position.

70. **Discount rate.** The analysis was done using two discount rate assumptions: 6 percent and 10 percent. The 6 percent discount rate assumption corresponds to the recent World Bank directives regarding discount rates for use in economic analysis.[4]

Economic Analysis

71. **Water supply benefits.** Component 1 aims at increasing the production water supply capacity in Conakry, enhancing the distribution network, and reducing water losses. The total number of beneficiaries at full capacity of the infrastructure implemented under the project is about 730,000. In addition, investments under Component 1 will benefit industrial, commercial, and government institutions.

72. **Other benefits.** Besides direct preventable economic losses, there are many other potential benefits that are not factored into the cost-benefit analysis described here. This is either because estimating such benefits is difficult due to the lack of data or it is challenging to quantify the value of those benefits because they might not be financial or economic in nature; for instance, access to improved water supply provides dignity. Some of the benefits not included are the impacts on women and girls and the decrease in morbidity and mortality rate.

73. Therefore, the estimated benefits of the project described in this analysis can be considered conservative and it can be reasonably assumed that the actual benefits will be larger than the ones estimated by this economic analysis.

74. **Project costs.** The project costs are the investments required for the various project activities and the corresponding maintenance and rehabilitation costs associated with ensuring that the investments can generate the water services in the short, medium, and long term. A 3 percent maintenance and rehabilitation cost per year was assumed to ensure that the investments made under the project are sustained over time. In addition, unit operation costs per cubic meter was multiplied by the respective volumes of additional water consumption (residential and nonresidential and water savings from technical losses).

[4] World Bank. Discounting Costs and Benefits in Economic Analysis of World Bank Projects. May 9, 2016.

75. **Consolidated results of economic analysis.** The project is economically viable when 6 percent and 10 percent discount rates are used. The results of the analysis are robust, given that not all of the possible benefits of the project were included because of the difficulty in quantification and valuation. The EIRR of the project is 30 percent. A summary of the present value of benefits and cost and the NPV of the project, under the two discount rate scenarios, is presented in Table 2.

Table 2. Summary Results of the Economic Analysis

Results	Component 1	
Discount rate scenario (%)	**6**	**10**
Present value of benefits (US$, millions)	163	112
Present value of costs (US$, millions)	−58	−46
Net present value (US$, millions)	105	66
Benefit-cost ratio	2.8	2.4

Financial Analysis

76. Results of the financial analysis show that the project is financially viable when the utility expands production capacity and achieves reduction of technical losses. Under the set of assumptions considered,[5] the FIRR of the activities considered under the financial analysis is 51 percent.

77. **Financial benefits.** The financial benefits of the project were measured in financial terms as the increase of revenue for the SEG. Revenues were measured as volume of water billed, times the average tariff per cubic meter and then affected by a metered-billed ratio of 29 percent and the collection revenue rate of 90 percent. No tariff adjustments were assumed for the financial projections. The increase of revenues will come from (a) additional water sales arising from increasing additional water capacity made available by the project and (b) additional water sales arising from greater availability of water derived from reductions in NRW. Different from the economic analysis, the financial analysis captures the benefits that would accrue due to reductions in both technical and commercial losses, as both translate into greater revenue (cash flow) to the utility.

78. **Project costs.** There will be an on-grating agreement between the MEF and the SEG. As such, the SEG will not assume the financial liability to pay for the investment associated with Component 1. However, it is for the SEG to assume the corresponding maintenance and rehabilitation costs associated with ensuring that the investments can generate the water services in the short, medium, and long term.

79. **Consolidated results of financial analysis.** Table 3 summarizes annual values of the project's financial benefits and their present values, using 6 percent and 10 percent discount rates.

[5] Most of the assumptions made to calculate the economic benefits and costs are kept for the financial analysis, unless otherwise stated.

Table 3. Summary Results of the Financial Analysis

Results	Component 1	
Discount rate scenario (%)	**6**	**10**
Present value of benefits (US$, millions)	141	85
Present value of costs (US$, millions)	−124	−69
Net present value (US$, millions)	17	16

B. Technical

80. The project will support investments to increase water production capacity to reduce the current deficit and rehabilitate obsolete parts of the distribution network including targeted extension to improve water service delivery in Conakry in general and to the peri-urban poor in particular. Additional water of about 1 m^3/s will be provided by the current surface water resources mobilized from the Grandes Chutes Dam. A team composed of the members of the Water Expertise Team (WET) of the Water Global Practice, the SEG, and the MEH have assessed different options to reinforce the current production capacity for Conakry and confirmed that the proposed abstraction levels at Grandes Chutes Dam were sustainable. This represents the least-cost option for addressing water shortages in the short to medium term compared to using spring sources and drilling boreholes in the groundwater table. The recruitment process of a consulting firm for the feasibility study and tender documents for the booster station and additional new process line treatment plant at Yessoulou is under way.

81. **Readiness.** The recruitment process of PIU key staff, the preparation of the PIM, including the purchase of required software and equipment for the project FM, and the recruitment process for the consulting firm for the feasibility studies/bidding documents are under way. The safeguard documents including the Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF) have been consulted upon and publicly disclosed in Guinea on May 9, 2017 and on the World Bank website on May 10, 2017 prior to the project appraisal.

C. Financial Management

82. An FM assessment of the MEH was conducted during preparation to check whether this ministry could manage the proposed project. The objectives of the assessment were to determine whether (a) the MEH has adequate FM arrangements in place to ensure that the funds will be used efficiently and economically for the intended purposes and that the entity is capable of correctly and completely recording all transactions and balances related to the project; (b) the project's financial reports will be prepared accurately, reliably, and timely; (c) the entity's assets will be safely guarded; and (d) the project will be subjected to auditing arrangements acceptable to the World Bank.

83. The FM assessment concluded that the Department of Electricity of the MEH is currently managing, with success, an ongoing World Bank-financed Power Sector Recovery Project (P146696). The FM performance of this ongoing project was rated 'Satisfactory' following the last supervision mission conducted in March 2016. This performance was confirmed at appraisal

date based on the conclusion of the ongoing FM supervision. The Department of Electricity of the MEH is familiar with World Bank FM procedures and requirements. However, for the purpose of this new project, the MEH, rather than relying on the existing PIU, requested to set up a new PIU under the responsibility of the Department of Water. The overall FM residual risk for the project is deemed to be Substantial.

84. No later than three months after the effective date, the MEH/PIU will appoint an FM specialist familiar with the World Bank procedures as part of the project implementation team and adopt a Project Implementation Manual (PIM) including implementation, accounting, financial and procurement procedures for the Project, satisfactory to the Association. The PIM will detail the roles and responsibilities of all involved stakeholders, as well as the project implementation mechanism. The PIM also will describe the governance and oversight arrangements, including FM procedures required for the project such as staffing, budgeting, accounting, reporting, funds flows, and disbursement arrangements, which shall include FM procedures in accounting, budgeting, internal control, reporting, funds flow, and disbursement and audit arrangements.

85. The following actions have been set as dated covenants: (a) the recruitment of a financial management specialist and accountant as part of the PIU staffing no later than three months after effectiveness, including the acquisition; (b) installation of a computerized accounting software capable of correctly recording and automatically generating financial statements (interim and annual) no later than three months after effectiveness, and (c) recruitment of external auditor six months after effectiveness.

86. It is expected that the FM arrangements will satisfy the World Bank's minimum requirements under OP/BP 10.00 once mitigation measures have been implemented. An FM Action Plan to enhance the FM arrangements for the project is included in Annex 3. The PIU will be required to prepare a consolidated annual work plan and budget (AWP&B) and submit it to the PSC for approval and thereafter to IDA for no-objection no later than November 30 of the year preceding the year the budget should be implemented. The overall FM risk rating for the project is assessed as Substantial due to the country's overall governance risk and the lack of experience of the new PIU to be created for the purpose of this project.

D. Procurement

87. The procurement risk is rated High. The potential risks identified are (a) multiple implementation agencies; (b) the insufficient skills and experience with the World Bank's procurement procedures of the MEH's staff; and (c) the lack of a procurement department and procurement manual for the SEG. Risks related to the weak capacity of the MEH will be mitigated by the recruitment of a new PIU, including a well-qualified procurement specialist. Risks within the SEG will be mitigated by training the staff involved in the project activities and the screening of major outputs by the AMO. Detailed procurement risk mitigation measures are presented in Annex 3.

88. Procurement for the proposed project will be carried out in accordance with the 'Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers', dated January 2011 and revised in July

2014; 'Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers', dated January 2011 and revised in July 2014; 'Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants', dated January 2011 and revised in July 2014; and the provisions stipulated in the Legal Agreement.

89. The MEH will carry out procurement related to the implementation of activities under Component 3 of the project, while the SEG and DATU will be responsible for procurement related to the activities envisaged respectively under Component 1 and Component 2. However, the overall reporting consolidation and quality assurance are the responsibility of the PIU established with the MEH.

90. An assessment of the procurement capacity of the SEG and MEH in February 2017 concluded that (a) the Department of Electricity of the MEH is currently managing, with success, an ongoing World Bank-financed project (P146696) and (b) the SEG does not have a procurement department but benefits from former experience of managing IDA-funded projects, however, its procurement staff need to be updated with the World Bank's procurement procedures. The Department of Electricity of the MEH is familiar with the World Bank's procurement procedures and requirements. However, for the purpose of this new project, the MEH rather than relying on the existing electricity PIU, requested to set up a new PIU under the responsibility of the Department of Water.

E. Social (including Safeguards)

91. **Social and poverty.** The proposed project is expected to deliver significant social benefits by improving the living conditions of the population of Conakry by (a) prioritizing urban infrastructure and services that are key to improving living and health conditions of the poor; (b) improving the involvement of community-based organizations in the management of water kiosks; and (c) closely collaborating with the SEG and donor partners to consider special support for pro-poor focus. This will also reduce the number of people fetching water from contaminated wells. The project will help generate temporary employment opportunities in labor-intensive public works in the selected poor neighborhoods.

92. **Gender.** The project is classified as gender informed; gender-specific actions are to be undertaken during project implementation and are reflected in the Results Framework. Women are mostly affected by poor mobility and lack of access to basic services and generally burdened with household services such as buying food, fetching water, disposing of domestic wastewater and solid waste, paying utility bills, and caring for the sick and elderly. Improving access to basic services such as water supply will benefit women by enhancing sanitary conditions and improving productivity, with its associated time and cost savings. Actions to be taken under the project include (a) ensuring women's participation in all aspects of the program and dissemination of information to women, using appropriate media and language; (b) using gender-sensitive approaches and methods, including public information events targeted at women; (c) recruiting at least 40 percent of female community facilitators; and (d) collecting and monitoring gender-disaggregated data on project beneficiaries.

93. **Citizen engagement and customer care.** The preparation of the project, including feasibility studies and preparation of safeguards instruments is being carried out in consultation with the National Government, the city administration, and the representatives of civil society. Further, under Component 1, the project intends to improve customer service through helping the SEG/existing customer department to be more responsive to customer complaints and requests through the acquisition of required information technology (IT) equipment for decentralized offices, training, and helpline.

94. In addition, a consultation mechanism will be established by the project, whereby beneficiaries and stakeholders can express their concerns regarding the project based on good knowledge of the project objectives, expected results, and its implementation arrangement. The project includes a budget for training and awareness raising for local authorities, consulting firms, small and medium enterprises, community-based organizations, and relevant ministry staff, with a focus on the implementation of the project, including and not limited to the RPF, ESMF, and the mitigation of environmental impacts. For the safeguard instruments, there will be training for the safeguards specialist within the SEG, with a focus on environmental audit and appraisal and environmental and social monitoring in the field to ensure that the provisions of the RPF have been implemented appropriately. Further, at project launch, the population in the project area will be consulted and informed about the project objectives, expected results, and its implementation arrangement. A reporting mechanism will be stablished to ensure that their voice is heard. Regular assessment including at MTR and at project closing will be conducted to ensure beneficiary feedback and satisfaction. Further, citizen engagement is a part of the project's Results Framework through the following indicators: (a) percentage of beneficiaries that feel project investments reflected their needs; and (b) percentage of registered grievances related to the project activities that are appropriately responded to within two weeks.

95. **Social safeguards.** Overall impacts of the project are expected to be positive. Although the project will not finance civil works with significant resettlement impacts, OP/BP 4.12 has been triggered. An RPF has been prepared, consulted upon in-country, and published in Guinea on May 09, 2017 and on the World Bank's website on May 10, 2017, to address potential environmental and social issues.

96. As the project will mostly support rehabilitation, few physical displacements of project-affected people (PAP) are expected and few land acquisitions will be required. There will be only minor economic disturbances, mostly related to temporary disruption of extended terraces, fence, entrance ramps, and stairs during pipe laying due to encroachments on the rights-of-way. These will be reconstructed by the project in equal or better quality. Due to the minor impacts and small number of less than 100 PAP, the mechanisms for managing these disturbances is outlined in the RPF. For the sake of due diligence, the preparation of a Resettlement Action Plan (RAP) will be necessary and guided by the RPF.

F. Environment (including Safeguards)

97. The investment program includes the intake structure and rehabilitation and extension of the distribution network. This may cause adverse impacts; however, these will be temporary and site-specific. Most of the investments will be of simple design and technology. The project has

thus been classified as Category B in line with the World Bank Operational Policy 4.01 on Environmental Assessments.

98. The environmental team of the SEG/MEH will be in charge of all safeguards aspects of the project, including implementation of the instruments. Refresher training in safeguards implementation will be provided during the implementation of the project. Regular supervision by the World Bank's safeguards specialists will be used to contribute to strengthen the Borrower's safeguards compliance and capacity. During project preparation, an ESMF and an RPF have been prepared, specifying how to identify and mitigate any adverse environmental impacts from known project activities. The integrated document was consulted upon in-country and disclosed in Guinea on May 09, 2017 and on the World Bank's website on May 10, 2017. In addition, an Environmental and Social Impact Assessment (ESIA) and an Environmental and Social Management Plan (ESMP) for the booster station and related works at Yessoulou is expected to be prepared and consulted on and disclosed by the Borrower before disbursement for these activities in Component 1.

