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IDA/R2016-0290/1

December 1, 2016

Closing Date: Monday, December 19, 2016 at 6 p.m.

FROM: Vice President and Corporate Secretary

Benin - Small Town Water Supply and Urban Septage Management Project

Project Appraisal Document

Attached is the Project Appraisal Document regarding a proposed credit to Benin a Small Town Water Supply and Urban Septage Management Project (IDA/R2016-0290), 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
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Document of

The World Bank

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Report No: PAD1834

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF €62.1 MILLION

(US$68 MILLION EQUIVALENT)

TO THE

REPUBLIC OF BENIN

FOR A

SMALL TOWN WATER SUPPLY AND URBAN SEPTAGE MANAGEMENT PROJECT

November 28, 2016

Water Global Practice
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective as of October 31, 2016)

Currency Unit =	XOF
XOF 594 =	US$1
US$1=	€0.91286686

FISCAL YEAR

January 1 - December 31

ABBREVIATIONS AND ACRONYMS

ACEP	Water Consumers Association (*Association des Consommateurs d'Eau Potable*)
ADB	African Development Bank
AFEB	Private Operators Association of Benin (*Association des Fermiers du Benin*)
ARAP	Abbreviated Resettlement Action Plan
BCC	Behavior Change Communication
BCEAO	Central Bank of West African States (*Banque Centrale des États de l'Afrique de l'Ouest*)
BOAD	West African Development Bank (*Banque Ouest-Africaine de Développement*)
BPO	Objectives-based Program Budget (Budget Programme par Objectifs)
CAA	Autonomous Amortization Fund (*Caisse Autonome d'Amortissement*)
CBA	Cost-Benefit Analysis
CePEPE	SME Support and Promotion Center (*Centre de Promotion et d'Encadrement des Petites et Moyennes Entreprises*)
CERC	Contingent Emergency Response Component
CFME	Water Professions Training Center (*Centre de Formations aux Métiers de l'Eau*)
CLTS	Community-Led Total Sanitation
CPS	Country Partnership Strategy
CQS	Selection Based on the Consultants' Qualifications
DA	Sanitation Directorate (*Direction de l'Assainissement*)
DNSP	National Public Health Directorate (*Direction Nationale de la Santé Publique*)
DSPER	Drinking Water Public Service and Regulation Directorate (*Direction du Service Publique de l'Eau et de la Régulation*)
EIB	European Investment Bank
EIRR	Economic Internal Rate of Return
EoI	Expression of Interest
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FBS	Selection under Fixed Budget
FIRR	Financial Internal Rate of Return
FM	Financial Management
FONAGA	National Guarantee and Small and Medium Enterprise Assistance Fund (*Fonds National de Garantie et d'Assistance aux Petites et Moyennes Entreprises*)
FSTP	Fecal Sludge Treatment Plant
FTP	Financial and Technical Partner

GDP	Gross Domestic Product
GiZ	German Cooperation for International Development Agency
GoB	Government of Benin
GPSA	Global Partnership for Social Accountability
GRS	Grievance Redress Service
ICB	International Competitive Bidding
IDA	International Development Agency
IFC	International Finance Corporation
IFR	Interim Financial Report
IPF	Investment Project Financing
KfW	German Development Bank
LCS	Least-Cost Selection
MCVDD	Ministry of the Living Environment and Sustainable Development (*Ministère du Cadre de Vie et du Développement Durable*)
MDG	Millennium Development Goals
MDGL	Ministry of Decentralization and Local Governance (*Ministère de la Décentralisation et de la Gouvernance Locale*)
M&E	Monitoring and Evaluation
MEEM	Ministry of Energy, Water and Mining (*Ministère de l'Énergie, de l'Eau et des Mines*)
MEF	Ministry of Economy and Finance (*Ministère de l'Économie et des Finances*)
NCB	National Competitive Bidding
NGO	Non-Governmental Organization
NPV	Net Present Value
O&M	Operation and Maintenance
OP	Private Water Supply Operator
PCU	Project Coordination Unit
PDO	Project Development Objective
PEFA	Public Expenditure and Financial Accountability
PFM	Public Financial Management
PGSSE	Drinking Water Safety Management Plan (*Plan de Gestion de la Sécurité Sanitaire de l'Eau*)
PNE	National Water Partnership (*Partenariat National de l'Eau*)
POM	Project Operations Manual
PPP	Public-Private Partnership
P-RAMS	Procurement Risk Assessment and Management System
PSDCC	Bank-financed Decentralized Community Driven Services Project (*Projet de Services Décentralisés Conduits par les Communautés*) (P117764)
PUGEMU	Bank-financed Benin Emergency Urban Environment Project (*Projet d'Urgence de Gestion Environnementale en Milieu Urbain*) (P113145)
QCBS	Quality- and Cost-Based Selection
RAP	Resettlement Action Plan
RFP	Request for Proposal
RPF	Resettlement Policy Framework
RSF	Risk Sharing Facility
SDG	Sustainable Development Goals
SIDC	Secure Identification Credentials

SME	Small and Medium Enterprise
SONEB	Benin's National Water Company (*Société Nationale des Eaux du Bénin*)
SSS	Single-Source Selection
TA	Technical Assistance
UNDB	United Nations Development Business
UNICEF	United Nations Children's Fund
WAEMU	West African Economic and Monetary Union
WSP	Water and Sanitation Program
WSS	Water Supply and Sanitation
WSSCC	Water Supply and Sanitation Collaborative Council

Regional Vice President: Makhtar Diop
Country Director: Pierre Frank Laporte
Senior Global Practice Director: Guang Zhe Chen
Practice Manager: Alexander E. Bakalian
Task Team Leader(s): Jean-Martin Brault, Sylvain Adokpo Migan

BASIC INFORMATION

Is this a regionally tagged project?	Country (ies)	Lending Instrument
No		Investment Project Financing

[ ] Situations of Urgent Need or Assistance/or Capacity Constraints

[ ] Financial Intermediaries

[ ] Series of Projects

Approval Date	Closing Date	Environmental Assessment Category
19-Dec-2016	31-Dec-2022	B - Partial Assessment

Bank/IFC Collaboration
No

Proposed Development Objective(s)

The proposed development objectives of the Project are to: (i) increase access to water supply and sanitation in selected small towns and urban areas in the Recipient's territory; (ii) strengthen service delivery capacity of water supply and sanitation sector institutions in selected small towns and urban areas in the Recipient's territory; and (iii) in the event of an Eligible Crisis or Emergency, to provide immediate and effective response to said Eligible Crisis or Emergency.

Components

Component Name	Cost (USD Million)
Component 1: Scaling-up the Small Town Water Supply Subsidized Concession Model	33.50
Component 2: Improving Fecal Sludge Management	27.50
Component 3: Project Management, Monitoring and Evaluation	7.00
Component 4: Contingent Emergency Response	0.00

Organizations

Borrower : The Republic of Benin

Implementing Agency : Ministry of Energy, Water and Mining (MEEM)

[ ] Counterpart Funding	[ ] IBRD	[✔] IDA Credit [ ] Crisis Response Window [ ] Regional Projects Window	[ ] IDA Grant [ ] Crisis Response Window [ ] Regional Projects Window	[ ] Trust Funds	[ ] Parallel Financing

Total Project Cost:	Total Financing:	Financing Gap:
68.00	68.00	0.00
	Of Which Bank Financing (IBRD/IDA):	
	68.00	

Financing (in USD Million)

Financing Source	Amount
International Development Association (IDA)	68.00
Total	**68.00**

Expected Disbursements (in USD Million)

Fiscal Year	2017	2018	2019	2020	2021	2022	2023
Annual	5.00	10.00	10.00	12.00	12.00	11.00	8.00
Cumulative	5.00	15.00	25.00	37.00	49.00	60.00	68.00

INSTITUTIONAL DATA

Practice Area (Lead)

Water

Contributing Practice Areas

Public Private Partnership

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

Gender Tag

Does the project plan to undertake any of the following?

a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF

Yes

b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment

Yes

c. Include Indicators in results framework to monitor outcomes from actions identified in (b)

Yes

SYSTEMATIC OPERATIONS RISK- RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Moderate
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	High
5. Institutional Capacity for Implementation and Sustainability	High
6. Fiduciary	Substantial
7. Environment and Social	Moderate
8. Stakeholders	Substantial

9. Other	
10. Overall	● High

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✔] No

Does the project require any waivers of Bank policies?

[ ] Yes [✔] No

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

Legal Covenants

Sections and Description

Institutional Arrangements (Schedule 2, Section 1.A.1): The Recipient shall, not later than one (1) month after the Effective Date, establish, and thereafter maintain, throughout the Project implementation period, with composition, mandate and resources satisfactory to the Association, a steering committee, to be chaired by the minister responsible for energy, water and mining and comprised of representatives of MCVDD, MoH, MEF, MGDL and mayors of Selected Municipalities.

Sections and Description
Institutional Arrangements (Schedule 2, Section 1.A.2): The Recipient shall maintain, throughout the Project implementation period, a project coordination unit with composition, mandate and resources satisfactory to the Association. To this end, the PCU shall: (a) recruit no later than four (4) months after the Effective Date and thereafter maintain at all times during Project implementation, an environmental and social safeguard specialist and (b) be responsible for day to day Project coordination and implementation.