G. Other Safeguards Policies Triggered

99. The project has triggered OP/BP 4.11 - Physical Cultural Resources. The works will take place in inhabited areas and will involve excavations and demolitions. There is a possibility of chance finds of physical cultural resources. To mitigate potential adverse impacts, the integrated ESIA and Environmental and Social Management Plan (ESMP) will include guidance and procedures for physical cultural resources management. No separate safeguards instrument is needed.

100. The project also triggered OP/BP 4.37 - Safety of Dams because the current project relies on the safe and sound operation of the existing Grandes Chûtes Dam and Baneah Dam in the upstream of the Samou River for supplying water in the additional amount of around 31.5 million m^3 per year. Therefore, safe operation of those dams has significant social, economic, and environmental relevance and will influence the performance of the project. Hence, an independent dam safety assessment, including upgrading or preparation of the O&M plan and emergency preparedness plan, acceptable to the Association, will be undertaken by the client in coordination with the dam owner before any disbursement on Component 1.

H. Climate and Disaster Risk Screening

101. The operation has been screened for short- and long-term climate change and disaster risks. The social, economic, and political context of water and sanitation supply in Guinea can be expected to at least slightly increase the impact of climate change effects, in particular due to the rapid population growth, weak institutions, and the human and economic impacts of the recent Ebola epidemic. Climate change poses real but overall moderate risks to the targeted outcomes of the project. In particular, the number of expected beneficiaries may come under pressure from climate change related events such as increased droughts and temperature extremes that could affect the sources of supply of the existing piped system (which predominantly consists of one dam for 85 percent of the supply for Conakry) or if flooding and sea-level rises further undermine the already limited and low-quality alternative groundwater sources.

102. In the sanitation sector, increased flooding may pose a particular public health risk (for example, due to overflowing fecal sludge); however, this is unlikely to affect the project directly as no infrastructure works are currently planned. It will, however, be an important issue to consider in planned sanitation strategies and studies under the project. Factors such as the rapid population growth and urbanization, the currently weak institutional structure, and feeble economic situation in the aftermath of the Ebola epidemic and falling commodity prices create an environment that may increase climate change impacts. The project will directly improve the ability of the sector to resist these pressures, for example, by improving water production and supply efficiency. Moreover, the project's sizable capacity-building program is an opportunity to help the service provider and the Government develop appropriate response and adaptation plans. If this is achieved, risks to project outcomes should remain Moderate.

I. World Bank Grievance Redress

103. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

Annex 1: Results Framework and Monitoring

COUNTRY: GUINEA

Project Name: Urban Water Project (P157782)

Results Framework

Project Development Objectives

PDO Statement

The objectives of the proposed project are to increase access to improved water services in the Greater Conakry area and improve the operational efficiency of the urban water utility.

These results are at	Project Level

Project Development Objective Indicators

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection
				FY18	FY19	FY20	FY21	FY22			
Number of people in urban areas provided with access to 'improved water sources' under the project	☒	Number	0	0	0	5,000	10,000	20,000	Biannual	Progress reports from PIU	SEG
Number of people in urban areas already connected and provided with access to 'enhanced water supply services' under the project	☐	Number	0	0	0	730,000	730,000	730,000	Biannual	Progress reports from PIU	SEG

Percentage of female in urban areas provided with access to 'improved water sources' under the project		Percentage	51.7	51.7	51.7	51.7	51.7	51.7	Biannual	Progress reports from PIU	SEG
Working ratio of water utility (ratio between O&M cost and revenue)	☐	Percentage	99	99	99	98	97	96	Biannual	Progress reports from PIU	SEG
Intermediate Results Indicators											
Component 1 - Urban water **Intermediate Result: Increased and improved access to water services**											
Additional water production capacity constructed under the project	☐	m^3 per day	0	0	0	86,000	86,000	86,000	Biannual	Progress reports from supervising engineers	SEG
New piped household water connections that are resulting from project interventions	☐	Number	0	0	0	250	500	1000	Biannual	Progress reports from supervising engineers	SEG
Piped household water connections rehabilitated under the project	☐	Number	0	1,000	2,500	4,000	4,000	4,000	Biannual	Progress reports from supervising engineers	SEG
Water storage capacity constructed under the project	☐	m^3	0	0	0	6,000	6,000	6,000	Biannual	Progress reports from supervising engineers	SEG
Length of feeder pipes constructed under the project	☐	km	0	5	15	20	20	20	Biannual	Progress reports from supervising engineers	SEG
Non-revenue water ratio	☐	%	42%	40%	38%	35%	32%	30%	Biannual	Annual review of	SEG

										financial model	
Beneficiaries that feel project investments reflected their needs	☐	Percentage	0	0	0	0	0	80	Biannual	Survey	PIU
Registered grievances related to the project activities are appropriately responded within two weeks	☐	Percentage	0	0	0	0	0	80	Biannual	Survey	PIU
Component 2 - Urban sanitation **Intermediate Result: Increased access to sanitation services**											
Baseline study completed and informs new sanitation strategy	☐	Yes/No	No	No	Yes	Yes	Yes	Yes	Biannual	MVAT	DATU
Sanitation strategy adopted and Sanitation Master Plan for Greater Conakry approved	☐	Yes/No	No	No	Yes	Yes	Yes	Yes	Biannual	MVAT	DATU
Component 3 - Institutional strengthening and project management **Intermediate Result: support tools for the urban water reform produced**											
Tariff study for urban water sector completed	☐	Yes/No	No	No	Yes	Yes	Yes	Yes	Biannual	MEH	MEH
Adoption of a new policy letter for urban water sector	☐	Yes/No	No	No	Yes	Yes	Yes	Yes	Biannual	MEH	PIU
Database for groundwater resources users established and operationalized	☐	Yes/No	No	No	Yes	Yes	Yes	Yes	Biannual	MEH	MEH

Indicator Description

Project Development Objective Indicators	
Indicator Name	Description
Number of people in urban areas provided with access to 'improved water sources' under the project	This indicator measures the number of people in urban areas who benefited from 'improved water sources' under the project. Improved water sources include piped household connections (house or yard connections), public standpipes, public kiosks, boreholes, protected dug wells, protected springs, and rainwater collection. Hence, 'improved water sources' do not include, among others, water provided through tanker truck or vendor, unprotected wells, unprotected springs, surface water (river, pond, dam, lake, stream, or irrigation channel), or bottled water. The definition of what is considered an 'improved water source' follows the UNICEF-WHO Joint Monitoring Program definition. Note that 'improved water sources' does not refer to the question of new versus rehabilitated water sources, but is the standard definition used to track progress on the Sustainable Development Goals. Some existing connections will benefit from enhanced pressure to reach their neighborhoods (upper Conakry). = Number of new social connections × 20 people
Working ratio of water utility (ratio between O&M cost and revenue)	This indicator is defined as a ratio between total operating cost (labor, energy, chemicals, distribution and sale costs, and water source costs) without debt service and depreciation to total revenue generated from water supply service. It represents operating cost recovery level of utility and thus is desirable less than 1.0. If only operating cost coverage ratio is used, it could be referring to the level of cost recovery through the tariff and so might miss some other factors related to the utility's operational efficiency such as NRW level, collection rate, and administrative costs.
Number of people in urban areas already connected and provided with access to 'enhanced water supply services' under the project	This indicator measures the cumulative number of people in urban areas currently having access to water services who received piped water from production facilities constructed under the project. = Daily production of new facilities (m3 per day) x 1,000 x 0.55 (network efficiency) / (1.3 (peak factor) x 50 L per capita per day (average daily consumption per capita))
Female beneficiaries with access to improved water sources under the project	This indicator measures the percentage of female beneficiaries

Intermediate Results Indicators	
Indicator Name	Description
Additional water production capacity constructed under the project	Daily water production capacity of the facilities constructed under the project in the Yessoulou Treatment Plant
New piped household water connections that are resulting from project interventions	Number of new social water connections installed by the SEG

Piped household water connections rehabilitated under the project	Number of household water connections renewed under the project
Water storage capacity constructed under the project	Capacity of water storage tanks constructed under the project
Length of feeder pipes constructed under the project	Length of water pipes with diameter under or equal to 300 mm constructed under the project
Non-revenue water ratio	Difference between water supplied and water sold (i.e. volume of water "lost") expressed as a percentage of net water supplied
Beneficiaries that feel project investments reflected their needs	Beneficiaries that feel project investments reflected their needs (percentage)
Registered grievances related to the project activities that are appropriately responded within two weeks	Registered grievances related to the project activities are appropriately responded within two weeks (percentage).
Baseline study completed and informs new sanitation strategy	This baseline will indicate the current sanitation status in the project area including priority setting for interventions for the fecal sludge management chain as a whole.
Sanitation strategy adopted and Sanitation Master Plan for Greater Conakry approved	Adoption by the Government of a new urban sanitation strategy based on a citywide inclusive sanitation baseline for Greater Conakry including a sanitation strategy and master plan to guide interventions in the sector (that is, on-site sanitation, fecal sludge management, and sewerage system).
Tariff study for urban water sector completed	The tariff study for the urban water sector, which includes affordability and efficiency in the analysis, will be conducted.
Adoption of a new policy letter for urban water sector	Adoption of a new sectoral policy letter for the urban water sector
Database for groundwater resources users established and operationalized	The development of a database of underground water resources in Conakry peninsula and the modeling of its water table to monitor levels of abstraction

Annex 2: Detailed Project Description

GUINEA: Urban Water Project

Project Objectives

1. The objective of the proposed project is to increase access to improved water services in the Greater Conakry area and improve the operational efficiency of the urban water utility. The progress toward the achievement of the PDO will be measured through the following indicators (a) number of people in urban areas provided with access to improved water services under the project; (b) working ratio of water utility (ratio between O&M cost and revenue; and (c) number of people in urban areas already connected and provided with access to 'enhanced water supply services' under the project.

2. The project components were selected on the basis of (a) the Guinea urban water supply diagnostic study and reinforcement plan, 2013 (ARTELIA) and (b) the urban water supply master plan for Conakry (1996) with further refinements during preparation (including the urban water supply for Conakry options, World Bank, 2016). The proposed project will thus consist of four components, which are summarized below:

Project Detailed Description

3. **Component 1 - Urban water SDR 19.1 million (US$26.2 million equivalent).** This component will invest approximately US$26.2 million to increase water production capacity and rehabilitate obsolete parts of the distribution network including targeted extension to improve water service delivery in Conakry in general and to the peri-urban poor in particular. Additional water of about 1 m^3 per second will be provided by the current surface water resources mobilized from the Grandes Chutes Dam. A team composed of the members of the WET of the Water Global Practice, the SEG, and the MEH have assessed different options to reinforce the current production capacity for Conakry and confirmed that the proposed abstraction levels at Grandes Chutes Dam were sustainable. They represent the least-cost option for addressing water shortages in the short to medium term compared to using spring sources and drilling boreholes in the ground water table. The recruitment of a consulting firm for the feasibility studies and tender documents is in process with the support of the project preparation advance provided by the World Bank. The targeted activities include (a) construction of a booster station at Grandes Chutes Dam to transfer additional water flow (86,000 m^3 per day) through two existing pipelines (DN 1100 and DN 700) to the existing Yessoulou treatment plant, which will be reinforced with a new process line and a treated water tank of 6,000 m^3 capacity; (b) rehabilitation of the distribution network in particular by replacing old and obsolete pipelines (asbestos cement and gray cast iron) and restructuring/extending of networks in the targeted areas to reduce NRW and reach the targeted peri-urban poor; (c) the update of an urban water supply master plan, baseline, and hydraulic modeling for Greater Conakry targeting the 2030 horizon; (d) improve customer service through helping the SEG/customer department to be more responsive to customer complaints and requests; and (e) provide training to SEG staff in the use of new management and operational tools.

4. The expected feasibility studies including an inspection of safety of dam report will advise on the exact location and details for the booster pumping station, the additional water treatment plant at Yessoulou, and detailed program for the distribution network rehabilitation and extension. Further, for the SEG capacity building, the following activities have been envisaged:

- Independent inspection of safety of the Grandes Chutes Dam
- Developing and maintaining an NIS and hydraulic model
- **Improvement of customer service.** The SEG currently struggles to react swiftly to customer complaints and requests. For this, the project will support a diagnostic and action plan including the training, and equip decentralized customer centers with digital and IT equipment to track the complaints management.
- **Public consultations.** The project will provide funding for public consultations (events and media placements) with two particular objectives: first, to continuously inform citizens in intervention areas and provide them with an avenue to raise concerns with management and political stakeholders about the project specifically and the SEG in general and second, to carry out consultations with womens groups in project areas, in particular with respect to standpipe design and location.
- **Citizen engagement.** A consultation mechanism will be established by the project, whereby beneficiaries and stakeholders can express their concerns regarding the project based on good knowledge of the project objectives, expected results, and its implementation arrangement. The project includes a budget for (a) training and awareness raising for local authorities, consulting firms, small and medium enterprises, community-based organizations, and relevant ministry staff, with a focus on the implementation of the project including and not limited to the RPF, ESMF, and the mitigation of environmental impacts. For the safeguard instruments, there will be training for the safeguards specialist within the SEG, with a focus on environmental audit and appraisal and environmental and social monitoring in the field to ensure that the provisions of the RPF have been implemented appropriately. Further, at the project launch, the population in the project area will be consulted and informed about the project objectives, expected results, and its implementation arrangement. A reporting mechanism will be established to ensure that their voice is heard. Regular assessments including at MTR and at project closing will be conducted to ensure beneficiary feedback and satisfaction. Further, citizen engagement is a part of the project's Results Framework through the following indicators: (a) Beneficiaries that feel project investments reflected their needs and (b) percentage of registered grievances related to the project activities that are appropriately responded within two weeks.