Conditions

Type	Description
Effectiveness	The Project Operations Manual has been adopted by the Recipient in form and substance satisfactory to the Association.
Effectiveness	The Recipient has entered into the Cooperation Agreements in form and substance satisfactory to the Association.
Effectiveness	The Recipient established the PCU and recruited a Project coordinator, financial management specialist, a monitoring and evaluation specialist and a procurement specialist in the PCU, all with qualifications and terms of reference satisfactory to the Association.
Disbursement	Schedule II Section IV. B. 1 (b): Notwithstanding the provisions of Part A of Section IV, no withdrawal shall be made under Category (2) until and unless the Association has received evidence satisfactory that: (i) the Risk Sharing Facility Framework Agreement has been signed in accordance with the provisions of Section I.C of Schedule 2 to this Agreement and in form and substance satisfactory to the Association; and (ii) the Recipient has prepared and adopted the Risk Sharing Facility Manual in form and substance satisfactory to the Association.
Disbursement	Schedule 2, Section IV.B.1 (c): Notwithstanding the provisions of Part A of Schedule 2, Section IV, no withdrawal shall be made under category (4), for Emergency Expenditures under Part 4 of the Project unless and until the Association is satisfied that all the following conditions have been met in respect of the said activities: 1. the Recipient has determined that an Eligible Crisis or Emergency has occurred, has furnished to the Association a request to include said activities in the CERC Part in order to respond to said Eligible Crisis or Emergency, and the Association has agreed with such determination, accepted said request and

	notified the Recipient thereof; 2. the Recipient has prepared and disclosed all safeguards instruments required for said activities, and the Recipient has implemented any actions which are required to be taken under said instruments, all in accordance with the provisions of Section F of Schedule 2 to the Financing Agreement; 3. the Recipient's Coordinating Authority has adequate staff and resources, in accordance with the provisions of Section F of this Schedule 2 to the Financing Agreement, for the purposes of said activities; and 4. the Recipient has adopted an CERC Operations Manual in form, substance and manner acceptable to the Association and the provisions of the CERC Operations Manual remain - or have been updated in accordance with the provisions of Section F of this Schedule 2 so as to be appropriate for the inclusion and implementation of said activities under the CERC Part.

PROJECT TEAM

Bank Staff

Name	Role	Specialization	Unit
Jean-Martin Brault	Team Leader(ADM Responsible)		GWA03
Sylvain Adokpo Migan	Team Leader		GWA07
Mathias Gogohounga	Procurement Specialist(ADM Responsible)		GGO07
Alain Hinkati	Financial Management Specialist		GGO26
Abdoul Wahabi Seini	Safeguards Specialist	Social Safeguards	GSU01
Africa Eshogba Olojoba	Safeguards Specialist	Environmental Safeguards	GEN05
Angelo Donou	Team Member		GGO13
Faly Diallo	Team Member		WFALA
Gbetoho Joachim Boko	Team Member		GSP07
Isabella Micali Drossos	Counsel		LEGLE
Issa Thiam	Team Member		WFALA
Marie-Adele Tchakounte Sitchet	Team Member		GWA07
Matthieu Louis Bonvoisin	Counsel		LEGAM
Ndeye Awa Diagne	Team Member		GWA04

Paivi Koskinen-Lewis	Safeguards Specialist		GSU01
Pepita Hortense C. Olympio	Team Member		AFMBJ
Saba Nabeel M Gheshan	Counsel		LEGAM
Sylvie Ngo-Bodog	Team Member		GWA07

Extended Team

Name	Title	Organization	Location
Richard Verspyck	Economist		Paris,

BENIN

SMALL TOWN WATER SUPPLY AND URBAN SEPTAGE MANAGEMENT PROJECT

TABLE OF CONTENTS

I. STRATEGIC CONTEXT

A. Country Context

1. **Benin is a low income[1] country of 10 million people which has made significant progress economically and politically over the last 25 years**. Following the 1990 National Conference which laid the foundations for a new democratic constitution, the organization of national multiparty elections, as well as for the decentralization process which became effective in 2002, the annual Gross Domestic Product (GDP) growth has averaged 4 to 5 percent over the past two decades.

2. **Despite economic growth, progress in poverty reduction has been limited.** In 2015, the poverty rate was estimated at 40.1 percent, up from 36.2 in 2011, with important disparities between urban/peri-urban areas (35.8 percent) and rural areas (43.6 percent). In addition, between 2009 and 2011, the US$1.25 per day poverty rate significantly increased by five percentage points to reach 50.9 percent, possibly reflecting the impact of the 2010 floods.[2] This data, as well as the damage and losses of the 2010 floods which amounted to about US$160 million,[3] including to water supply and sanitation (WSS) infrastructure, highlight Benin's vulnerability to natural disasters and their effect on income and consumption levels.

3. **Benin has seen the proportion of its urban population increase over the last decade from 38.9 to 48.2 percent, further complicating the capacity of urban municipalities to provide adequate basic services to their population.** The annual growth rate in urban areas of Benin is 4.8 percent (compared with 2.6 percent in rural areas), and nearly 20 percent of the total population is concentrated in the Grand Nokoué region formed by four coastal municipalities (called 'communes').[4] While the population in Cotonou and Porto Novo has remained relatively stable over the last decade, neighboring municipalities have seen their population double, as they receive the bulk of the urban-rural migration and are transformed into urban and peri-urban dormitory areas to support the region's economic growth. The majority of the migrants end up in parts of the cities that are already crowded, suffer from inadequate WSS and solid waste services, are vulnerable to seasonal flooding and are exposed to increasing climate risks such as rising sea levels and coastal erosion.

4. **Another major source of urban growth are Benin's small towns**.[5] Officially part of the rural landscape where 77 percent of the agricultural workforce is hosted, these small towns are of major strategic importance to Benin's socioeconomic development: they represent 35 percent of the country's GDP and approximately 30 percent of the country's population. To rectify disparities between regions, there is a need to promote a decentralization policy capable of helping small towns find the resources needed to engage in effective poverty reduction and improve the delivery of basic services to continue to support growth.

[1] In 2015, the Gross National Income (GNI) per capita (Atlas method) was $US860 (World Development Indicators).
[2] World Bank. Executive Summary: Poverty Assessment (Benin). Report No. 87594-BJ, April 24, 2014; and 'Évaluation de la Pauvreté au Bénin' prepared by the Government of Benin's National Statistical Agency (INSAE) in collaboration with the World Bank in 2014. Poverty data is from 2011.
[3] GoB. Post-Disaster Needs Assessment (with support from the World Bank and the United Nations), April 2011.
[4] The Grand Nokoué region includes the municipalities of Abomey-Calavi, Cotonou, Porto Novo and Sémé-Kpodji.
[5] Also called 'Centres Semi-Urbains' in Benin, small towns refer to remote agglomerations of 2,000 to 20,000 people.

B. Sectoral and Institutional Context

5. **Following the decentralization process, the responsibility of WSS service delivery has gradually been devolved to municipalities.** In small towns and rural areas, the Ministry of Energy, Water and Mining (MEEM)'s Drinking Water Public Service and Regulation Directorate (DSPER) and its regional offices provide guidance to municipalities and monitor services under their responsibility, including when operation and maintenance (O&M) of water supply systems is delegated to private operators (OP) or water consumers associations (ACEPs). In large cities and communal capitals, Benin's National Water Company (SONEB) continues to play an important role as the operator of water supply systems, as well as the Project Owner or 'Maître d'ouvrage' for both water supply and septage treatment. In addition, regulation and policy-making for urban sanitation is led by the Ministry of the Living Environment and Sustainable Development (MCVDD)'s Sanitation Directorate (DA), whereas the Ministry of Health's Public Health Directorate (DNSP) is responsible for policy-making related to hygiene and sanitation promotion and behavior change communication (BCC) in both rural and urban areas.

6. **Despite a clear institutional setting and strong political commitment toward the achievement of national targets, access to WSS continues to show unequal progress across the country.** In 2015, only 36 and 7 percent of the urban and rural population had access to improved sanitation facilities, respectively. In addition, while Benin has met its Millennium Development Goals (MDGs) targets for access to improved water sources with 85 and 72 percent in urban and rural areas, respectively, significant improvements are now needed to achieve the Sustainable Development Goals (SDGs). For example, access to piped water into the premises remains low, particularly in rural areas at 5 percent access, also indicative of the municipal finance and capacity challenges brought with the decentralization process. Indeed, while municipalities can count on local revenues from taxes and transfers from the central government, resources often remain insufficient and municipalities often lack the technical and monitoring capacity to achieve universal and equitable access to WSS services.