5. **Component 2 - Urban sanitation SDR 0.8 million (US$1 million equivalent).** This component aims to support the Government through the MVAT and DATU with citywide inclusive sanitation baseline for Greater Conakry including a sanitation strategy and master plan for its improvement and to guide interventions in the sector (that is, on-site sanitation, fecal

sludge management, and sewerage system). The project will also support training and exchange of knowledge between DATU and other well performing urban sanitation agencies in the sub-region, like SONEB, the Benin urban sanitation agency, which has just completed a citywide inclusive sanitation baseline to inform the strategy.

6. **Component 3 - Institutional strengthening and project management SDR 2 million (US$2.8 million equivalent).** This institutional component aims to support the water sector institutions (including training) and the urban water sector reform and to enable the PIU to exercise its responsibilities through the following subcomponents:

- **Water resources management:** The project intends to support the DNH for the modeling of the underground water table of the Conakry peninsula and the development of a database of water resources users and levels of abstraction. This will be done in coordination with the existing support of other development partners on integrated water resources management database.

- **Urban water sector reform:** The project will provide funding to the MEH for the preparation of the foundation for the urban water reform including (a) the development of a financial model for the SEG; (b) tariff study for the urban water sector, which includes affordability and efficiency analysis; and (c) updating of the legal framework and the sectoral policy letter in the urban water sector.

- **PIU.** To mitigate institutional capacity risks at the MEH and SEG, the project will support a strong, carefully recruited PIU with seven key staff—a PIU coordinator, an FM specialist and accountant, a procurement specialist, a communication specialist, a safeguards specialist, and an M&E specialist.

7. Due to budget constraints, at this stage, the project will not provide funding for financing a management contract for the SEG, nor for rehabilitating the sanitation infrastructure in Conakry. However, conditional on the project implementation meeting the required criteria, an additional financing by IDA is envisaged to provide support to the foreseen management contract for the SEG and the critical investment in the sanitation sector in Greater Conakry. Currently, under Component 2, the project will prepare the required preparatory studies for a smooth implementation when the resources will be available (from IDA or from other sources). The management contract is estimated by the diagnostic study at US$15 million and would be signed between the Government (MEH and MEF) and a private firm (the operator) with sufficient technical and fiduciary capacity to provide management, operation, and capacity-building services for the SEG over four—five years and the auditing services for the monitoring and control of the management contract (compare also the urban water sector diagnostic study, 2013). Component 3 of this project will support the foundation and prerequisite for the urban water reform. A performance contract for 2017–2019 will be signed between the State and SEG and will set performance targets for the public utility and clarify roles and responsibilities.

8. **Component 4 - Contingent Emergency Response (US$0).** The objective of this component is to improve the Government's response capacity in the event of an emergency, following the procedures governed by OP/BP 10.00 paragraph 13 (Rapid Response to Crisis and Emergencies). There is a moderate to high probability that, during the life of the project, one or

more countries will experience an epidemic or outbreak of public health importance or other disaster that causes a major adverse economic and/or social impact (for example, Ebola), which would result in a request to the World Bank to support mitigation, response, and recovery in the regions affected by such an emergency. In anticipation of such an event, the CERC provides for a request from a REDISSE-affected country to the World Bank to support mitigation, response, and recovery in the districts affected by such an epidemic. The CERC will serve as a first-line financing option during an emergency response, and only country IDA funds will be used in such case.

9. An EROM will be prepared by each country as a condition of disbursement. Countries will begin drafting the EROM immediately to ensure that the CERC is in place as soon as possible in the event that an emergency occurs early in the implementation of the project. Triggers for the CERC will be clearly outlined in the EROM acceptable to the World Bank. Disbursements will be made against an approved list of goods, works, and services required to support crisis mitigation, response, and recovery.

10. The detailed costs of the project activities are provided in Table 2.1.

Table 2.1. Detailed Costs of Project Activities

	Quantity	Unit	Unit Price (US$, thousands)	Cost (US$, thousands)	Cost (US$, millions
Component 1 - Urban water	—	—	—	**26,200**	**26.20**
Production Subcomponent	—	—	—	**20,800**	**20.80**
Pumping station at Grandes Chutes Dam (1 m^3/s) including the implementation of safety of dam action plan	—	—	—	*2,000*	2.00
Civil work construction for the pumping station	1	LS	500	500	—
Hydraulic and electro-mechanical equipment and connection to EDG power network	1	LS	1,500	1,500	—
Yessoulou Treatment Plant (increase of treatment capacity: 1 m^3/s)	—	—	—	*18,100*	18.10
Construction of a compact treatment plant: 1 m^3/s capacity, including hydraulic, electro-mechanical, and treatment process equipment	80,000	m^3	200	16,000	—
Water concrete tank, capacity: 6,000 m^3	6,000	m^3	350	2,100	—
Consultants services	—	—	—	*700*	0.70
Design studies, tender documents preparation, and support in procurement analysis	1	LS	300	300	—
Control and supervision of civil works (production subcomponent)	1	LS	400	400	—
Distribution Subcomponent	—	—	—	**5,400**	**5.40**
Restructuring of distribution networks around feeder DN 700	—	—	—	*1,600*	*1.60*
Installing of polyvinyl chloride (PVC) network pipes: diameter 63–160 mm	10,000	ml	0.100	1,000	—
Installing of household connections associated	2,000	U	0.300	600	—

	Quantity	Unit	Unit Price (US$, thousands)	Cost (US$, thousands)	Cost (US$, millions
Replacement of obsolete network pipes (asbestos cement and gray cast iron)	—	—	—	*2,100*	*2.10*
Installing of PVC network pipes: diameter 315 mm	10,000	ml	0.150	1,500	—
Installing of household connections associated	2,000	U	0.300	600	—
Consultants services	—	—	—	*1,700*	*1.70*
Environmental and social safeguards studies for the project	1	LS	100	100	—
Design studies, tender documents preparation, and support in procurement analysis	1	LS	400	400	—
Control and supervision of civil works (production subcomponent)	1	LS	600	600	—
Technical assistance to SEG (AMO)	1	LS	600	600	—
Component 2 - Urban sanitation	—	—	—	**1,000**	**1.00**
Consultants services	—	—	—	*1,000*	*1.00*
Support to establish an urban sanitation national strategy	1	LS	500	500	—
Master plans studies for sanitation and drainage in Greater Conakry	1	LS	500	500	—
Component 3 - Institutional strengthening and project management	—	—	—	**2,800**	**2.80**
Support to DNH (Conakry peninsula aquifer modeling, database, and so on)	*1*	*LS*	*650*	*650*	*0.65*
Support to the urban water sector reform	—	—	—	*950*	*0.95*
Master plan study of Greater Conakry water supply infrastructure	1	LS	300	300	—
Financial modeling for SEG	1	LS	100	100	—
Urban water sector tariffs study	1	LS	250	250	—
Update of urban water legal framework and sector policy letter	1	LS	100	100	—
Strengthening SEG's customers service, software, and tools	1	LS	200	200	—
PIU operating cost	*1*	LS	*1,200*	*1,200*	*1.20*
Component 4 - Contingent Emergency Response (US$0)	—	—	—	**0**	**0.00**
TOTAL	—	—	—	**30,000**	**30.00**

L.S: Lump Sum

Figure 2.1. Schematic Overview of Key Project Interventions (SEG)

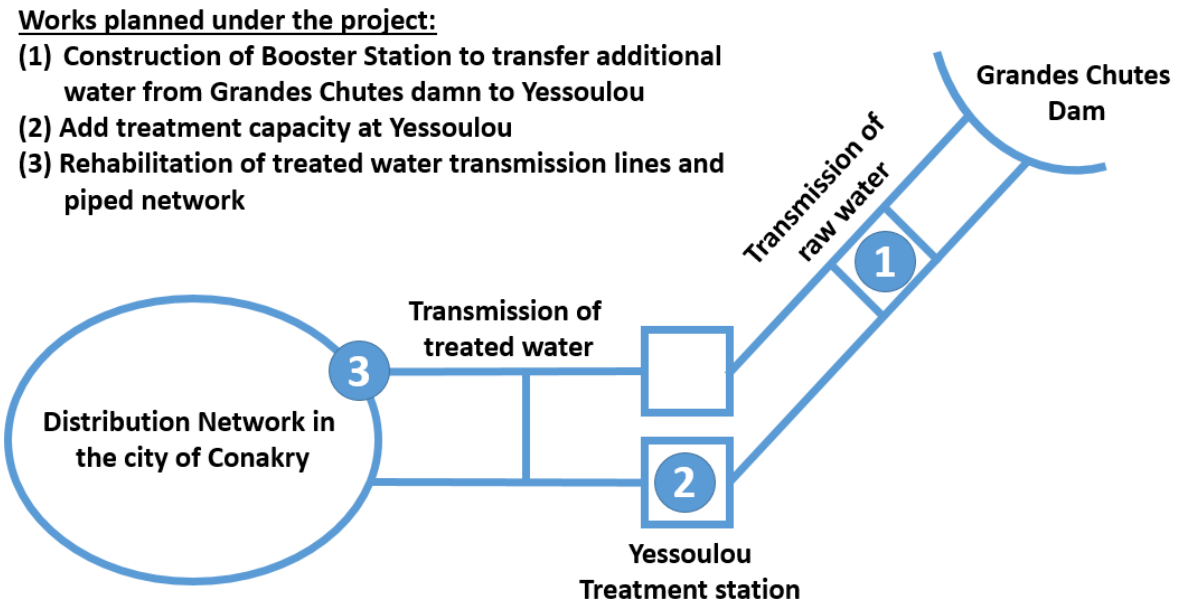


Figure 2.2 . Cleared Satellite View of Yessoulou Treatment Station to City of Conakry

Figure 2.3. Schematic Outline of Hydraulic System (SEG, Current State)

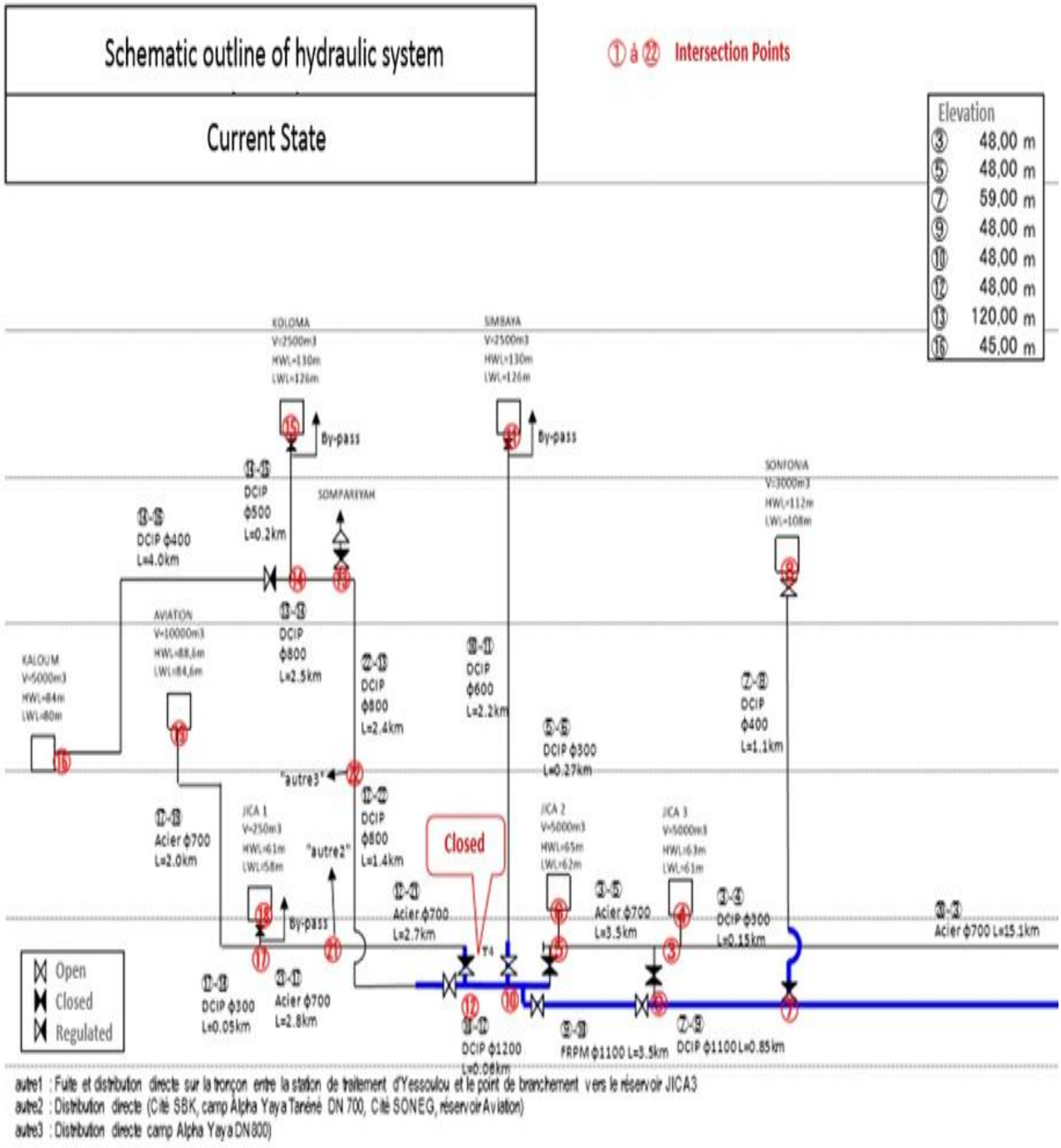
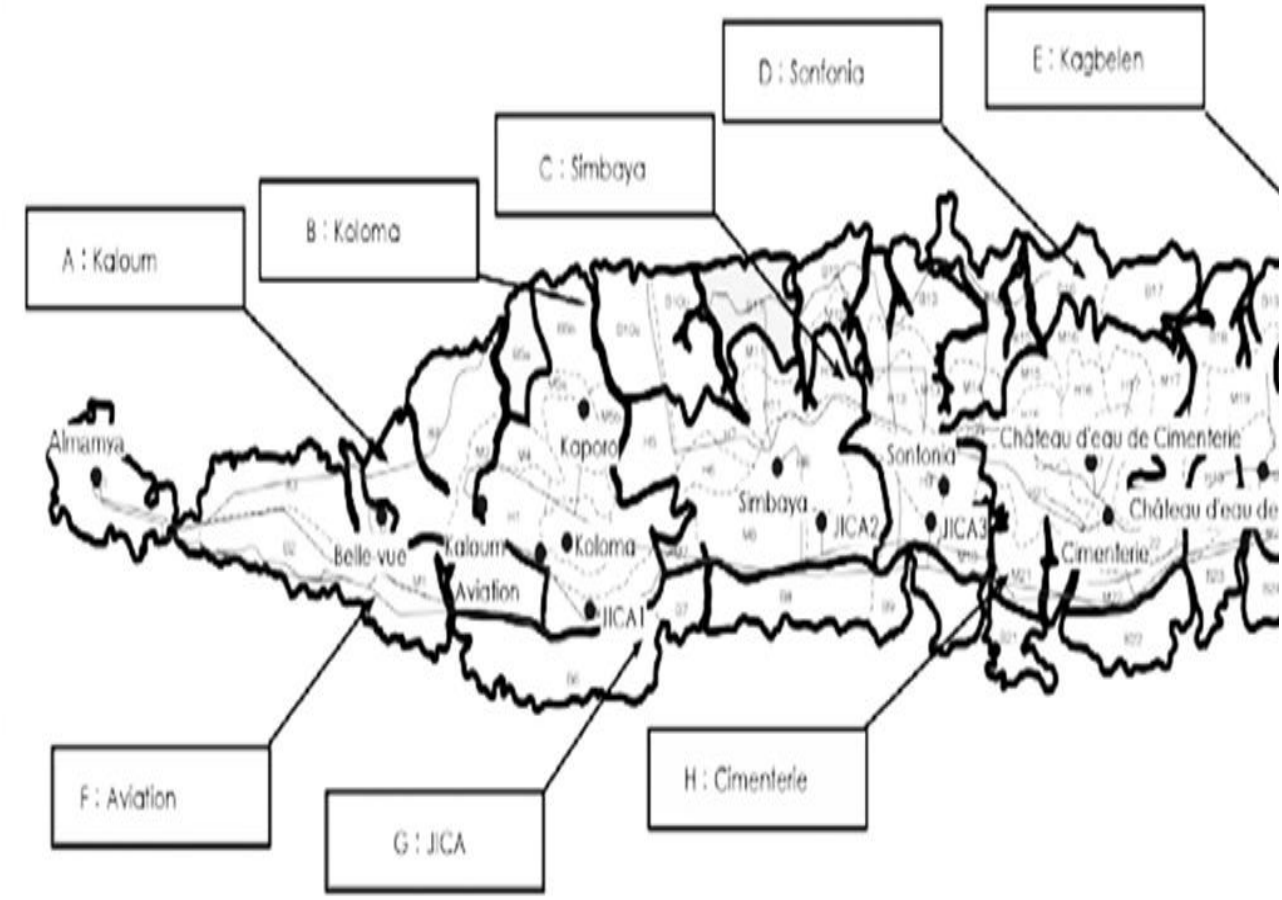