7. **Private sector participation in the management of small town water systems has been promoted by the Government of Benin (GoB) since 2005, but many challenges remain to ensure sustainability of services.** In 2007, the sector introduced a lease-type public-private partnership (PPP) model ('affermage') between municipalities and small-scale OPs (see Annex 2 for details) and in 2014, water systems managed under the affermage contract were serving an estimated 28 percent of Benin's population. Despite this rapid growth, the implementation of this model faced serious challenges, such as the lack of transparency in the tendering procedures, poor financial and commercial management performance, as well as the inability of OPs to provide complementary funding.[6]

8. **In response to these challenges, and to further strengthen the professionalization of water services in small towns, a 'subsidized concession' model was tested in 2014.** Under this enhanced PPP model, investment obligations were introduced for the OPs to leverage the limited public funds available, and clusters of several water systems were tendered under one contract to reduce transaction costs and attract commercial banks. The early success of the subsidized concession pilot in three

[6] Sylvain Adokpo Migan and Tremolet Consulting (2015). Benin - Innovative PPPs for rural water services sustainability - A Case Study.

municipalities[7] will constitute the basis for this operation's water supply interventions.

9. **As part of its Urban Sanitation Masterplan for the Grand Nokoué Region, the GoB has opted for on-site sanitation as the most cost-effective means to accelerate access to improved sanitation facilities and eliminate open defecation.** In 2011, open defecation stood at 25 percent in urban areas, fueled by the transposition of behaviors of migrants from rural areas where open defecation stood at 77 percent, and less than one percent of the households were connected to a sewerage network.[8] Fecal waste is often disposed of unsafely in the region, reaching 93 percent in Abomey Calavi and Cotonou, mostly due to losses associated with poorly built or managed on-site facilities. Emptying and desludging of latrines and septic tanks are typically handled mechanically by private operators and, while it is part of the DA's mandate to regulate this part of the fecal sludge service chain, it lacks resources for monitoring and enforcement. Sludge is currently trucked to the privately-owned Ekpé Fecal Sludge Treatment Plant (FSTP), but this FSTP is in need of major repairs due to coastal erosion and is unable to handle on its own the growing needs of the Region. In addition, while the DNSP has experience in rolling out rural sanitation campaigns as reflected in its 2012 Hygiene Promotion and Basic Sanitation Strategy, such campaigns have yet to be adapted to and operationalized in an urban context in Benin.

10. **In the last decade, the World Bank has provided technical assistance (TA) and financing to the rural water supply and urban sanitation subsectors, through its Water and Sanitation Program (WSP) and 'Benin Emergency Urban Environment Project' (PUGEMU), providing the analytical and strategic basis for the proposed operation.** By supporting the consolidation of the rural water sector reform promoting domestic private sector participation in water supply and helping the GoB define a long-term institutional and financing plan for sustainable fecal sludge management (FSM) in urban areas, the Project will continue to complement current support provided by other financial and technical partners focusing on rural sanitation and urban water supply. For instance, with support from a large group of partners active in urban water (see Table 2.6 in Annex 2), the population served by SONEB has increased annually by an average of 7 percent in the last five years. As for rural sanitation, the Embassy of Netherlands, UNICEF, the WSS Collaborative Council and various NGOs are supporting DNSP in its objectives of tackling the high levels of open defecation and increasing coverage of improved sanitation facilities by 2 to 3 percent annually, as indicated in its most recent medium-term expenditure framework.

C. Higher Level Objectives to which the Project Contributes

11. **The project is consistent with the Country Partnership Strategy (CPS) for FY13–FY17 (Report No. 75774-BJ) discussed by World Bank Executive Directors on March 5, 2013.** It contributes to the CPS's Foundation Pillar of 'Strengthening Governance and Public Sector Capacity', to Pillar I 'Increasing Sustainable Growth, Competitiveness and Employment' and to Pillar II 'Improving Service Delivery and Social Inclusion', with a focus on: (a) improving decentralized service delivery, transparency and accountability; (b) increasing access to and quality of infrastructure services; and (c) leveraging environmental and urban sanitation improvements. In addition, the CPS includes challenges such as

[7] Contracts were signed for clusters in the municipalities of Gogonou, Zogbodomey and Sakété. As of September 2015, the OPs' investment contributions had reached an average of 27 percent of overall works costs, exceeding expectations (a minimum of 10 percent had been set as a condition during the bidding process).
[8] INSAE and ICF International (2013). Benin Demographic and Health Survey, 2011–2012.

adaptation to climate change, and the Project will incorporate considerations related to coastal erosion and sea level rise.

12. The project will also build on the World Bank-financed: (a) 'Benin Small-Scale Piped Water Schemes Inclusive Business Support' TA grant, which helped develop service delivery and financing capacity of the domestic private sector in small towns; (b) PUGEMU, which supported the GoB in strengthening its institutional and regulatory framework for septage management, and in the development of sanitation master plans; and (c) 'Streamlining Strategies and Capacity of Institutions for the SDGs in Rural and Small Town Water' TA grant which supports municipalities and the private sector in scaling up the subsidized concession model in small towns, as well as its regulation at the national level.

13. The project will be consistent with the GoB's strategic WSS documents and initiatives, including: (a) the upcoming '2016–2030 Strategy for Small Town Water Supply Service Delivery'; (b) the '2015–2035 Grand Nokoué Urban Sanitation Masterplan', which presents an opportunity to support the GoB in implementing urban on-site sanitation solutions at scale; and (c) existing and future 'Drinking Water Safety Management Plans' (PGSSE) developed in participating communes, as part of the country's 2012 National Drinking Water Quality Monitoring Strategy. Annex 2 provides more detail on these documents.

14. The project will contribute to the World Bank's goals of reducing poverty and promoting shared prosperity, by providing access to improved water sources to small towns and improving the overall urban sanitation situation. Around 1,196,100 people are expected to benefit from the project, of which 40 percent are estimated to be poor.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

15. The proposed development objectives of the project are to: (a) increase access to water supply and sanitation in selected small towns and urban areas in the Recipient's territory; (b) strengthen service delivery capacity of water supply and sanitation sector institutions in selected small towns and urban areas in the Recipient's territory; and (c) in the event of an Eligible Crisis or Emergency, to provide immediate and effective response to said Eligible Crisis or Emergency.

B. Project Beneficiaries

16. The project is expected to reach an estimated 1,196,100 direct beneficiaries (of which almost 50 percent are women and girls), including 432,000 who will gain access to improved water sources through household connections in small towns, as well as 764,100 who will benefit from an improved fecal sludge service chain, including through sanitation marketing in selected communes, the strengthening of the fecal sludge emptying and transport building blocks, as well as the construction of a FSTP. While activities will focus on selected communes of the Grand Nokoué Region, it is expected that impacts will go beyond these communes and have positive spill-over effects on the two million people living in that region.

C. PDO-Level Results Indicators

17. The PDO will be measured against the following indicators: (a) direct project beneficiaries; (b) people provided with access to 'improved water sources' under the project - rural (number) [core]; (c) number of water supply systems managed by a professional operator under a 'subsidized concession' contract; (d) people in urban areas provided with access to 'improved sanitation facilities' under the project (number) [core]; and (e) an urban hygiene promotion and sanitation strategy is defined and operationalized.

III. PROJECT DESCRIPTION

A. Project Components

18. The project will have four components.

Component 1: Scaling-up the Small Town Water Supply Subsidized Concession Model (US$33.5 million equivalent)

19. To support the guiding principles of the rural and small town water supply national strategy, as well as, more broadly, the GoB's reform seeking to accelerate the achievement of universal and equitable access to safe and affordable drinking water, this component will strengthen the stakeholders involved in water service delivery in small towns and contribute to funding water system rehabilitations, constructions or expansions in selected municipalities.

Subcomponent 1.1: Institutional Strengthening of Stakeholders Involved in Water Supply Service Delivery in Small Towns

20. The following will be the tasks carried out under this subcomponent:

(a) Strengthening the regulation capacity of the MEEM DSPER, by: (i) carrying out a national monitoring and regulation strategy on water service delivery in rural areas and small towns, including a tariff setting system and a water connection policy; and (ii) developing benchmarking tools to monitor the performance of private sector operators;
(b) Strengthening the planning and monitoring capacity of municipalities in selected towns, through the provision of relevant training in the following areas: (i) bidding documents for the subsidized concessions contracts; (ii) water supply assets management and water investments planning; (iii) mobile data collection tools aimed at enhancing performance monitoring and control of private sector operators; and (iv) citizen engagement for municipalities and local ACEPs;
(c) Establishing a Risk Sharing Facility (RSF) to encourage national commercial banks to serve selected private sector operators by partially mitigating creditor risk through counter guarantees offered by the National Guarantee and Small and Medium Enterprise Assistance Fund (FONAGA);
(d) Strengthening the commercial and financial management capacity of the private sector operators, through the provision of: (i) training in business plans development, commercial management and operational efficiency; and (ii) capacity building activities to promote the

utilization of the RSF; and

(e) Strengthening the water quality monitoring capacity of the DNSP, through: (i) provision of training on implementation and monitoring of PGSSEs; and (ii) construction and operationalization of a water quality reference laboratory in Abomey-Calavi.