Figure 2.4. Outline of Conakry Water Distribution System (SEG)



Annex 3: Implementation Arrangements

GUINEA: Urban Water Project

Project Institutional and Implementation Arrangements

1. The MEH will be the overall coordinator of the project. Given the limited capacity of the MEH, a PIU will be established within the MEH. The key PIU staff are expected to be a project coordinator, a finance management specialist and accountant, a procurement specialist, a communication specialist, a safeguards specialist, and an M&E specialist. The contracting of key PIU staff will include a provision for periodic contract renewal based on performance. Further, the project will encourage use of the cluster approach between IDA projects in the country to share support from existing safeguards/communication staff of the PIUs.

2. The responsibilities of the PIU have been defined in close collaboration with the MEH, SEG, and DATU to avoid overlaps or frictions with existing departments of the implementing agencies through, where relevant, a subsidiary agreement.

3. In fact, the PIU will work closely with all of the relevant departments within the MEH, SEG, and DATU to ensure the smooth execution of both investments and institutional support activities. For this, in addition to the role of coordination, the MEH will be the implementation agency for Component 3 of the project on institutional support, while Component 1 on urban water supply will be implemented by the SEG, and Component 2 on urban sanitation by DATU. To reinforce the existing capacity at the MEH and SEG, a technical assistance (AMO) will be supported to help the MEH undertake the reform agenda and assigned within the SEG for the daily management of the urban water supply component which represents roughly 87 percent of the project amount. The project will encourage twinning arrangements between regional performing utilities and the SEG, including specialized agencies, with the MEH (Senegal, Niger, Burkina Faso, or Mali) instead of hiring consulting firms. This will imply that:

- For the implementation of Component 1, the SEG will lead the technical and management aspects and will oversee the technical studies as well as the works and financial aspects of implementation with the support of the technical assistance (AMO). A subsidiary agreement between the MEH and the SEG will be signed to define roles and responsibilities.

- For the implementation of Component 2, DATU, a central government sector department, will lead the technical and management aspects and will oversee the technical studies as well as the technical and financial aspects of implementation of the envisaged sanitation studies.

- For the implementation of Component 3, the MEH will conduct the technical and management aspects and will oversee the proposed required studies for the sector reform as well as the financial aspects of implementation with the support of the technical assistance.

4. The PIU will conduct the daily tasks of IDA project coordination and periodic assessments of its progress in close collaboration with the SEG and DATU. The PIU will also be responsible for the FM of the project and for the preparation of the quarterly unaudited IFRs for the project. It will ensure that all of the project activities are performed and that quarterly IFRs, progress reports, and annual financial audits are submitted on time. The PIU will maintain a fixed assets register for the assets to be generated by the project. Such assets will be turned over to the SEG at the end of the project. The PIU will receive financial support through the project, thus ensuring that it has the technical and management resources necessary to oversee the technical studies as well as the technical, safeguards, and fiduciary aspects of implementation.

Project Steering Committee

5. A PSC will be established for providing overall guidance to the project and ascertaining the project results, to ensure the coordination of the project with the country's overall water and sanitation services improvement programs, and to ensure that the main beneficiaries' expectations are met. The PSC is formed by representatives of the MEH, MVAT, SEG, DATU, MEF and MPCI. The representative of the MEH will be the chair.

Implementation Arrangements

6. The PIU will also be responsible for the project FM and for the preparation of project financial reports. It will ensure that all project activities are performed and quarterly progress reports and annual financial audits are submitted on time.

Financial Management and Disbursements

7. An FM risk assessment was conducted for the MEH to assess the adequacy of FM arrangements for the MEH to manage the fiduciary services for the Guinea Urban Water Project. The MEH is currently implementing World Bank-financed projects in the power sector.

8. The FM arrangements for the MEH were also assessed with the objective of ensuring that (a) the funds are going to be used for the intended purpose with due regard to efficiency, effectiveness, and economy; (b) the preparation of periodic financial reports would be accurate, reliable, and timely; (c) the entity’s assets are safeguarded; and (d) adequate fiduciary assurances are provided through an independent audit of the project.

9. The assessed FM risk is assessed as substantial. The mitigation measures include: (a) development of a PIM; (b) deployment of qualified FM staff to the project; (c) submission of AWP&B for no-objection by the World Bank one month before the commencement of each fiscal year; (d) submission of IFRs 45 days after the end of each quarter; and (e) submission of audited accounts six months after the end of each fiscal year. The project meets the minimum FM requirement in accordance with OP/BP 10.00.

Table 3.1. FM Action Plan

Issue/Topic	Remedial Action Recommended	Responsible Body/Person	Completion Date	FM Effectiveness Conditions

Issue/Topic	Remedial Action Recommended	Responsible Body/Person	Completion Date	FM Effectiveness Conditions
Staffing	Appointment of a dedicated FM specialist familiar with World Bank FM procedures completed and contract signed	MEH/PIU	3 months after the effective date	Yes
	Appointment of one accountant familiar with World Bank FM procedures completed and contracts signed	MEH/PIU	3 months after effectiveness	No
Information system accounting software	Acquisition and installation of an accounting software for the project and training of the users	MEH/PIU	3 months after effectiveness	No
Administrative, accounting and financial manual	A draft of the PIM including FM and administrative procedures has been submitted to the World Bank for approval	MEH/PIU	Before any disbursement is done on all categories	Yes
External auditing	Appointment of the external auditor completed and contract signed	MEH/PIU	6 months after effectiveness	No

Budgeting

10. The PIU will be responsible for preparing the project's consolidated AWP&B based upon the agreed program to be financed. The work plan and budgets will identify the activities to be undertaken and the role of respective parties, including the PIU and other implementing entities (for example, MEH, DATU, and SEG). The AWP&B will provide detailed information on the amount allocated to each implementing entity per activity, showing unit costs and quantities. The project will submit the AWP&B approved by the PSC to the World Bank for the no-objection no later than November 30 of the year preceding the year the work plan should be implemented.

Accounting and Maintenance of Accounting Records

11. The prevailing accounting policies and principles in line with the Organization for Harmonization of Business Law in Africa (OHADA) accounting principles currently used in Guinea for ongoing World Bank-financed operations will be applied. The accounting systems and policies and financial procedures used by the project will be documented in the project's administrative, accounting, and financial manual. The MEH/PIU will acquire and install an accounting software currently used in other projects in Guinea. This software should be capable of recording transactions and reporting project operations on time including preparation of withdrawal applications and periodic financial reports (IFRs and Annual Financial Statements). The software should include budgeting, operating, and costs accounting systems to facilitate monitoring, evaluation, and reporting.

Periodic Financial Reporting (Quarterly and Annual)

12. The consolidated unaudited IFRs will be prepared every quarter in a format and with content agreed with IDA and submitted to the World Bank 45 days after the end of the quarter. The IFRs will report on the financial status of all activities of the project, that is, Components 1, 2, and 3. Formats of the financial reports have been developed and agreed during project

negotiation. The consolidated quarterly IFR includes the following financial statements: (a) statement of sources of funds and project revenues and uses of funds; (b) statement of expenditures classified by project components and or disbursement category (with additional information on expenditure types and implementing agencies as appropriate), showing comparisons with budgets for the reporting quarter, the year, and cumulatively for the project life; (c) cash forecast; (d) explanatory notes; and (e) Designated Account (DA) activity statements. In compliance with International Accounting Standards and IDA requirements, the project will produce annual financial statements. These include (a) a Balance Sheet that shows assets and liabilities ; (b) a Statement of Sources and Uses of Funds showing all the sources of project funds, expenditures analyzed by project component and/or category; (c) a DA activity statement; (d) a Summary of Withdrawals using statements of expenditures (SOEs), listing individual withdrawal applications by reference number, date, and amount; and (e) notes related to significant accounting policies and accounting standards adopted by management and underlying the preparation of financial statements. The financial statements will constitute the entry point of the external auditor's annual diligences

Internal Controls and Audit

13. The MEH/PIU is expected to develop a PIM in which the responsibilities and accountabilities for the core project staff would be outlined. The PIM will be finalized and adopted by the MEH as a condition of disbursement of all categories of expenditures. The MEH team could rely on the FM section of the manual currently used for the Power Sector Recovery Project (P146696) to develop the PIM of this new project.

External Audit Arrangements

14. Annual audits will be conducted at the end of each fiscal year by independent and qualified auditors, acceptable to the World Bank. The auditor will be selected, within six months of project effectiveness, on a competitive basis and in accordance with the World Bank's procurement guidelines and under terms of reference (ToR) acceptable to the World Bank.

15. The project consolidated financial statements including the DA activities will be audited in accordance with International Standards on Auditing and a single opinion will be issued to cover the project financial statements in accordance with the World Bank's audit policy. The auditors' report and opinion on the financial statements, including the Management Letter, would be furnished to the World Bank within six months after the end of each fiscal year. The project will comply with the World Bank disclosure policy of audit reports and place the information provided on the official website within two months of the report being accepted as final by the team and the World Bank.

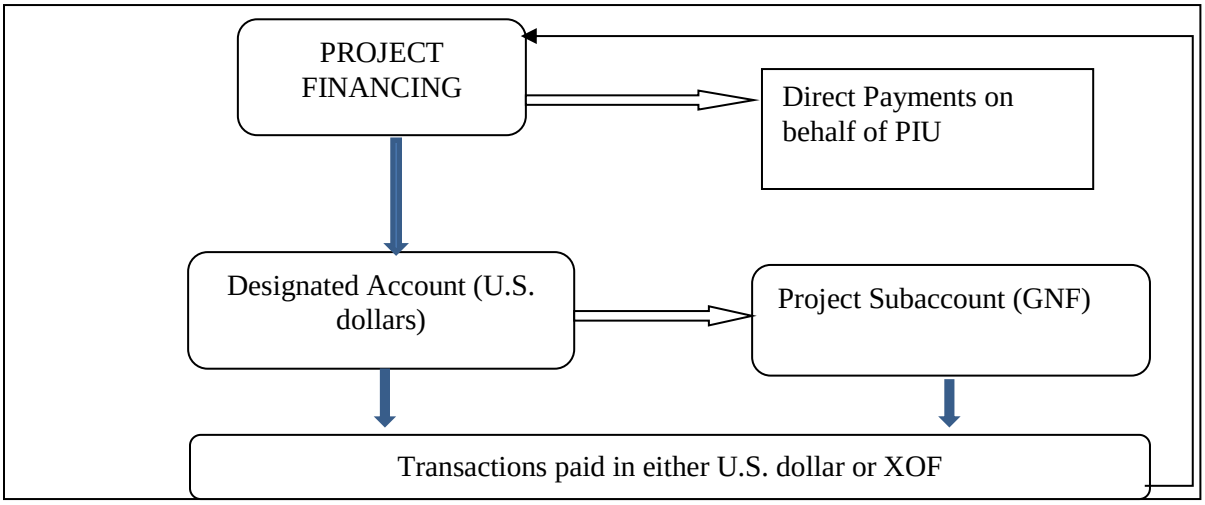
Funds Flow and Disbursement Arrangements

16. The SOE disbursement method will be used as the basis for the withdrawal of loan proceeds. The project provides for the use of advances, reimbursements, special commitments, and direct payments as applicable disbursement methods, and these will be specified in the Disbursement Letter. The accountant will submit a withdrawal application for the initial deposit and an initial advance according to the Disbursement Letter will be provided to the project. Upon

Grant effectiveness, transaction-based disbursements will be used. The project will finance 100 percent of eligible expenditures inclusive of taxes. A DA will be opened at the Central Bank of the Republic of Guinea in U.S. dollars and a Project Account in a commercial bank in Guinean francs under terms and conditions acceptable to IDA. The ceiling of the DA will be established at US$2 million which represents four months of forecasted project expenditures expected to be paid from the DA during year 1. An initial advance up to the ceiling of the DA will be made and subsequent disbursements will be made against submission of SOEs reporting on the use of the initial/previous advance. The option to disburse against submission of quarterly unaudited IFRs (also known as report-based disbursement) could be considered, as soon as the project meets the criteria. The other methods of disbursing the funds (reimbursement, direct payment, and special commitment) will also be available to the project. The minimum value of applications for these methods is 20 percent of the DA ceiling. The project will sign and submit Withdrawal Applications electronically using the eSignatures module accessible from the World Bank's Client Connection website.