Subcomponent 1.2: Rehabilitation and Expansion of Water Supply Networks

21. The following will be the tasks carried out under this subcomponent:

(a) Supporting the MEEM in carrying out a program of rehabilitation, construction or expansion of approximately 180 water supply systems under the subsidized concession model, through the provision of cash transfers to municipalities in targeted towns;

(b) Enhancing the management of water supply systems, through: (i) carrying out due diligence studies to assess the technical, legal and financial conditions of water systems in selected towns; (ii) supervision and monitoring of the private sector operators' rehabilitation works program; (iii) purchase of required water meters; and (iv) supporting the establishment and the equipment of three regional water meter calibration centers.

Component 2: Improving Fecal Sludge Management (US$27.5 million equivalent)

22. This component will support public and private actors to ensure clarity on the institutional arrangements for effective urban sanitation service delivery in the Grand Nokoué Region, and contribute to funding sanitation solutions and infrastructure in selected areas, to improve fecal sludge containment and reduce pollution from the lack of fecal sludge collection and treatment.

Subcomponent 2.1: Institutional Strengthening of Stakeholders Involved in FSM in Urban and Peri-urban Areas

23. The following will be the tasks carried out under this subcomponent:

(a) Strengthening SONEB's sanitation planning, and monitoring and evaluation (M&E) capacity, through: (i) provision of training in sanitation assets management, O&M, development of technical specifications and terms of reference related to sanitation works, including climate change adaptation considerations, and the implementation of the Urban Sanitation Masterplan; and (ii) the acquisition of equipment for sanitation training for SONEB's training center;

(b) Strengthening DA's capacity to regulate, control and re-organize the urban fecal sludge service chain, through: (i) carrying out a study which provides suitable fecal sludge containment options for urban and peri-urban households; (ii) developing environmental and quality control norms for FSM and a corresponding M&E framework; and (iii) carrying out of a study that develops options standardizing fecal sludge emptying and transport services;

(c) Strengthening DNSP's capacity to develop and manage a national program to intervene in urban and peri-urban sanitation, through: (i) developing an urban hygiene promotion and sanitation strategy, including aspects of community engagement and gender mainstreaming in urban sanitation; and (ii) developing social marketing methodologies

aimed at triggering behavior changes on adequate fecal sludge containment solutions; and

(d) Strengthening the capacity of the domestic private sector to participate in the urban fecal sludge service chain, through carrying out of studies that aim to: (i) develop innovative business solutions aimed at improving desludging and sludge transport; and (ii) develop PPP arrangements for the O&M of fecal sludge treatment facilities.

Subcomponent 2.2. Household-level Sanitation in Urban and Peri-urban Areas

24. Activities under this subcomponent include increasing access to improved sanitation, through implementing gender-sensitive sanitation marketing campaigns and BCC activities.

Subcomponent 2.3. Urban and Peri-urban Septage Collection and Treatment Infrastructure

25. Activities under this subcomponent include improving fecal sludge treatment in the Grand Nokoué Region, through: (i) the construction of a new FSTP in Sémé-Kpodji; and (ii) the provision of on-site semi-collective sanitation solutions[9] in Cotonou.

Component 3: Project Management, Monitoring and Evaluation (US$7.0 million equivalent)

26. This component will support project management activities and strengthen the capacity of the MEEM, DA, DNSP and SONEB, to coordinate and execute project activities at the central and municipal levels, through the provision of TA, operating costs and required goods for the purpose, while improving their capacity to engage in dialogue with the community and municipalities.

Component 4: Contingent Emergency Response (US$0.0 million)

27. This Contingent Emergency Response Component (CERC) will provide an immediate response to an Eligible Crisis or Emergency, as needed.

B. Project Cost and Financing

28. **Financing instrument.** The financing instrument is Investment Project Financing (IPF), in the form of an IDA credit (US$68 million equivalent) over six years, to finance works, consulting and non-consulting services, equipment and capacity building.

Project Components	Project Cost (US$m)	IDA Financing (US$m)
1. Scaling-up the Small Town Water Supply Subsidized Concession Model	33.50	33.50
2. Improving Fecal Sludge Management	27.50	27.50
3. Project Management, Monitoring and Evaluation	7.00	7.00

[9] Semi-collective solutions connect a limited number of households or homogeneous compounds, as opposed to larger scale collective sanitation facilities (public sewerage systems and treatment plants) and to individual on-site sanitation solutions. One pilot is currently testing these solutions in Porto Novo, under the PUGEMU.

4. Contingent Emergency Response	0.00	0.00
Total Costs		
Total Project Costs	68.00	68.00
Front End Fees	0.00	0.00
Total Financing Required	68.00	68.00

C. Lessons Learned and Reflected in the Project Design

29. Lessons from the WSP engagement in recent years, as well as best water sector practice in other countries, are reflected in the design and include:

- **Private sector participation in small town water service delivery.** Expectations in private capital contributions under the subsidized concession pilot tested in three municipalities of Benin were exceeded, but it was also found that monitoring of water services and operators should be strengthened before this approach could be scaled-up. The project will support MEEM's DSPER as well as the communes in monitoring water services and operators, both through the PGSSEs and the use of mobile data collection and monitoring tools deployed during the subsidized concession pilot. In addition, the project will continue to strengthen the local private sector by engaging with the OP association (AFEB) to identify the key areas to build the capacity of its members;
- **On-site sanitation solutions vs sewerage networks.** FSM services are an essential component of urban sanitation, and in an environment where investment in sewage collection and treatment only addresses a limited proportion of the overall waste load entering the environment, investments in on-site sanitation and FSM will have a greater impact on public health than sewerage networks. In the case of Benin, it was estimated that only 7 percent of the overall fecal waste was properly contained, collected and disposed of in large sectors of the Grand Nokoué region. In addition, investments in sewerage collection and treatment are expensive compared to the available financing and ability of customers to pay sufficient tariffs to cover O&M costs. A similar lesson had been drawn in Lusaka, Zambia,[10] and by addressing on-site sanitation through improved facilities and FSM, the Project will be consistent with the GoB's sanitation strategy in urban areas;
- **Private sector participation in FSM.** Where formal FSM services are absent or inadequate, the private sector can step in to provide them in response to customer demand, as evidenced through City Service Delivery Assessments performed in Bangladesh and Indonesia.[11] To reduce or eliminate indiscriminate dumping by manual and mechanical services in nearby open spaces, rivers or drains, incentives should also be established for the private sector to stimulate and meet demand for affordable FSM services, and access should be granted to safe disposal sites at economical distances from areas of collection. The project will support the DA and SONEB in engaging with the local private sector for sludge emptying, transport and treatment, and will use data from the Urban Sanitation Masterplan, as well as complementary formative and market research to inform the demand creation and supply strengthening sanitation activities.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

30. Project implementation arrangements will rely on: (a) the oversight of an inter-ministerial steering committee headed by MEEM's minister; and (b) an independent Project Coordination Unit (PCU) within MEEM. The steering committee will provide overall guidance and review of project implementation progress and budgets, and will facilitate the coordination and collaboration between ministries, municipal authorities, and other government agencies involved in project implementation.

[10] Lusaka Sanitation Project (P149091).
[11] Blackett, I. and Hawkins, P. (June, 2016). Fecal Sludge Management Tools. Diagnostic and Decision Support Tools - Summary Report. Water and Sanitation Program, World Bank Group.

The PCU will be responsible for overall project coordination, for the administrative, fiduciary, environmental and social management and execution of project activities, according to anti-corruption guidelines, and will be supported by three technical thematic groups:

(a) Small Town Water Supply (Component 1), led by DSPER, with the support of MEEM's regional WSS offices, as well as in close collaboration with the municipal governments involved, and to which the responsibilities of procurement and FM for the subsidized concessions are legally devolved;
(b) Urban FSM - Institutional Strengthening, and Containment, Emptying and Transport (Subcomponents 2.1 and 2.2), technically led by DA, with support from DNSP for social marketing activities related to household-level sanitation in urban and peri-urban areas, as well as in close collaboration with the municipal governments involved;
(c) Urban FSM - Treatment (Subcomponent 2.3), technically led by SONEB, in close collaboration with DA, DNSP and the municipal governments involved.

31. The PCU will also be responsible for Component 3 and for the development of an emergency operations manual for Component 4. Annex 2 explains these arrangements in more detail.

32. **Cooperation agreements.** Cooperation agreements will be signed between the Credit's recipient, the Ministry of Economy and Finance (MEF), and (a) SONEB for the implementation of project activities under Subcomponent 2.3, as well as (b) the Small and Medium Enterprise Support and Promotion Center (CePEPE) for the implementation of activities under Subcomponent 1.1(d).

33. In addition, FONAGA will be responsible for the implementation of the RSF under Subcomponent 1.1(c), under the overall coordination of the PCU and technical leadership of the MEF. The RSF will be implemented in accordance with the provisions of: (a) the RSF Framework Agreement between FONAGA and the MEF; and (b) the RSF Manual describing details and arrangements under the RSF. A special account opened by FONAGA (the RSF Account) will receive part of the proceeds of the Credit and will be used to make payments under the RSF (in accordance with the terms and conditions established in the RSF Framework Agreement and the RSF Manual).

34. **Specific responsibilities and training needs.** The allocation of implementation responsibilities from the different actors involved in small town water supply and urban sanitation services delivery, as well as their respective training needs, are presented in Annex 2.