17. Supporting documentation will be retained by the implementing agency for review purposes by World Bank missions and external auditors. Any advances made for contracts will be secured by a bank guarantee or performance-based bonds and a retention amount withheld. The disbursement table and the funds flow diagram are as shown in Figure 3.1.

Figure 3.1. Disbursement Flow Chart



Supervision Plan

18. Consistent with the risk rating, at least two FM implementation support mission per annum will be carried at the MEH, SEG, and DATU for the project. The FM supervision missions' objectives will include reviewing the adequacy of the FM systems for the project.

Table 3.2. Implementation Support Plan

FM Activity	Frequency
Desk reviews	
IFR review	Quarterly
Review of the audited financial statements (audit reports)	Annually

FM Activity	Frequency
Review of other relevant information such as interim internal control systems reports.	Continuous as they become available
On site visits	
Review of overall operation of the FM system	Implementation Support Mission: two missions per year
Monitoring of actions taken on issues highlighted in audit reports, auditors' Management Letters, internal audit, and other reports	As needed
Transaction reviews	As needed
Capacity-building support	
FM training sessions	During implementation and as and when needed.

Conclusion

19. The description of the project's FM arrangements above indicates that they satisfy the World Bank's minimum requirements under OP/BP 10.00.

Procurement

20. Procurement of goods and works and the selection of consultants will be carried out in accordance with (a) Guidelines: Procurement of Goods, Works, and Non-Consulting Services Under IBRD Loans and IDA Credits and Grants by World Bank Borrowers, dated January 2011 and revised in July 2014; (b) Guidelines: Selection and Employment of Consultants Under IBRD Loans and IDA Credits and Grants by World Bank Borrowers, dated January 2011 and revised in July 2014; (c) Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants, dated October 15, 2006, and revised in January 2017; and (d) provisions stipulated in the Grant Agreement, including the exceptions to National Competitive Bidding (NCB) procedures.

21. A Procurement Plan (PP), acceptable to the World Bank, covering at least the first 18 months was submitted before negotiations and approved on May 16, 2017. For each contract to be financed by the Grant, the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and time frame have been agreed by the Borrower and the World Bank in the PP. The PP will be updated at least annually or as required, to reflect the actual project implementation needs and improvements in institutional capacity.

22. A General Procurement Notice will be prepared and submitted to the World Bank for publication in the United Nations Development Business (UNDB) and on the World Bank's external website. Specific procurement notices for all goods and works to be procured under International Competitive Bidding (ICB) and expressions of interest for all consulting services to cost the equivalent of US$200,000 and above will also be published in the UNDB, the World Bank's external website, and the national press. For works and goods using NCB procedures, the Specific Procurement Notice may be published only nationally in at least one newspaper of wide circulation within Guinea and a web portal that is publically accessible.

23. Procurement under the project will involve:

(a) Consulting Services

(b) Procurement of Goods

(c) Non-consulting Services

(d) Procurement of Works

(e) Training

(f) Costs. Incremental recurrent expenditures during project implementation, including maintenance of vehicles, fuel, equipment, office supplies, utilities, consumables, banking charges, advertising expenses, internet service, car insurance, travel, per diems, and accommodations, but excluding salaries of civil and public servants, will be procured using the implementing agency's administrative procedures reviewed and found acceptable by the World Bank.

24. For each contract to be financed by the Grant, the following has been agreed between the recipient and the World Bank in the PP: the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and time frame. The prior review and procurement method thresholds indicated in Table 3.3 are intended for the initial PP.

Table 3.3. Thresholds for Procurement Methods and Prior Review

Expenditure Category	Contract Value (Threshold, US$)	Procurement Method	Contract Subject to Prior Review
1. Works	≥5,000,000	ICB	All
	<5,000,000 (*)	NCB	
	<200,000 No threshold	At least 3 quotations Direct contracting	 All
2. Goods	≥500,000	ICB	All
	<500,000[a]	NCB	
	<100,000	Shopping	No
	No threshold	Direct contracting	All
3. Consultants			
Firms	>200,000	QCBS FBS QBS	All
	<200,000	QCBS CQS LCS	
Individuals	>100,000	IC (EOI)	All
	<100,000	IC (at least 3 CVs)	No
	No threshold	Single Source Selection (Firms & Individuals)	All
All ToRs regardless of the value of the contract are subject to prior review.			

Note: a. In specific circumstances, for example, when there is an insufficient number of qualified firms to ensure competition in the local context, ICB will apply even if the estimated amount is below the thresholds.

CQS = Selection based on Consultants' Qualifications; FBS = Fixed Budget Selection; IC = Individual Consultants; LCS = Least-Cost Selection; QBS = Quality-Based Selection; QCBS = Quality- and Cost-Based Selection.

(a) All contract amendments raising the initial contract value by more than 15 percent of the original amount or above the prior review thresholds will be subject to prior review by the World Bank as determined mandatory in paragraphs 2 and 3 of Annex 1 of the World Bank's Procurement Guidelines.

(b) **Post review.** For each contract for goods and public works not submitted for prior review, the procurement documents will be submitted to IDA post review in accordance with the provisions of paragraph 5 of Annex 1 of the World Bank's Procurement Guidelines. The post review will be based on a ratio of at least 1 of 5 contracts. The prior review thresholds and other measures to be taken to mitigate the procurement risk should be reevaluated once a year with a view toward adjusting them to reflect changes in the procurement risk that may have taken place in the meantime and to adapt them to specific situations. In case of failure to comply with the agreed mitigation measures or World Bank guidelines, a reevaluation of both types of thresholds, ICB and prior review, may be required by IDA.

(c) The Association shall determine by notice to the recipient the revision of procurement prior review thresholds.

25. **Procurement Capacity Assessment.** An assessment of the procurement capacity of the SEG and MEH in February 2017 concluded that (a) the MEH is not very familiar with the World Bank's procurement procedures; and (b) the SEG does not have a procurement department but benefits from former experience of managing IDA-funded projects, however, its procurement staff need to be updated with the World Bank's procurement procedures.

26. The procurement risk is rated High before mitigation and Substantial after the implementation of mitigation measures. The potential risks identified are: (a) multiple implementation agencies; (b) the insufficient skills and experience with the World Bank's procurement procedures of the MEH's staff; and (c) the lack of a procurement department and procurement manual for the SEG.

27. **Procurement risk mitigation measures.** For these bodies to implement World Bank-funded activities in accordance with the World Bank's guidelines on procurement, the assessment mission recommended the following: (a) the recruitment by the MEH of one procurement specialist who is familiar with the World Bank's procurement procedures; (b) elaboration of an implementation manual which includes the procurement procedures for the project; (c) the MEH builds sufficient procurement capacity to adequately administer through the PIU, the three components of the project, by training all staff involved in project implementation as designated by the MEH, through coaching by the recruited procurement specialist over the course of one year at minimum; and (d) putting in place a good filing system.

Implementation Support for Procurement

28. The World Bank will conduct implementation support missions every six months and annual post procurement reviews.

Table 3.4. Procurement Action Plan

	Recommended Actions	Due Date
1	Recruitment by the MEH of one procurement specialist on ToR acceptable to IDA	3 months after the effectiveness date
2	Elaborate an implementation manual which includes procurement procedures approved by the World Bank	Before any disbursement is done on all categories of expenditures

Summary Procurement Plan

29. The main works, goods, and non-consulting services to be procured in the project are listed in Table 3.5.

Table 3.5. Works, Goods, and Non-Consulting Service Contracts to Be Procured

No	Contract (Description)	Estimated Cost (US$)	Procurement Method	Pre-qualification	Review By World Bank	Expected Bid Opening	Comments
Component 1 - Urban water							
1	Construction of a (1 m^3/s) Pumping Station at Grandes Chutes Dam	2,000,000	NCB	No	Post	March 15, 2018	SEG
2	Construction of Yessoulou Treatment Plant (1 m^3/s) and a water-treated reservoir of 6,000 m^3 capacity	18,100,000	ICB	Yes	Prior	March 15, 2018	SEG
3	Restructuring of distribution network around feeder DN 700 for 10 km pipes, including 2,000 water connections	1,600,000	NCB	No	Post	February 15, 2018	SEG
4	Replacement for 10 km of obsolete network pipes and 2,000 water connections	2,100,000	NCB	No	Post	February 15, 2018	SEG

30. **International competitive bidding.** Except as otherwise provided in paragraph 31 below, works and goods shall be procured under contracts awarded on the basis of ICB.

31. **Other methods of procurement of goods and works.** Table 3.6 specifies the methods of procurement, other than ICB, that may be used for goods and works. The PP shall specify the circumstances under which such methods may be used.

Table 3.6. Other Methods of Procurement of Goods and Works

Other Procurement Methods
Limited international bidding
NCB
Shopping procedures
Direct contracting
Procurement under Framework Agreements

Table 3.7. Consulting Assignments with Selection Methods and Time Schedules

No.	Contract (Description)	Estimated Cost (US$)	Procurement Method	Review By Bank	Expected Bid Opening	Comments
Component 1 - Urban water						
1	Consultant services: Design studies and tender documents preparation for the production subcomponent (Grandes Chutes Dam and Yessoulou)	300,000	QCBS	Prior	May 2, 2017	SEG
2	Control and supervision of civil works for the production subcomponent	400,000	QCBS	Prior	May 2, 2017	SEG
3	Consultant services: Design studies and tender documents preparation for the distribution subcomponent (network restructuring and replacement)	400,000	QCBS	Prior	May 2, 2017	SEG
4	Control and supervision of civil works for the distribution subcomponent	600,000	QCBS	Prior	May 2, 2017	SEG
5	Master plan and hydraulic modeling of Greater Conakry Water Supply Infrastructure	300,000	QCBS	Prior	May 2, 2017	SEG
6	Technical assistance to SEG (AMO)	600,000	QCBS	Prior	May 2, 2017	SEG
7	Environmental and social safeguards studies for the project	100,000	IC	Prior	August 8, 2017	SEG
Component 2 - Urban sanitation						
1	Strategic study to establish an Urban Sanitation National Strategy for Guinea	500,000	QCBS	Prior	Sept. 4, 2017	DATU
2	Detailed design studies of Greater Conakry Sanitation Master Plan	500,000	QCBS	Prior	Sept. 4, 2017	DATU
Component 3 - Institutional strengthening and project management						
1	Conakry Peninsula aquifer modeling and database (Support to DNH)	650,000	QCBS	Prior	Sept. 4, 2017	PIU
2	Financial modeling for SEG	100,000	QCBS	Prior	Sept. 4, 2017	PIU
3	Urban water sector tariffs study	250,000	QCBS	Prior	Sept. 4, 2017	PIU
4	Consultant services to update the urban legal framework and sector policy letter	300,000	QCBS	Prior	Dec. 4, 2017	PIU
5	Goods procurement and shopping by the PIU	—	Combination of several procurement processes	Prior	—	PIU

Note: CQS = Selection Based on Consultants' Qualifications; IC = Individual Consultant.

32. **Quality and cost-based selection.** Except as otherwise provided in paragraph 36 below, consultant services shall be procured under contracts awarded on the basis of QCBS.

33. **Other methods of procurement of consultant services.** Table 3.8 specifies methods of procurement, other than QCBS, which may be used for consultants' services. The PP shall specify the circumstances under which such methods may be used.

Table 3.8. Other Methods of Procurement of Consultant Services

Other Procurement Methods
Least Cost Selection
Selection based on Consultants' qualifications
Selection under a fixed budget
Quality Based Selection
Single Source Selection
Individual Consultants

Frequency of Procurement Supervision

34. In addition to the prior review supervision to be carried out from World Bank offices, the capacity assessment of the implementing agency has recommended (a) supervision missions every six months to visit the field; and (b) at least one annual post procurement review.

35. **Procurement and technical audit.** A procurement and technical audit will be carried out at least every two years during project implementation and a report will be prepared on the procurement process, contract management, fiduciary compliance, and so forth.

Environmental and Social (including Safeguards)

36. The project has been classified as a Category B project according to the World Bank Operational Policy on Environmental Assessment (OP 4.01). Environmental Assessment (OP/BP 4.01), OP/BP 4.37 - Safety of Dams, Physical Cultural Resources (OP/BP 4.11) and Involuntary Resettlement (OP/BP 4.12) safeguard policies have been triggered by this project.

37. **Social and poverty impacts.** The proposed project is expected to deliver significant social benefits by improving the living conditions of the population of Greater Conakry. The project will contribute to reducing urban poverty by (a) reallocating public funds to more direct and targeted interventions for the urban poor; (b) prioritizing urban infrastructure and services that are key to improving living and health conditions of the poor; and (c) improving the involvement of community-based organizations in the management of water kiosks and the private sector in the execution of targeted operations. The project will help generate temporary employment opportunities in labor-intensive public works and support local economic development in these areas, which will benefit the local residents in the selected poor neighborhoods.

38. **Gender impacts.** The project is classified as gender informed; gender-specific actions are to be undertaken during project implementation and are reflected in the Results Framework. Women are mostly affected by poor mobility and lack of access to basic services and generally burdened with household services such as buying food, fetching water, disposing of domestic

wastewater and solid waste, paying utility bills, and caring for the sick and elderly. Improving access to basic services such as water supply will benefit women by enhancing sanitary conditions and improving productivity, with its associated time and cost savings. Women's participation in the selection of water kiosk sites and in its daily management is a key factor in establishing organizations that truly represent all people in the community. It is also important for providing services that respond not only to the community at large but also to specific needs that women may have. Actions to be taken under the project include (a) ensuring women's participation in all aspects of the program and dissemination of information to women, using appropriate media and language; (b) using gender-sensitive approaches and methods, including public information events targeted at women; (c) recruiting at least 40 percent of female community facilitators; and (d) collecting and monitoring gender-disaggregated data on project beneficiaries.

39. **Participation.** The preparation of the project, including feasibility studies and preparation of safeguards instruments were carried out in consultations with the National Government, the city administration, and representatives of civil society.

40. **Social safeguards.** The proposed project is expected to deliver significant social benefits by improving the living conditions of the population of Greater Conakry. It will not finance civil works with significant resettlement impacts. Still, in accordance with OP/BP 4.12, an RPF has been prepared, consulted upon in-country, and published in Guinea on May 09, 2017 and on the World Bank's website on May 10, 2017.

41. No physical displacement of PAPs has been identified, nor will land acquisitions be required. There will only be minor economic disturbances, mostly related to temporary disruption during pipe laying of entrance ramps, terraces, fences, and stairs which are encroaching on the rights-of-way. The total number of affected structures is below 70, and these are listed in detail in the separate RPF document. Affected structures will be reconstructed by the project in equal or better quality. Given that no physical or economic displacement will be required, the preparation of an RAP is not necessary at this stage, but will be guided by this RPF, if required, due to future, unexpected displacement related challenges.

42. A complaints mechanism will be established by the project, whereby beneficiaries and stakeholders can express their concerns regarding the project. The project includes a budget for (a) training and awareness raising for local authorities, consulting firms, small and medium enterprises, community-based organizations, and relevant ministry staff, with a focus on the implementation of the RPF, the Abbreviated RAP, and the mitigation of environmental impacts; (b) training for the safeguards specialist within the SEG with a focus on environmental audit and appraisal; (c) environmental and social monitoring in the field to ensure that the provisions of the RPF have been implemented appropriately; and (d) surveys of beneficiaries who feel the project investments reflect their needs.

43. **Environment.** From an environmental perspective, the investment program includes the rehabilitation and extension of the distribution network, which may cause adverse impacts, but these will temporary and site-specific. Most of the investments will be of simple design and technology.

44. The environmental team of the SEG will be in charge of all safeguards aspects of the project, including implementation of the instruments. Refresher training in safeguards implementation will be provided during the implementation of the project. Regular supervision by the World Bank's safeguards specialists will be used to contribute to strengthen the Borrower's safeguards compliance and capacity.

45. During project preparation, an ESIA has been prepared, specifying how to identify and mitigate any adverse environmental impacts from project activities. The document was consulted upon in-country and published in Guinea on May 09, 2017 and disclosed on the World Bank's website on May 10, 2017.

Other Safeguards Policies Triggered

46. The project also triggers OP/BP 4.11 - Physical Cultural Resources. The works will take place in inhabited areas and will involve excavations and demolitions. There is a possibility of chance finds of physical cultural resources. To mitigate potential adverse impacts, the ESIAs and associated ESMP include guidance and procedures for physical cultural resources management. No separate safeguards instrument is needed.

47. The project also triggered OP/BP 4.37 - Safety of Dams because the current project relies on the safe and sound operation of the existing Grandes Chûtes Dam and Baneah Dam in the upstream of the Samou River for supplying water in the additional amount of around 31.5 million m^3 per year. Therefore, safe operation of those dams has significant social, economic, and environmental relevance and will influence the performance of the project. Hence, an independent dam safety assessment, including upgrading or preparation of the O&M plan and emergency preparedness plan, acceptable to the Association, will be undertaken by the client in coordination with the dam owner before any disbursement on Component 1. The O&M plan will cover organizational structure, staffing, technical expertise, and training required and equipment and facilities needed to operate and maintain the dam; and O&M procedures and arrangements for funding O&M, including long-term maintenance and safety inspections. The Emergency Preparedness Plan will specify the roles of responsible parties when dam failure is considered imminent or when expected operational flow release threatens downstream life, property, or economic operations that depend on river flow levels, as detailed in BP 4.37 Annex A.

Monitoring and Evaluation

48. Project outcome indicators will be calculated using intermediate results. The contractual framework of the urban water subsector, particularly the performance contracts of the SEG, provides for an adequate gathering of key project outcome indicators, for example, access data and information on the financial equilibrium of the sector. Information on the population benefitting from improved services will be collected by the SEG. Progress reports produced by the consultants in charge of control and supervision of the water and sanitation works will provide an adequate reporting of indicators of the project's intermediate results.

49. The PIU will compile the data, produce progress and monitoring reports, and initiate specific evaluation studies by independent consultants as needed.

Role of Partners

50. This project's focus on the production capacity reinforcement was purposefully designed to complement activities of other major donors, in particular, JICA, (Yessoulou II and key distribution lines) and the Kingdom of Morocco who funded NRW and rehabilitation of critical parts (7 km) of the transmission and distribution network in Conakry, as well as the IsDB financing of the rehabilitation of 8 km of the transmission network DN 700, 2 km of primary network DN 600, and 13,000 existing spaghetti connections.

51. In fact, the IsDB is financing a water project, which has been under implementation in Conakry since 2011, for an amount of US$15.7 million including Government counterpart funding of US$1.5 million. The project's components are: (a) construction of the Yessoulou 1 water treatment plant (the IsDB is financing the rehabilitation of 8 km of the transmission network DN 700, rehabilitation of 2 km of primary network DN 600, rehabilitation of 13,000 existing connections, drilling and equipping of 4 new boreholes, and acquisition of maintenance tools, equipment, two water fuel cars, and five bladders); (b) consultancy services; and (c) support to the Project Management Unit (training, start-up workshop, and audit). The Government will participate in the financing of the project to the tune of 10 percent of the total cost to cover part of the remaining construction works and provision of equipment not included in IsDB's financing (rehabilitation of 2,000 existing connections, connection of 1,200 new households, and acquisition of repair car) and part of the support to the project coordination unit (acquisition of equipment, furniture and operating costs).

52. Following its project in the city of Conakry that was closed in 2016, the Government of Japan has agreed to finance the replacement of a 3.5 km obsolete pipeline DN 1100 mm, built under this project in 2009, with cast-iron material. This decision is the consequence of disruptions in service delivery due to regular breaks of this obsolete pipe, aggravating the shortage of water in the polarized districts.

Annex 4: Implementation Support Plan

GUINEA: Urban Water Project

Strategy and Approach for Implementation Support

1. The project will be implemented by the MEH through the PIU. The MEH will be reinforced with additional specialists forming the PIU and use consulting firms and technical assistance to build capacities, carry out technical studies, and supervise construction activities. The Implementation Support Plan (ISP) takes into account the experience of the MEH in project management from the IDA-supported electricity project.

2. The ISP aims to focus implementation support in the areas where the implementation arrangement and staff are less experienced (that is, utility performance monitoring based on key management tools) and where these need to be strengthened further such as fiduciary and safeguard aspects. The World Bank will play an active role during implementation to support the capacity-building activities, through a complementary technical assistance program from PPIAF. Furthermore, the World Bank team will continue to support good coordination among development partners working in the sector.

3. The SEG with the help of technical assistance will ensure overall quality assurance and control and M&E. Focused operations training in safeguards, procurement, FM, utility financial modeling, hydraulic modeling, and NIS is included in the project for the implementation agency.

Implementation Support Plan

4. The ISP is built around formal quarterly missions, regular video conference calls between the task team and the PIU/MEH, SEG, and DATU, regular visits to all project sites, and fiduciary compliance reviews. An MTR will be held after approximately 30 months of implementation to review performance in depth, based on progress and studies commissioned for the MTR, and make any necessary adjustments to project substance and schedule.

5. The World Bank will devote at least 40 staff weeks per year and a total of about 233 staff weeks through FY23 to help the Government implement the project and supervise progress. The ISP highlights the World Bank's support to implement adequate risk mitigation and to facilitate achieving the PDO. The risk categories rated Substantial include weak institutional capacity for implementation and sustainability.

6. The following are particularly important elements of the ISP:

- Monitoring of safeguards instruments by including safeguards specialists in semiannual missions. For the dam safety requirements, the team will support the recipient to complete an independent dam safety assessment, including upgrading or preparation of the operation and maintenance (O&M) plan and emergency preparedness plan, acceptable to the Association. These specialists will also assure knowledge transfer and the development of an adequate training program for PIU staff to be recruited to monitor safeguards aspects. Additionally, local consultative forums in project sites will play a key role in supervising project activities. Civil

society organizations representing the local populations will receive support to monitor project implementation, in particular with respect to safeguards instruments and hygiene promotion including gender consideration, and will be able to draw attention to any problematic areas.

- Strong implementation support will be provided in sector reform including utility operational efficiency monitoring using key performance indicators. The three seasoned senior water and sanitation specialists, fiduciary, and safeguard teams on the task team will provide hands-on support (based in Dakar, Accra, Nairobi, and Conakry Office).

- Support to developing and regular monitoring of a communication strategy and implementing responsive feedback mechanisms (spot checks, dedicated safeguards compliance support, Environmental Management Plan training for contractors, and so on) for quality assurance and M&E.

- The World Bank will support the establishment of smooth working relationships between the implementation agencies and other Government agencies such as the MEH and Environmental Protection Agency to ensure interventions coordination.

- Fiduciary missions will focus on the implementation agencies' performance in managing contracts, procurement, financial matters, and completing agreed implementation plans.

7. The SEG will receive technical assistance on NRW monitoring and training to address both commercial and physical water losses combining the institution of district metering areas and south-south learning programs.

8. The skills mix and resource needs listed in Tables 4.1 and 4.2 are expected.

Table 4.1. Main Focus with Regard to Support to Implementation

Time	Focus	Skills Needed	Resource Estimate (US$)	Partner Role
First twelve months	Start-up phase, procurement of investment contractor, preparation of implementation of capacity-building activities, including safeguards	WASH, institutional development, procurement, FM, safeguards, gender, M&E, and communication	150,000	n.a.
Until MTR (year 2–3)	Capacity building and start of subproject construction, capacity building, and studies	WASH, institutional development, procurement, and FM	100,000 per year 200,000 total	n.a.
MTR (year 3)	MTR and institutional development	Infrastructure, institutional development, procurement, FM, environmental, social development, gender, M&E, communication, and economic analysis	150,000	n.a.

Time	Focus	Skills Needed	Resource Estimate (US$)	Partner Role
Following MTR (year 4–5)	Continued project implementation, implementation of study recommendations, and capacity building	Infrastructure, institutional development, procurement, FM, social development, M&E, and environmental	100,000 per year 200,000 total	n.a.
Total (5 years)			700,000	

Table 4.2. Skills Mix Required

Skills Needed	Number of Staff Weeks (FY18–22)	Number of Trips	Comments
TTL (water and sanitation); Co-TTL (water and sanitation)	100	15	Regular implementation support to the client, twice yearly implementation support missions
Procurement	20	Country office based	Regular implementation support to the client, twice yearly implementation support missions
FM	15	8	Twice-yearly missions for start-up phase, then yearly
Institutional aspects (utility financial/commercial modeling)	15	5	Start-up (3), MTR, closing
M&E, NRW	15	5	Start-up (3), MTR, closing
Social development/gender	12	5	Annual mission and team support
Communication specialist	6	Country office based	To participate in mission planning and communication strategy
Environmental safeguards	12	10	Twice yearly missions
Program assistant	18	Country office based	Ongoing team support
Language program assistant	6	Headquarters based	Ongoing team support
Social safeguards	12	10	Participate in yearly implementation support missions and MTR
Legal	1	0	For any restructuring
Disbursement	1	0	For any restructuring/as need arises during implementation
Total	233		

Annex 5: Economic and Financial Analysis

GUINEA: Urban Water Project

1. This economic and financial analyses assess the economic and financial benefits and related costs arising from activities implemented under Component 1 (Table 5.1). The results of the economic and financial analyses show that the project is economically and financially viable. The FIRR is 51 percent and the EIRR is 30 percent. These analyses are presented in detail in this annex and complemented with sensitivity analysis.

2. The cost-benefit analysis carried out for Component 1 was undertaken from economic and financial perspectives. From an economic perspective, it was evaluated converting financial cash flows into economic cash flows to eliminate distortions caused by taxes, subsidies, and other externalities. From a financial perspective, it was evaluated by estimating costs and benefits at market prices, in the same way the SEG will be paying or receiving from each input. The cost-benefit analysis estimates the economic/financial feasibility of the project by calculating the net present value (NPV) of the cost and benefit streams and by determining the EIRR/FIRR of the project.

Table 5.1. Detailed Costs of Project Activities

Component 1 - Urban water	US$, million
Production Subcomponent	**20.8**
• Pumping Station at Grandes Chutes Dam (86,000 m^3 per day)	2.0
• Yessoulou Treatment Plant (increase of treatment capacity by 86,000 m^3 per day)	18.1
• Consultants services	0.7
Distribution Subcomponent	**5.4**
• Restructuring of distribution networks around feeder DN 700	1.6
• Replacement of obsolete network pipes (asbestos cement and gray cast iron)	2.1
• Consultants services	1.7
Total	**26.2**

Methodology and Assumptions

3. This economic and financial analysis evaluates the economic impact of improvements in water supply in Conakry benefiting from physical investments made under Components 1 and 2.