B. Results Monitoring and Evaluation

35. The overall responsibility for M&E will lie with the PCU, which will consolidate all reports and provide the necessary outputs with support from each technical thematic group, as well as from OPs, NGOs and independent consultants, as required. Specific coverage and service level baselines for the selected communities for small town water supply will be completed during the selection process, and data from the Urban Sanitation Masterplan for the Grand Nokoué region will be used to define the baseline for urban sanitation activities. In addition, the Project will finance WSS services beneficiary surveys at mid-term and at project closure. In addition, the Project's M&E system will be fed by progress reports from the PCU and data will be reviewed by frequent World Bank implementation support missions. Progress reports will also include information on procurement, contracts, disbursements, FM,

beneficiaries, and other outputs. Annual independent audit reports will be prepared to monitor use of funds and physical progress. Monitoring of environmental and social safeguards will be conducted by the PCU. Details on M&E arrangements, including M&E responsibilities, data collection requirements and frequency will be provided in the Project Operations Manual (POM).

36. Support will be brought to project stakeholders to create M&E frameworks that can go beyond the Project's timeline and activities, in particular for: (a) SONEB's sanitation-related activities and assets; (b) the DA's reorganization and regulation of the urban sanitation service chain; and (c) the DNSP's sanitation and hygiene communication and awareness activities. The Project will also use and contribute to the results frameworks included in the 2016–2018 ministerial programmatic budgets and medium term expenditure frameworks developed by the ministries responsible for water, sanitation and hygiene promotion and approved in October 2015, as well as participate in annual sector reviews to update them.

C. Sustainability

37. **Rural and small town water supply.** Over the past decade, the GoB has made great strides in the professionalization of the management of piped water systems, and particularly since 2007, the implementation of PPP contracts to operate these systems has contributed to increasing allocated resources to rural and small town water supply by 70 percent between 2004 and 2014, and increasing access to improved water sources from 39 to 68 percent during the same period. In addition, the World Bank's support has been instrumental in strengthening the planning capacity of the GoB to achieve these results, and in 2010, additional support was brought to carry out reforms to improve the management of rural and small town piped water schemes, leading to the subsidized concession model to be used as the basis of the Project's interventions in small towns.

38. **Urban sanitation.** To deliver effective sanitation to the whole urban population, the project will tackle the whole sanitation service chain, from containment to treatment, and rely on a combination of domestic, semi-collective and centralized solutions. The project will also support building an appropriate enabling environment that can engage the many stakeholders involved, from communities to national and local governments, to drive change and secure sustainable financing for services provided through both the market and the public sector, reinforced by clearly defined accountability mechanisms.

39. In addition, the project will focus on sustainability by supporting behavioral change in both water supply (paying for water by the volume consumed and providing services that meet the needs of all community members) and sanitation (ceasing to defecate in the open, acquiring and maintaining an improved sanitation facility). It is also expected that the processes established for social mobilization, active community participation, and promoting gender equality will start to create a mechanism for greater citizen involvement and increased accountability of the service providers to deliver quality services.

D. Role of Partners

40. Meetings with the financial and technical partners in the WSS sector in Benin during implementation support missions will be essential to coordinate activities and ensure consistency in the approaches implemented in urban and rural WSS programs. Of particular importance is the proposed German Development Bank (KfW) financing of another FSTP to providing a treatment option for

Cotonou-Ouest and Abomey-Calavi, thus complementing the project's interventions in the Grand Nokoué Region.

V. KEY RISKS

A. Overall Risk Rating and Explanation of Key Risks

41. Even though the proposed operation will build upon strong prior collaboration and experience acquired over the years in rural water supply and urban sanitation, the overall project risk is assessed as 'High'. Key risks to achieving results and their respective mitigation measures are:

- **Institutional capacity for implementation and sustainability.** This will be the MEEM's and SONEB's first World Bank-financed project and while there is sufficient technical and strategic WSS capacity, the World Bank Team will ensure close supervision during the first year of implementation, as well as provide training where needed, to support the PCU and the MEEM. In addition, as municipalities often lack the capacity to adequately manage contracts with the private sector, the project will support communes in performance monitoring and control of OPs;
- **Fiduciary.** The MEEM has no previous experience in World Bank procurement and FM procedures, which may affect project implementation. To mitigate this risk, the PCU will be adequately staffed with Procurement and FM specialists, and an internal auditor will be recruited. The Bank Team will also provide support and training as appropriate, particularly in the first twelve months of implementation;
- **Technical design of project or program.** The project will be implemented with the support of a number of agencies across three ministries which will work toward advancing both the small town water supply and urban sanitation agendas, including institutional strengthening, infrastructure and behavior change. To help mitigate this risk, the project will count on the institutional strengthening activities and studies financed under the PUGEMU and the ongoing WSP TA grant for small town water supply which will serve to reinforce project design and institutional arrangements, and will be used as inputs for continued strengthening throughout implementation;
- **Stakeholders.** The project will promote PPP arrangements for both water supply and sanitation, and while there is valuable experience with working with the private sector in delivering water supply services to small towns of Benin, experience with the private sector in urban sanitation is limited. In addition, the success of the subsidized concession PPP model to be used in small town water supply will also depend on the capacity of municipalities to manage these contracts and monitor their progress. To mitigate these risks, the project will rely on the years of experience in and support of private sector participation in Benin through the WSP program, and will incorporate lessons from the Decentralized Community Driven Services Project (PSDCC) dealing with municipal governments.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

42. The project will increase sustainable access to WSS in selected small towns and urban areas, contributing to the higher level objective of improved health in Benin, particularly with regards to preventing and controlling water- and excreta-related diseases in selected zones. Impacts of improved WSS access on welfare are multi-faceted and may be indirect; however, by providing better access to improved WSS to poor households, benefits—from the easily identifiable and quantifiable (coping costs avoided, time saved) to the more intangible and difficult to measure (living standards, health, well-being, environmental protection)—can be substantially increased.

43. **Rationale for public sector provision/financing.** The project is expected to improve governance and capacity within the public sector in Benin by supporting MEEM's efforts to provide improved water supply services to small towns as well as improved coverage of sanitation services in urban areas. The project will strengthen the MEEM's structures at the central and regional levels, and will count on the local private participation, for both rural water supply and urban sanitation, to increase coverage, sustainability and the level of service.

44. **World Bank's added value.** The project is the first IPF in more than two decades in the WSS sector in Benin, and is the continuation of the World Bank's support of the WSS sector over that period. The World Bank has been a key partner in the development of a programmatic approach for the rural water supply subsector and the WSP and the International Finance Corporation (IFC) jointly developed the subsidized concession model to be scaled up under the project. In addition, the PUGEMU has been instrumental in preparing the GoB to address urban sanitation challenges and the World Bank is now also a key partner in that subsector. The value added of the World Bank's support will also come from the proximity to the GoB of core decentralized team members during project implementation.

45. **Methodology/scope.** The economic analysis consists of a cost-benefit analysis (CBA) to assess the economic impact of the project's small town water component. For urban sanitation, where the benefits are obvious but difficult to quantify, a cost-effectiveness analysis has been conducted for the infrastructure activities, complemented by a CBA of the improvement of household on-site sanitation facilities, an essential part of an adequately functioning sludge service chain. The financial analysis assesses the financial impact of water activities from the perspective of the rural water supply sector and from the private operators' perspective.

46. **Results - water supply.** The Economic Internal Rate of Return (EIRR) of the water-related activities is estimated at 13.8 percent and their Net Present Value (NPV) is estimated at U$14.6 million, using a 6 percent discount rate. The overall results are sensitive to the variation of the water demand (the switching value of this variable amounts to 37 percent). However, a weak demand response to project activities is unlikely, given the relatively low per capita daily consumption that was assumed in the base case.

47. **Results - sanitation.** The emphasis on-site sanitation and priority given to the containment of sludge is mostly dictated by hydrogeological conditions (soil and water table levels) and reinforced by

the fact that the full disposal of greywater would entail sewerage investments in the order of US$400 million, out of range of the available financing. In this context, the estimated cost of the FSTP to be financed under the project (about US$15 million), and designed to serve more than 600,000 people, appears commensurate with the recent investments in similar facilities in the subregion. The unit cost of the FSTP amounts to US$23 per capita, whereas unit costs of US$18 to US$25 were observed in Senegal and Burkina Faso. The investment contemplated for eliminating the fecal pollution load concentrated in Cité Nouvelle (referred to as a 'point noir' in the Urban Sanitation Masterplan) entails a significant per capita cost (>US$2,000), but the alternative option for eliminating this *point noir* would be even costlier when considering the emptying costs associated with a permanent effluent disposal. In addition, the CBA of the improvement of household sanitation facilities exhibits EIRRs in the range of 8 to 11 percent in the case of a replacement of existing facilities and of 25 to 27 percent in the case of new constructions.

48. **Financial analysis.** The financial impact of project activities on the rural water supply sector is assessed by the Financial Internal Rate of Return (FIRR) derived from the CBA. Financial calculations consider the financial revenues and costs in the with/without project situations, including taxes and excluding non-cash generating benefits (consumer surplus). The FIRR is estimated at 9.4 percent, and if the analysis is carried out from the sole perspective of the private operators, the FIRR is estimated at 24.8 percent. Not surprisingly, the latter FIRR is highly sensitive to the level of the investment subsidy.

B. Technical

49. The project will rely on approaches, methodologies, technical designs and technologies appropriate for the Benin context, as detailed below:

50. **Water supply.** The project will meet water supply needs through collective or individual boreholes with electric pumping and piped networks, or hand pumps, depending on the community. Production facilities and distribution networks will be designed to enable all households to be connected and metered. Chlorination will be ensured at the storage point and water quality will be closely monitored as part of each operator's PGSSE. Under the project, communes will enter into subsidized concession contracts with OPs who will operate and maintain the water supply system, partially fund and carry out investments in network rehabilitation and expansion, as well as collect payments. The main characteristics of the proposed contracts are detailed in Annex 1 (see Subcomponent 1.2).

51. **FSM.** The Urban Sanitation Masterplan identified containment and treatment as the two most critical building blocks of the fecal sludge service chain in the Grand Nokoué. While the project will explore the use of results-based contracts to tackle containment, treatment investments will be limited to collective septic tanks with corresponding sewage networks and household connections, as well as one FSTP using drying beds for the sludge and waste stabilization ponds for the liquid phase. For the latter, to address vulnerability to coastal erosion and sea level rise which have already impacted the existing Ekpé FSTP, the new FSTP will be located inland and, depending on its exact location, the need to include flood protection structures in its design will be assessed. The Project will also support SONEB in engaging with the private sector for the management of its FSTPs.

52. **Readiness and sequencing of technical designs and works.** To launch the bidding process for works in the first and second years of implementation, the project will take advantage of: (a) WSP TA to

support potential municipalities in the development of technical packages to be used to procure the subsidized concession contracts; (b) already available engineering designs for the FSTP financed under the PUGEMU; and (c) the ongoing TA work and dialogue with local financing institutions and partial guarantee entities that will help improve access to finance for potential concessionaires for WSS services.

C. Financial Management

53. The World Bank's FM Team has assessed that acceptable FM arrangements are being established by the MEEM to take on the fiduciary responsibility for this project, and while the PCU has no previous experience with World Bank FM procedures, it uses an adequate multi-projects accounting software that could be customized to fit project needs. The main findings from the FM assessment are presented in Annex 2 and include recommendations to: (a) recruit an FM specialist with qualifications and experiences satisfactory to the World Bank, as well as an experienced internal auditor who will conduct regular internal audit missions to ensure compliance of rules established under the PPP operations and to improve the overall internal control environment; (b) prepare and adopt a POM including acceptable FM procedures, as well as the Risk Sharing Facility (RSF) Manual describing all the details and arrangements under the RSF; and (c) recruit an independent financial auditor who will review the annual financial statements of the Project including the review of a reasonable sample of the subsidized concessions operations, as well as provide a special opinion on payments made from the Special Account opened for the RSF.

D. Procurement

54. An assessment of the MEEM to implement procurement activities under the project was carried out. As MEEM has no previous experience in World Bank procurement procedures, the PCU, who will be responsible for the overall coordination of procurement activities, will be adequately staffed with a recruited Procurement Specialist with specific technical skills in negotiations and with a good understanding of large consultancy contracts. Beneficiary municipalities for water supply activities will be competitively selected and their procurement capacity will be a key element for the implementation of the project's Component 1. The criteria for their selection will be defined by considering: (a) the results of the capacity assessment of all 77 municipalities of Benin conducted in 2014 by a consultant hired through the ongoing PSDCC Project; and (b) the annual municipality procurement audit. The main findings and recommendations from the procurement assessment are presented in Annex 2 and risk mitigation measures have been discussed and agreed with the MEEM.

E. Social (including Safeguards)

55. **Poverty and gender.** For water supply interventions in small towns, where poverty levels were at 43.6 percent in 2015, the project will target the poor by relying on an existing national database developed by the National Social Protection Committee, which will allow the project to allocate subsidized household water connections. In addition, significant disparities exist in access to sanitation services: (a) in the Grand Nokoué urban environment,[12] only 14.3 percent of the households in the lowest wealth quintile have sanitation facilities inside their houses, as opposed to 69.3 percent of the households for the highest quintile; and (b) while open defecation is not practiced by the wealthiest

[12] Socioeconomic household survey conducted in 2014, as part of the Grand Nokoué Urban Sanitation Master Plan.

quintile, 15.2 and 8.8 percent of the two lowest quintiles still defecate in the open. In 2015, poverty levels were at 34.7 percent in Cotonou, 36.1 in Porto Novo and 38.4 in Sémé-Kpodji, the urban communes in which the project will intervene.

56. At the national level, while women-headed households were found to be less poor than those headed by men, these appeared to be more vulnerable to falling into poverty.[13] By focusing on enhancing water service efficiency in small towns, as well as on improving household-level sanitation, the project will have positive impacts toward gender equity in access to WSS services. The GoB is also promoting the integration of gender aspects in sector policy and actions, notably through its 2016–2030 Strategy for Small Town Water Supply Service Delivery, as well as the adoption of low-cost connections to improve access to water for the poor, by introducing flexibility in payments for water connections for low income households, particularly for woman-headed households.

57. **Involuntary Resettlement (OP/BP 4.12).** This policy is triggered because Components 1 and 2 may require some land acquisition that may lead to the loss of assets and/or access to livelihoods, as well as to the temporary displacement of people. Since project locations at this stage are not known with utmost certainty, a Resettlement Policy Framework (RPF) was prepared and consulted upon and has been disclosed in-country (August 19, 2016) and at the InfoShop (September 1, 2016). Site-specific Resettlement Action Plans (RAPs) or Abbreviated Resettlement Action Plans (ARAPs) will be prepared as and when necessary during the implementation phase according to the road map laid out in the RPF. These will be reviewed, approved and disclosed in-country and at the Infoshop prior to the commencement of civil works.

58. **Citizen engagement.** The Project will benefit from synergies with the Governance GP's Global Partnership for Social Accountability (GPSA) which has recently granted funds to an NGO to work on strengthening citizen engagement in water supply service delivery in rural communities and small towns of Benin. The activity's objectives are to: (a) introduce simple methods to improve accountability in water management at the local level through training of government officials, OPs and customers; and (b) implement mechanisms to increase transparency in the management of water services, with a specific focus on the management of financial resources and fees collected from users. Results from this pilot, if positive, would then be replicated in communes selected for interventions under the Project. In addition, the Project will also use existing citizen engagement platforms such as the National Water Partnership (PNE) to improve the feedback loop with project beneficiaries.[14]

F. Environment (including Safeguards)

59. The project is rated 'Category B' because proposed interventions (small to medium scale civil works) are not likely to result in significant negative impacts. This is mainly due to the limited scale of the interventions, their dispersed locations, and the nature of the potential impacts, which are easily identifiable, mostly temporary and easily mitigated with known management techniques. The project will generate positive impacts contributing to better health through increased access to sanitation

[13] World Bank. Executive Summary: Poverty Assessment (Benin). Report No. 87594-BJ, April 24, 2014.
[14] The PNE is a neutral dialogue platform established in 2001 by the General Assembly of water sector actors in Benin with the objective of promoting the participation of all sociopolitical strata in ensuring equitable access to water-related services to all citizens, as well as the sustainable management of the country's water resources.

facilities, including the provision of FSM services to areas that currently have no or problematic onsite facilities.

60. **Environmental Assessment (OP/BP 4.01).** This policy is triggered. Since project locations at this stage are not known with utmost certainty, an Environmental and Social Management Framework (ESMF) was prepared, consulted upon and disclosed in-country (August 19, 2016) and at the InfoShop (September 1, 2016). The ESMF provides a screening mechanism for mainstreaming environmental and social sustainability aspects from identification of subprojects/activities to their implementation phase. As soon as the implementation site or location is identified, investments subprojects or activities will be processed using the screening framework, and then, if eligible, be subject to the preparation and approval of site- specific Environmental and Social Management Plans (ESMPs). The screening process will be undertaken by the PCU's environmental and social specialist. This process will result in the environmental classification of the subprojects/activities into categories A, B or C. Category A subprojects will not be eligible for financing. The relevant bodies and key stakeholders have been adequately informed of the project and communities, and potential beneficiary concerns were taken into consideration in finalizing the ESMF. One of the key principles of this project is to foster participation by all relevant stakeholders, and this approach will be sustained throughout project implementation. Site-specific ESMPs will be prepared as and when necessary during the implementation phase. These will be reviewed, approved and disclosed in-country and at the InfoShop prior to the commencement of civil works.

G. Other Safeguard Policies

61. No other safeguards policy was triggered.

H. World Bank Grievance Redress

62. 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 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/en/projects-operations/products-and-services/grievance-redress-service*. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

VII. RESULTS FRAMEWORK AND MONITORING

Results Framework
COUNTRY : Benin
Small Town Water Supply and Urban Septage Management Project

Project Development Objectives

The proposed development objectives of the Project are to: (i) increase access to water supply and sanitation in selected small towns and urban areas in the Recipient's territory; (ii) strengthen service delivery capacity of water supply and sanitation sector institutions in selected small towns and urban areas in the Recipient's territory; and (iii) in the event of an Eligible Crisis or Emergency, to provide immediate and effective response to said Eligible Crisis or Emergency.