4. **Cost-benefit analysis.**[6] The economic/financial feasibility analysis of the project compares estimated economic/financial benefits of the project with its economic/financial costs. As the project costs are given, the primary analytical challenge of this analysis is to most accurately estimate the expected benefits that are likely to occur as a result of project implementation.

[6] The cost-benefit analysis is a method for comparing the economic pros and cons of policies and programs to help policy makers identify the best or most valuable options to pursue. Cost-benefit analysis monetizes all major benefits and all costs associated with a project so that they can be directly compared with each other as well as with reasonable alternatives to the proposed project. A cost-benefit analysis is generally considered the most comprehensive approach and, in many ways, the gold standard. World Bank, Investment Project Financing Economic Analysis Guidance Note, 2014.

5. Costs include the investment cost of schemes under Component 1 (see Table 5.1), which will be incurred during the project life; maintenance and rehabilitation cost, calculated as a percentage of the investment cost (3 percent used); and operational costs for the water supply facilities financed under Component 1.

6. The net benefit is the difference between the incremental benefits and the incremental costs of two scenarios: 'without' and 'with' the project. The 'without' project scenario considers utility consumers facing continuity in the current situation. If the project is not implemented (the 'without' project scenario), for the purposes of the analysis it is assumed that the quality of service provision will not change and/or will decline as will the efficiency with which the service is provided.

7. At present, the city of Conakry is supplied by surface water (three production sites) and by groundwater (seven operational production sites). The Yessoulou Water Treatment System produces 85 percent of the water distributed in Conakry. The system is insufficient to supply the entire city of Conakry. The project expects to significantly increase the capacity of the treatment plant from 129,440 m^3 per day to 215,440 m^3 per day, by adding 86,000 m^3 per day, which represents an increase of about 66 percent of the current capacity.

Table 5.2. Existing and Additional Water Production Capacity

Yessoulou Water Treatment System	Current Capacity (m^3 per day)	Additional Capacity Developed under the Project (m^3 per day)	After the Project Capacity (m^3 per day)
Yessoulou 1 (commissioned in 1964)	51,840	86,000	215,440
Yessoulou 2 (commissioned in 1994)	38,800		
Yessoulou 3 (commissioned in 2009)	38,800		
Total	129,440	86,000	215,440

8. At present, one of the main challenges for the SEG is to provide continuous service and guarantee adequate levels of water. In Conakry, the supply of water to the highest reservoirs is ensured every other day, which leads to distribution shedding from a few hours every other day to about ten hours every day, depending on the neighborhood. Currently the population served by the SEG consumes on average 57 L per capita per day, which is just above the minimum consumption required of 50 L per capita per day recommended by WHO. From the customer perspective, usually the population faces the rationing in one of three ways: (a) drilling their own water wells; (b) building a reservoir at their house and storing water for the time when there is no supply; and (c) buying water from water vendors. The continuity of the water service will only be established once there is a significant increase in water production capacity. By the end of year 3, owing to the significant enhancement in water production, the project is expected to provide an average of 85 L per capita per day to project beneficiaries, which represents an increase of 28 L per capita per day. As such, the increase in water production will contribute to reduce continuity problems and reliance on vendors.

9. Currently NRW is estimated at 42 percent of water production (as of 2016). With the information currently available, it is difficult to accurately estimate the multiple causes of the high level of NRW. However, it is estimated that about three-quarters is due to physical losses and one-quarter to commercial losses. In Conakry the condition of the network gives rise to a high number of leak repairs: 140 repairs per thousand connections (2011 data) versus a

benchmarking standard of between 20 and 40 repairs per thousand connections. There are many reasons for this: spaghetti structure (long connections that supply other connections in the route), insufficient burial of the network, and insufficient rehabilitation and maintenance, among other causes. There is also a major problem of fraud and illegal connections. The project is expected to contribute to a reduction of NRW to 30 percent of the production by the end of the project by investing in the distribution network, in particular by restructuring distribution networks around feeder DN 700, replacing obsolete network pipes (asbestos cement and gray cast iron), and renewing about 4,000 connections. Reductions in NRW are expected to boost the SEG's revenues, contributing to strengthen its financial position.

10. The capacity-building activities under Component 3 are important, as they will help to improve water resource management and the governance of the water sector and will also help improve the efficiency and quality of services provided by the SEG. Despite anticipated benefits from institutional strengthening and capacity-building activities, the economic and financial analysis focuses only on the investment under Component 1.

11. **Time horizon.** Component 1 was appraised measuring the expected costs and benefits for the project's lifetime, estimated at 30 years for the investments included under the production subcomponent and 20 years for investments made under the distribution subcomponent (see Table 5.1). Costs and benefits are expressed in constant prices as of 2017.

12. **Discount rate.** The analysis was done using two discount rate assumptions: 6 percent and 10 percent. The 6 percent discount rate assumption corresponds to the recent World Bank directives regarding discount rates for use in economic analysis.[7]

Economic Analysis

13. **Benefits.** Project beneficiaries include about 730,000 existing consumers who will benefit from improved water supply resulting from enhancements in production capacity and in the distribution network. The project will also contribute to improve the SEG's efficiency as it will support efforts toward financial and operational sustainability.

Table 5.3. Main Changes Expected Due to the Project

Indicator	Unit	At Project Initiation	At Project Completion	Change
NRW (SEG)	% of total production	42	30	12 percentage points
Water production capacity, all systems	m^3 per day	167,000	253,000	86,000
Water production capacity, Yessoulou treatment plant (85% Conakry demand)	m^3 per day	129,440	215,440	86,000
Water billed in Conakry	m^3 per day	101,836	150,808	48,972
of which domestic (represents 41% of total water billed)	m^3 per day	42,036	62,251	20,215

[7] World Bank. Discounting Costs and Benefits in Economic Analysis of World Bank Projects. May 9, 2016.

Indicator	Unit	At Project Initiation	At Project Completion	Change
of which non-domestic (represents 59% of total water billed)	m^3 per day	59,800	88,557	28,758

14. **Water supply benefits.** Component 1 aims at increasing the production water supply capacity in Conakry and enhancing the distribution network. Benefits expected from the proposed investments include (a) elimination of water rationing; and (b) additional water sales arising from greater availability of water derived from decreased technical losses. The total number of beneficiaries at full capacity of the infrastructure implemented under the project is about 730,000. In addition, investments under Component 1 will benefit industrial, commercial, and government institutions.

A. Reduction of Water Rationing

15. Customers are willing to pay for greater amounts of water, which the project will make available due to increasing production capacity. As such, the rationing cost is estimated as the volume of water rationed times the unit rationing cost. In the case of Guinea, if households were to complement their current water consumption from the SEG, they will need to revert to water from kiosks and/or vendors/tankers. The water reselling price in kiosks ranges between GNF 150 and GNF 200 per can of 20 L (or between GNF 7,500 and GNF 10,000 per m^3), which is at least three times as much as the price of the water provided by the SEG. The water reselling price from informal providers ranges between GNF 500 and GNF 1,500 per can of 20 L (or between GNF 25,000 and GNF 75,000 per m^3), which is at least 10 times as much as the price of the water provided by the SEG. Given that there is not enough data about what percentage of water households buy in kiosks and/or from vendors, for the purposes of the economic analysis it is assumed that all of the sales would be made from kiosks and thus the price of water from kiosks (the lowest price paid for alternative sources of water) is used as a proxy for the unit rationing cost. The project is expected to make available an additional 28 L per capita per day.

16. In the case of non-domestic customers, the project will reduce water rationing by making available about 27,000 m^3 per day. If non-domestic customers were to complement their consumption by buying water from an alternative source, it is expected that they would demand larger amounts of water compared to households. As such, it is assumed that the unit rationing cost to be paid by non-domestic customers is GNF 3,750 per m^3 (half of what would be paid by households).

B. Additional Water Sales Arising from Greater Availability of Water Derived from Reduced Water Losses

17. The rehabilitation of the distribution network to be implemented under the project will lead to reductions in physical losses, which in turn will lead to a greater amount of water billed and collected. At present, the average level of existing losses is 42 percent is due to project investments losses are expected to be reduced to 30 percent; of which three-quarters is estimated to be physical losses. If the indicated investments are not implemented, given the current condition of the systems, it is forecasted that water losses will continue to increase from the

current loss of about 55,000 m^3 per day. Under a conservative scenario, a one percentage point increase per year is assumed if measures are not taken to reduce NRW.

18. The estimation of the additional water sales is based on the following assumptions. At present, of the total volume produced, only 29 percent is billed based on readings (36 percent for households and 29 percent for non-domestic clients); hence, for the purposes of estimating this benefit, the same ratio is assumed, given that the project will not provide funding for improvements in metering readings. The project is expected to increase the collection ratio to 90 percent of the billing compared to the current 67 percent. Additional water sales are valued at the current average water tariff applicable to the respective customer category. This benefit is captured in the analysis only for reductions in physical losses (estimated at three-quarters of all losses), as the reductions in commercial losses do not represent any economic benefit (rather a transfer, that with the project will be captured by the SEG, thus affecting the financial analysis). The estimated economic benefits of the water supply investments to be implemented under the project, using 6 percent and 10 percent discount rates, are presented in Table 5.4.

Table 5.4. Net Present Value of Economic Benefits (US$ million)

Benefit	6% Discount Rate	10% Discount Rate
Elimination of water rationing	140	96
Additional water sales arising from greater availability of water derived from reduced physical losses	23	16
Total	**163**	**112**

19. **Other benefits.** Besides direct preventable economic losses, there are many other potential benefits that are not factored into the cost-benefit analysis described here. This is either because estimating such benefits is difficult due to the lack of data or it is challenging to quantify the value of those benefits because they might not be financial or economic in nature; for instance, access to improved water supply provides dignity. Some of the benefits not included in the economic analysis are referred below.

(a) **Impact on women and girls.** A key impact of the project is the reduction of the time spent by families on water collection from stand posts and water trucks (when delivery is not directly done at the household). Water collection is generally the responsibility of women and young girls. The project will free time for them to engage in productive or educational activities, generating substantial additional wealth and increasing the likelihood of girls receiving formal education. The project will also create opportunities for women to participate in water committees and other community-based organizations, contributing to a fairer gender balance in the management of water services.

(b) **Decrease in morbidity and mortality rate.** The economic analysis does not consider the impact of improved water and sanitation services on both morbidity and mortality associated with waterborne and water-related diseases. In addition to the expected reductions in diarrhea incidence, extensive literature suggests that the effects of improved water and sanitation on child mortality go beyond their direct diarrheal effect. By lowering the exposure to fecally transmitted diseases, access to improved water and sanitation does not only lower diarrhea incidence but also

considerably lowers the risk of malnutrition as well as the risk of severe infection with other (not fecally transmitted) diseases, enhancing the chances of survival for protected children.[8] Depending on the type of intervention, 10 to 27 lives per 1,000 births could be saved could among children under-five due to investments in water supply and sanitation. The morbidity and mortality benefits are not estimated as part of this economic analysis.

20. Therefore, the estimated benefits of the project described in this analysis can be considered conservative and it can be reasonably assumed that the actual benefits will be larger than the ones estimated by this economic analysis.

21. **Project costs.** The project costs are the investments required for the various project activities and the corresponding maintenance and rehabilitation costs associated with ensuring that the investments can generate the water services in the short, medium, and long term. A 3 percent maintenance and rehabilitation cost per year was assumed to ensure that the investments made under the project are sustained over time. In addition, unit operation costs per cubic meter was multiplied by the respective volumes of additional water consumption (residential and nonresidential and water savings from technical losses). The unit water supply operating cost available is about GNF 3,200 per m^3 of water supply treated, including energy, staff, chemicals, and other operating costs. The present value of the costs associated with the economic benefits estimated under this analysis are presented in Table 5.5.

Table 5.5. Present Value of the Costs Associated with the Estimated Economic Benefits

Cost	Component 1	
Discount rate scenario (%)	**6**	**10**
NRW associated production costs (US$, millions)	−25	−19
Investment cost and maintenance (US$, millions)	−33	−27
Total (US$, millions)	**−58**	**−46**

22. **Consolidated results of economic analysis.** The project is economically viable when a 6 percent discount rate is used. Indeed, the cost-benefit analysis for all subprojects analyzed generates positive rates of returns. The results of the analysis are robust, given that not all of the possible benefits of the project were included because of the difficulty in quantification and valuation. The EIRR of the project is 30 percent. A summary of the present value of benefits and cost and the NPV of the project, under the two discount rate scenarios, is presented in Table 5.6.

Table 5.6. Summary Results of the Economic Analysis

Results	Component 1	
Discount rate scenario (%)	**6**	**10**
Present value of benefits (US$, millions)	163	112
Present value of costs (US$, millions)	−58	−46
Net present value (US$, millions)	105	66
Benefit-cost ratio	2.8	2.4

[8] The Impact and Cost of Water and Sanitation Infrastructure. Isabel Günther and Günther Fink. Policy Research Working Paper, 5618. March 2011

Financial Analysis

23. Results of the financial analysis show that the project is financially viable when the utility expands access to service and achieves reduction on technical losses. Under the set of assumptions considered,[9] the FIRR of the activities considered under the financial analysis is 51 percent.

24. **Financial benefits.** The financial benefits of the project were measured in financial terms as the increase of revenue for the SEG. Revenues were measured as volume of water billed times the average tariff per cubic meter, and then affected by a metered-billed ratio of 29 percent and the collection revenue rate of 90 percent. No tariff adjustments were assumed for the financial projections. The increase of revenues will come from additional water sales (a) arising from increasing the additional water capacity made available by the project and (b) from greater availability of water derived from reductions in NRW.

C. Additional Water Sales Arising from Increasing Additional Water Capacity Made Available by the Project

25. Due to the additional water production, is it expected that water sales would increase by 31 million m^3 per year by year 4, when the works in additional production capacity will be completed. This volume assumes that only 95 percent of the total installed production capacity will be used—a rather conservative assumption given that in recent years the SEG has been using the Yessoulou treatment plant at 100 percent of the capacity and that even after the production works are completed, Conakry's full water demand will still be unmet.