Project Development Objective Indicators

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source / Methodology	Responsibility for Data Collection
Name: Direct project beneficiaries	✔	Number	0.00	1196100.00	Annual	Progress reports from PCU	PCU, DSPER, DA, DNSP, SONEB
Female beneficiaries	✔	Percentage	0.00	50.00	Annual	Progress reports from PCU	PCU, DSPER, DGA, DNSP, SONEB

Description: Direct beneficiaries are people or groups who directly derive benefits from an intervention (i.e., children who benefit from an immunization program; families that have a new piped water connection). Please note that this indicator requires supplemental information. Supplemental Value: Female beneficiaries (percentage). Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct project beneficiaries are female. This indicator is calculated as a percentage.

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source / Methodology	Responsibility for Data Collection
Name: Number of people in rural areas provided with access to Improved Water Sources under the project	✔	Number	0.00	432000.00	Annual	Progress reports from PCU	PCU, DSPER
Description: This indicator measures the actual number of people in rural areas who benefited from improved water supply services that have been constructed under the project. Guidance on "improved water sources": "Improved water sources" include piped household connection (house or yard connections), public standpipe, boreholes, protected dug well, protected spring and rainwater collection. Hence, "Improved Water Sources" do not include, inter alia, water provided through tanker truck, or vendor, unprotected well, unprotected spring, surface water (river, pond, dam, lake, stream, 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 Millennium Development Goals. Guidance on people with access: The data on the number of people provided with access can be estimated by TTLs by multiplying i) the actual number of piped connections with an estimate of the number of people per household connection; and/or ii) the actual number of community water points with an estimate of the number of people per community water point. The assumptions made regarding number of people per connection made should be carefully documented in the comments' section of the indicator when data is entered in the ISR. Guidance on rural classification: The classification should follow the official definition used in the country.							
Name: People provided with access to "improved sanitation facilities" under the proj.	✔	Number	0.00	438500.00	Annual	Progress reports from PCU	Progress reports from PCU PCU, DA, DNSP, SONEB

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source / Methodology	Responsibility for Data Collection
People provided with access to “improved sanitation facilities” - urban	✔	Number	0.00	438500.00			

Description: This indicator measures the cumulative number of people who benefited from improved sanitation facilities that have been constructed under the project. This includes people newly provided with access to “improved sanitation facilities” and does not include people benefiting from rehabilitation works.
The baseline value is expected to be zero.

Name: Number of water supply systems managed by a professional operator under a “subsidized concession” contract		Number	10.00	190.00	Annual	Progress reports from PCU	PCU, DSPER

Description: Number of water supply systems under the Project with delivery of services effectively delegated to a private operator under a subsidized concession contract. This includes: (i) evidence of formal contract signed; (ii) minimum of 20 percent of private capital is provided; (iii) a PGSSE is finalized and approved by the DNSP; (iv) percentage of water samples, over each year of operation, meeting the Ministry of Health’s quality requirements in terms of chlorine residual (between 0.2 and 0.5 mg/L) > 80 percent; (v) regulatory and monitoring arrangements are defined and operationalized; (vi) 100 percent O&M cost recovery; and (vii) continuity of water service > 6 hours/day for household connections.

The Project will support and rely on a monitoring system for rural and small town water supply systems which collects information on water sales and data on water quality will be obtained from the DNSP. Points (iv), (vi) and (vii) will be evaluated at the start of each year starting at the second year of operation. Satisfaction surveys will also be completed at the beginning, mid-term and project closure to assess service quality.

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source / Methodology	Responsibility for Data Collection
Name: An urban hygiene promotion and sanitation strategy is defined and operationalized		Text	No	Yes	Annual	Progress reports from PCU	PCU, DA, DNSP
Description: For this strategy to be defined and operationalized, the following would be required: (i) the strategy is validated by all stakeholders; (ii) the strategy is approved by the Government; (iii) the strategy's guidelines and principles are incorporated into the Project's activities.							

Intermediate Results Indicators

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source / Methodology	Responsibility for Data Collection
Name: New piped household water connections that are resulting from the project intervention	✔	Number	0.00	18000.00	Annual	Progress reports from PCU	PCU, DSPER
Description: Number of new piped household water connections which result from the project intervention. A piped household water connection is defined as a connection that provides piped water to the consumer through either a house or yard connection. Hence, they do not include, inter alia, standpipes, protected well, borehole, protected spring, piped water provided through tanker trucks, or vendors, unprotected wells, unprotected spring, rivers, ponds and other surface water bodies, or bottled water.							

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source / Methodology	Responsibility for Data Collection
Name: Private sector financial contribution to infrastructure development in small town water supply		Percentage	0.00	20.00	Annual	Progress reports from PCU	PCU, DSPER
Description: This indicator monitors the extent to which public and private financing for water supply is blended, and will measure the private sector's contribution to small town water supply infrastructure capital costs, as a percentage of the total capital costs.							
Name: Number of rural and small town water supply systems inventoried and monitored		Number	150.00	650.00	Annual	Progress reports from PCU	PCU, DSPER
Description: This indicator monitors the number or rural and small town water supply systems, under all types of management models (affermage, subsidized concession, as well as community-managed) which are dully incorporated into the national rural and small town inventory. This includes: (i) gathering the information on each system according to the accepted standards for asset description and performance monitoring (asset knowledge indicators, reporting formats); and (ii) ensuring that this information is updated each year by the corresponding municipality and operator.							
Name: Number of private fecal sludge emptying firms strengthened under the Project to provide improved sanitation services		Number	0.00	60.00	Annual	Progress reports from PCU	PCU, DA, DNSP
Description: This indicator will monitor the completion of capacity building activities that will jointly contribute to improving the quality of private fecal sludge emptying services. This will include: (i) firm is incorporated (registered and formalized) into the DA's monitoring system; (ii) training according to the needs identified by the DA is organized and completed; and (iii) firm is certified.							

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source / Methodology	Responsibility for Data Collection
Name: Fecal sludge service chain containment, emptying and transport building blocks are defined and implemented		Text	No	Yes	Annual	Progress reports from PCU	PCU, DA, DNSP
Description: The fecal sludge service chain to be defined would include: (i) containment, emptying, transport, treatment and reuse/disposal; and (ii) an assessment of the involvement of the private sector in the service chain and helping define models for its implementation.							
Name: SONEB creates and operationalizes a department responsible for fecal sludge treatment		Text	No	Yes	Annual	Progress reports from PCU	PCU, SONEB
Description: This includes: (i) SONEB's organizational chart is updated; (ii) staff is recruited, including at least two sanitary engineers or professionals recruited and paid by the SONEB; and (iii) functioning budget is allocated.							
Name: Number of urban households equipped with adequate fecal sludge containment solutions in project areas		Number	0.00	40000.00	Annual	Progress reports from PCU	PCU, DA, DNSP
Description: This indicator would allow the Project to monitor progress on the population moving from open defecation to unimproved or improved sanitation facilities. Surveys would be required to verify use.							

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source / Methodology	Responsibility for Data Collection
Name: Volume(mass) of BOD pollution load removed by treatment plant under the project	✔	Tones/year	0.00	2090.00	Annual	Progress reports from PCU	PCU, SONEB
Description: This indicator measures the cumulative volume (mass) of Biological Oxygen Demand (BOD) pollution loads removed by the treatment plant supported under the project. Project support can include construction, expansion or rehabilitation of the treatment plant. The baseline value will be zero in where wastewater treatment has not yet been available. In the case where wastewater treatment has been available but is to be improved under the project, either with higher levels of treatment or rehabilitation of the existing treatment capacity, the baseline value will not be zero.							
Name: Number of water quality tests performed per month by the Reference Laboratory		Number	0.00	30.00	Annual	Progress reports from PCU	PCU, DNSP
Description: Tests to be performed include for parameters measuring: (i) drinking water quality as required by PGSSEs; (ii) groundwater quality; and (iii) FSTP effluent discharges (BOD, COD and TSS).							
Name: A feedback mechanism for citizens on water supply service delivery is available at the community level		Text	No	Yes	Annual	Progress reports from PCU	PCU, DSPER
Description: This indicator will monitor the implementation of a feedback mechanism and training activities involving consumer associations (ACEPs). This includes: (i) municipalities and members of ACEPs involved are trained in good water service governance and in how it can be applied; (ii) a mechanism ensuring the collection and traceability of water fees is operational; (iii) municipalities involved organize public information campaigns on the functioning of the water service and in particular as concerns the payment modalities; (iv) a municipal procedure for public audits on the functioning of water services is formalized and operational; (v) ACEP actions plans							

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source / Methodology	Responsibility for Data Collection
represent citizen priorities, including the needs of the most vulnerable; and (vi) project experiences are analyzed and documented in a practical guide on municipal accountability in the water service delivery.							
Name: A feedback mechanism for citizens on sanitation service delivery is available in the Grand Nokoué Region		Text	No	Yes	Annual	Progress reports from PCU	PCU, DGA, DNSP, SONEB
Description: This indicator will monitor the implementation of a feedback mechanism to be put in place with heads of neighborhood (chefs de quartiers). This includes: TBD							