D. Additional Water Sales Arising from Greater availability of Water Derived from Reductions in NRW

26. Different from the economic analysis, the financial analysis captures the benefits that would accrue due to reductions in both technical and commercial losses, as both translate into greater revenue (cash flow) to the utility. According to the expected results of the project, the NRW in year 1 is expected to be 40 percent; in year 2, 37 percent; in year 3, 34 percent; in year 4, 30 percent; and to be maintained thereafter.

27. **Project costs.** Unit operation costs per cubic meter were multiplied by the respective volumes of additional water consumption. The unit water supply operating cost available is about GNF 3,200 per m^3 of water supply treated, including energy, staff, chemicals and other operating costs.

28. There will be an on-grating agreement between the MEF and the SEG. As such, the SEG will not assume the financial liability to pay for the investment associated with Component 1. However, it is for the SEG to assume the corresponding maintenance and rehabilitation costs associated with ensuring that the investments can generate the water services in the short, medium, and long term. A 3 percent maintenance and rehabilitation cost per year was assumed to ensure that the investments made under the project are sustained over time.

[9] Most of the assumptions made to calculate the economic benefits and costs are kept for the financial analysis, unless otherwise stated.

29. **Consolidated results of financial analysis.** Table 5.7 summarizes annual values of the project's financial benefits and their present values, using 6 percent and 10 percent discount rates.

Table 5.7. Summary Results of the Financial Analysis

Results	Component 1	
Discount rate scenario (%)	**6**	**10**
Present value of benefits (US$, millions)	141	85
Present value of costs (US$, millions)	−124	−69
Net present value (US$, millions)	17	16

Sensitivity Analysis

30. A sensitivity analysis was carried out to measure the impact on the economic and financial results when changes on the production and treatment costs and NRW reduction forecast occur, assuming a 6 percent discount rate. Given the benefits accounted for in this economic analysis, certain changes in the parameter do not compromise the economic and financial inability of the project.

31. **Changes in production and treatment costs.** A 30 percent increase in production and treatment cost for water supply were considered. The project remains economically viable, with an EIRR of 28 percent and NPV of US$79 million. However, such an increase will turn the project unviable from the financial perspective.

32. **Changes in NRW trends.** A 30 percent deviation from the NRW targets was evaluated. The project remains economically viable even if the utility does miss the NRW target by 30 percent, with an EIRR of 30 percent and NPV of US$84 million. However, such deviation from the NRW targets will turn the project unviable from the financial perspective.

Annex 6: Climate and Disaster Risk Screening

GUINEA: Urban Water Project

1. Table 6.1 summarizes the subnational locations of high risk noted during the assessment, if the user entered these subnational locations. Table 6.2 summarizes all the notes entered by user for each section while completing the assessment, if the user elected to enter notes. These notes can help shed light on specific ratings as well as considerations and limitations of the user's expertise.

Table 6.1. Summary of Comments by Section

Section		Notes
Hazards and Location	Extreme Temperature	Expected temperature increases are unlikely to cause harm to critical components of the project. This is particularly so as, according to the climate change National Adaptation Program of Action (of Guinea (2007), temperature changes will be more extreme outside the project area (in northern Guinea).
	Extreme Precipitation and Flooding	Critical elements of the project may be exposed to potentially damaging extreme precipitation and flooding, which could be disruptive to infrastructure works. Flooding, which is expected to disperse fecal material from on-site latrines, could also pose a sanitary risk to water supply and will thus be a significant consideration for the strategic sanitation studies planned by the project.
	Drought	Conakry's water system relies primarily on water from the Grandes Chutes Dam to supply the city, as groundwater resources on the peninsula is generally brackish. Major climate-change induced droughts in the future may affect water levels in the Grandes Chutes Dam and constrain supply to the city, thus threatening supply/access targets of the project.
	Sea Level Rise	A continuing rise in sea levels may further undermine groundwater resources available to the capital and make the city more dependent on water piped from the Grandes Chutes Dam, thus reducing overall available drinking water and increasing demand-pressure on existing resources.
	Summary	The climate change related risk to this project stems from two main sources: Conakry's seaside location directly by the Atlantic Ocean (making it vulnerable to sea-level rises, flooding, and storm surges), and its overt reliance on water piped from relatively distant dams that may be affected by expected drought and extreme temperature events, thus reducing safe water supply.

Table 6.2. Summary of Comments by Section (2)

Section	Notes

Section		Notes
Subsectors	Water Supply - Water Resources	Climate change effects are expected to negatively impact locally available water sources (sea-level rises and storm surges will further reduce groundwater quality) and put additional pressure on water piped to Conakry from the Grandes Chutes Dam and other sources. The quantity and quality of the water supplied from the latter may be negatively affected by expected droughts and extreme temperatures. The project will adapt to climate change by laying emphasis on rehabilitating water sources and increasing the efficiency of the network to reduce NRW.
	Water Supply - Physical Damage	Physical damages to the investments in built infrastructure are not expected at this point; however, this should be assessed in greater detail during the completion of technical studies that will specify the exact investment targets. As the predominant part of the investments is for rehabilitations and extensions of an existing network and supply technology, most of the 'lock-in' has already occurred and is not due to this project.
	Water Supply - Water Demand	Guinea is nicknamed West Africa's 'water tower' because it contains the headwaters of a number of the region's major rivers, including the Senegal and the Niger. Nevertheless, population growth, pollution of point sources in dense urban areas, and previous droughts and extreme temperature events have put strong demand pressure on the existing supply infrastructure. The future extent of this effect is difficult to anticipate. However, the thrust of the project is designed precisely to alleviate such pressures by improving supply and reducing wastage.
	Sanitation - Physical Damage	The proposed project will not finance sanitation infrastructure and there is therefore no risk of physical damage to sanitation works at this stage. The sanitation planning documents to be financed under the project should, however, explicitly model for possible negative impacts on future sanitation infrastructure (for example, under an additional financing) through flooding, heavy precipitation, sea-level rises, and storm surges.
	Sanitation - Impact on Discharge	The proposed project will not finance sanitation infrastructure and there are therefore no expected impacts on discharge at this stage. The sanitation planning documents to be financed under the project should, however, explicitly model for possible negative impacts on future sanitation infrastructure through flooding, heavy precipitation, sea-level rises, and storm surges.
	Water Supply - Overall Impact	Both the quality and quantity of water supply to the city of Conakry are expected to come under increasing pressure from climate change effects, notably through sea-level rises reducing groundwater quality and droughts affecting the quantity of available potable water, as well as piped supply from the primary sources (for example, Grandes Chutes Dam). This may put increasing demand pressure on existing supply infrastructure. The project is aimed at addressing this with its focus on rehabilitating the present supply infrastructure, reducing wastage, and improving planning.

Section		Notes
	Sanitation - Overall Impact	Historically events such as flooding and extreme rain, which may increase with climate change, have negatively affected sanitation infrastructure in the project area (for example, due to overflowing of sewerage). The project will not be directly affected, however, because it will not finance sanitation infrastructure at this stage and there is therefore no expected climate change related impacts on the sanitation component of the project, which will consist of strategic studies to define a new urban sanitation strategy for the country, in particular for Greater Conakry, including fecal sludge management, wastewater sewerage, and drainage master plans. However, future investments in on- and off-site sanitation infrastructure may be affected by climate change impacts, in particular flooding, extreme rain, and storm surges which may cause public health risks, for example, due to sewerage overflowing into populated areas. These risks are moderate overall, however, and the strategic planning will be an opportunity to model these risks and adaptation measures in greater detail.
	Summary	While near-term impacts on the water supply and sanitation components of the proposed project are likely to be limited, in the longer run climate change effects pose moderate risks to both subsectors. In the water sector, sea-level rises will likely reduce groundwater quality and thus further restrict local alternatives to the piped supply system, increasing demand pressure. This may be reinforced by disruptions in rainfall patterns. At the same time, droughts may put a strain on the main water sources of the piped system (for example, the Grand Chutes Dam). Improved water management systems and early warning systems will be critical to alleviate water shortage risks and help the population prepare for these extreme events. The sanitation sector is a relatively smaller part of this project and does not involve physical infrastructure at this point. Nevertheless, planning should take into account future climate related public health risks for the sanitation sector, for instance stemming from flooding. The planned longer-term strategy to be supported under the project is a timely opportunity to model climate risks in the sanitation sector in greater detail.

Table 6.3. Summary of Comments by Section (3)

Section		Notes
Non-physical Components	Capacity building, training, and outreach	The institutional component of the project will support activities expected to lessen climate change impacts. For example, the project will support the DNH for modeling of the underground water table of the Conakry peninsula and the development of a database of water resources users and levels of abstraction, improving long-term management of water resources that may be impacted by over-use, drought and a sea-level rise.
	Maintenance and operations	The efficiency improvements to be achieved under the project are expected to improve O&M and thus alleviate pressures on water quantity and quality due to climate change effects.

Section		Notes
	Long-term strategic planning	The new urban sanitation strategy to be defined under the project is an opportunity to model climate change and adaptation effects in much greater detail and with a longer-term horizon, which could significantly reduce the impact of climate change on the water and sanitation systems.
	Non-physical Components Overall	The non-physical components of the project are expected to significantly reduce the impact of climate change on the project by supporting longer-term planning, capacity building, and improved operations that will improve long-term adaptation to climate change.
Development Context	Water Sector	The relatively weak water supply and sanitation institutions are currently not well suited for climate change risk modeling and the planning of adaptation measures, which the project aims to address through its institutional reform program. Moreover, the location of Conakry, by the ocean, unfortunately limits alternative sources as groundwater tends to be brackish and of relatively limited quality. Moreover, piped supply is predominantly from one dam, further increasing risks of unexpected events.
Social, Economic, and Political Factors	Prices (particularly food and energy)	. It is hoped that new investment funding provided by the World Bank will help increase production capacity and quality of supply and facilitate a rise in connections to the main water network.
	Population growth	Guinea's total population is growing at 2.7 percent annually and was estimated by the last census in 2014 at 10.6 million, of which 1.6 million inhabitants live in Conakry. Guinea is experiencing a rapid urban population growth rate as the urban population has grown dramatically from 31 percent in 1990 to 46 percent in 2014. The population is overwhelmingly young: more than one-third of the population is estimated to live in urban areas, while over 40 percent of the population is under the age of 14. This urban growth has not been accompanied by infrastructure and basic services needed.
	Other (Ebola Epidemic and Growth)	The EVD outbreak of 2013–15 highlighted the continued vulnerability of Guinean society and institutions. The disease infected over 3,800 Guineans and claimed 2,536 lives. The human impact was aggravated by economic repercussions. The crisis has led to lower-than-projected economic performance, with economic growth revised downward from 4.5 percent to 2.4 percent of GDP in 2014 and to 0.15 percent in 2015. Moreover, these effects are exacerbated by the continued fall in global commodity prices, particularly minerals, on which Guinea's economy is particularly dependent. There is a widening fiscal deficit in the country of more than 5 percent of GDP.
	Overall	The social, economic, and political context of water and sanitation supply in Guinea can be expected to at least slightly increase the impact of climate change effects, in particular due to the rapid population growth, weak institutions, and the human and economic impacts of the recent Ebola epidemic.

Section		Notes
Outcome/Service Delivery	Summary	Climate change poses real but overall moderate risks to the targeted outcomes of the project. In particular, the number of expected beneficiaries may come under pressure from climate change related events such as increased droughts and temperature extremes that could affect the sources of supply of the existing piped system (which predominantly consists of one dam), or if flooding and sea-level rises further undermine the already limited and low quality alternative groundwater sources. In the sanitation sector, increased flooding may pose a particular public health risk (for example, due to overflowing fecal sludge). However, this is unlikely to impact the project directly as no infrastructure works are currently planned. It will, however, be an important issue to consider in planned sanitation strategies and studies under the project. Factors such as the rapid population growth and urbanization, the currently weak institutional structure and feeble economic situation in the aftermath of the Ebola epidemic and falling commodity prices create an environment that may increase climate change impacts. The project will directly improve the ability of the sector to resist these pressures, for example, by improving water production and supply efficiency. Moreover, the project's sizable capacity-building program is an opportunity to help the service provider and the Government develop appropriate response and adaptation plans. If this is achieved, risks to project outcomes should remain moderate.

Annex 7: Major Related Projects Supported by Other Development Partners

GUINEA: Urban Water Project

No.	Topic	Project Name	Amount	Donor	Currency
1	Institutional building	Integrated Water Resources Management: Observatory of Fouta-Djallon basin	11,000,000	GEF	US$
2	Institutional building	SNAPE capacity support (AfDB)	—	AfDB	EUR
3	Urban water supply	Water supply for five secondary cities (Lola, Yomou, Tougué, Lelouma et Gaoual)	16,500,000	ABEDA/OPEC	US$
4	Urban water supply	Water supply for Boké	3,200,000	ABEDA/GoG	US$
5	Urban water supply	Water supply for Télimélé	1,400,000	ABEDA/GoG	US$
6	Urban water supply	Construction of standby water kiosks	3,476,000,000	JICA/SEG	GNF
7	Urban water supply	Rehabilitation of pumping stations of Kobayah and Kakimbo	10,540,000,000	JICA	GNF
8	Urban water supply	Rehabilitation of PRV DN 1100 (treated water) by DCI DN 1100 Sangoya-Enta	13,000,000	JICA	US$
9	Urban water supply	Rehabilitation of DN 700 (treated water) by DN 1100 Sangoya-Enta	4,000,000	Morocco	EUR
10	Urban water supply	Pro-poor focus program with installation of 122 water kiosks in Conakry	4,345,000,000	JICA/GoG	GNF
11	Rural water	Rural water supply and sanitation for Kindia, Mamou, Dalaba et Pita	15,038,820	AfDB	AU

Note: ABEDA = Arab Bank for Economic Development for Africa.
AfDB = African Development Bank
AU = Account Unit