Target Values

Project Development Objective Indicators

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	YR6	End Target
Direct project beneficiaries	0.00	0.00	1600.00	216600.00	583100.00	1036100.00	1196100.00	1196100.00
Number of people in rural areas provided with access to Improved Water Sources under the project	0.00	0.00	0.00	144000.00	288000.00	432000.00	432000.00	432000.00
People provided with access to "improved sanitation facilities" under the proj.	0.00	0.00	45000.00	176000.00	351000.00	438500.00	438500.00	438500.00
Number of water supply systems managed by a professional operator under a "subsidized concession" contract	10.00	10.00	10.00	70.00	130.00	190.00	190.00	190.00
An urban hygiene promotion and sanitation strategy is defined and operationalized	No	No	No	Yes	Yes	Yes	Yes	Yes
Female beneficiaries	0.00	0.00	50.00	50.00	50.00	50.00	50.00	50.00
People provided with access to "improved sanitation facilities" - urban	0.00	0.00	45000.00	176000.00	351000.00	438500.00	438500.00	438500.00

Intermediate Results Indicators

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	YR6	End Target
New piped household water connections that are resulting from the project intervention	0.00	0.00	0.00	6000.00	12000.00	18000.00	18000.00	18000.00
Private sector financial contribution to infrastructure development in small town water supply	0.00	0.00	0.00	10.00	12.00	15.00	20.00	20.00
Number of rural and small town water supply systems inventoried and monitored	150.00	200.00	350.00	500.00	650.00	650.00	650.00	650.00
Number of private fecal sludge emptying firms strengthened under the Project to provide improved sanitation services	0.00	5.00	20.00	30.00	50.00	60.00	60.00	60.00
Fecal sludge service chain containment, emptying and transport building blocks are defined and implemented	No	No	No	No	Yes	Yes	Yes	Yes
SONEB creates and operationalizes a department responsible for fecal sludge treatment	No	No	No	Yes	Yes	Yes	Yes	Yes
Number of urban households equipped with adequate fecal sludge containment solutions in project	0.00	0.00	4000.00	16000.00	32000.00	40000.00	40000.00	40000.00

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	YR6	End Target
areas								
Volume(mass) of BOD pollution load removed by treatment plant under the project	0.00	0.00	0.00	505.00	1020.00	1550.00	2090.00	2090.00
Number of water quality tests performed per month by the Reference Laboratory	0.00	0.00	10.00	20.00	20.00	30.00	30.00	30.00
A feedback mechanism for citizens on water supply service delivery is available at the community level	No	No	No	Yes	Yes	Yes	Yes	Yes
A feedback mechanism for citizens on sanitation service delivery is available in the Grand Nokoué Region	No	No	No	No	Yes	Yes	Yes	Yes

ANNEX 1: DETAILED PROJECT DESCRIPTION

COUNTRY : Benin
Small Town Water Supply and Urban Septage Management Project

1. The Project aims to: (a) support the consolidation of the rural water sector reform promoting the delegation of small town water system management from municipalities to the domestic private sector and, more broadly, the GoB's reform seeking to accelerate the achievement of universal and equitable access to safe and affordable drinking water; and (b) help the GoB define a long-term institutional and financing plan for sustainable fecal sludge management (FSM) in urban areas. To achieve this, the Project will build on its decade-long experience and technical assistance to the GoB with small town water supply service delivery and urban sanitation, complementing current support provided by other financial and technical partners focusing on rural sanitation and urban water supply. The Project will have the following four components:

2. **Component 1: Scaling-up the Small Town Water Supply Subsidized Concession Model (US$33.5 million equivalent).** To support the guiding principles of the rural and small town water supply national strategy, this component will strengthen the stakeholders involved in water service delivery in small towns and contribute to funding water system rehabilitations, constructions or expansions in selected municipalities.

3. Subcomponent 1.1: Institutional Strengthening of Stakeholders Involved in Water Supply Service Delivery in Small Towns.

(a) Strengthening the regulation capacity of the Ministry of Energy, Water and Mining (MEEM)'s Drinking Water Public Service and Regulation Directorate (DSPER), by: (i) carrying out a national monitoring and regulation strategy on water service delivery in rural areas and small towns. This would include putting in place a tariff setting system comprising a diagnostic and recommendations on tariff fixing, monitoring and enforcement, the development of a roadmap, and the required equipment, software and complementary studies, as needed, as well as the development of a water connection policy; and (ii) developing benchmarking tools to monitor the performance of private sector operators;

(b) Strengthening the planning and monitoring capacity of municipalities in selected towns, through the provision of relevant training in the following areas: (i) bidding documents for the subsidized concessions contracts. This will be done by first assigning an international consulting firm as the advisor to train local firms in the preparation of subsidized concession transactions. These trained local firms will then be recruited as the advisors of the municipalities interested in preparing bidding documents to enter into subsidized concession contracts with the local private sector. International Financing Corporation (IFC) staff will provide cross support for the review of the international consulting firm's outputs and for quality control; (ii) water supply assets management and water investments planning. Cascade training will be used for this activity, with resources first directed at training the DSPER as well as the MEEM's deconcentrated water service offices who will then lead the training sessions for the municipalities; (iii) mobile data collection tools aimed at enhancing performance monitoring and control of private sector operators;

and (iv) the carrying out of training in citizen engagement for municipalities and local water consumer associations (ACEPs). For this activity, the Project will benefit from synergies with the Governance GP's Global Partnership for Social Accountability (GPSA) which initiated a collaboration with the Water Partnership Program (WPP) in 2016 to accelerate and scale up the adoption of social accountability mechanisms in the water sector. As part of this collaboration, the GPSA has awarded a contract to an NGO actively involved in the Benin rural water sector to empower municipal officials to adopt social accountability mechanisms such as public audits to better manage water fees collected and resources; strengthen capacity and oversight functions of ACEPs; and introduce transparent management practices in the water sector. Because the timeframe and scale of this pilot are limited, it was decided that the NGO would initially work in communes where they already have an existing program, and results would then be replicated in communes selected for water supply interventions under the Project.

(c) Establishing a Risk Sharing Facility (RSF) to encourage national commercial banks to serve selected private sector operators by partially mitigating creditor risk through counter guarantees offered by the National Guarantee and Small and Medium Enterprise Assistance Fund (FONAGA)[15]. A guarantee line will be created through the existing FONAGA Risk Sharing Facility (RSF) to encourage private commercial banks to lend to private water sector operators (SMEs) and will cover up to 50 percent of the commercial loan contracted. The FONAGA RSF for these SMEs will be implemented through commercial banks under the overall coordination of the PCU and technical leadership of the MEF. Based on discussions with the GoB, the relevant private water sector operators' financing needs under the Project are estimated at about US$4 million, which, assuming a 50/50 risk-sharing agreement, means an RSF in the size of US$2 million. In addition, technical assistance and training will be provided to OPs by the CePEPE. It is estimated that 25 to 35 eligible OPs will benefit from RSF-supported financing and training. Arrangements relative to the RSF are detailed in Annex 2.

(d) Strengthening the commercial and financial management capacity of the private sector operators, through the provision of: (i) training in business plans development, commercial management and operational efficiency, as well as in basic accounting and management, opening bank accounts, the provision of mediation services in disputes with tax authorities, and assistance in preparing loan applications; and (ii) capacity building activities to promote the utilization of the RSF. Training and capacity building will be provided by the SME Support and Promotion Center (CePEPE)[16], and the selection process for operators to

[15] FONAGA is a recognized public utility association with the objectives of promoting and developing small and medium enterprises (SMEs) through the use of a partial guarantee facility for commercial loans granted by local banks and financial institutions to interested SMEs with a sufficient financial capability. It also provides warranty bonds for SMEs to carry out works and service contracts. The FONAGA's Board is composed of representatives from the MEF, the Ministry of Commerce, the National Directorate of the BCEAO, the Professional Association of Banks, Benin's Chamber of Commerce and Industry, the National Council of Employers, Benin's Chamber of Agriculture, as well as a representative of each donor contributing to the Fund. The Fund is managed by the CePEPE.

[16] Created in October 1989, the CePEPE is a Non-Governmental Organization recognized of public utility by Decree

benefit from these capacity building activities will be managed by the private operators association (AFEB). Training modules developed during the subsidized concession pilot with support from the WSP will be leveraged to deliver these trainings. It is expected that training provided by CePEPE under this Project will reach approximately 80 firms and lead to the creation of jobs over the course of the Project.

(e) Strengthening the water quality monitoring capacity of the Public Health National Directorate (DNSP), through: (i) provision of training in the implementation and monitoring of Drinking Water Safety Management Plans (PGSSEs); and (ii) constructing and equipping a Water and Sanitation Quality Reference Laboratory. This is particularly important in the face of potential groundwater contamination by liquid effluents discharged or infiltrated from sanitation facilities.

4. This subcomponent will be closely coordinated with the ongoing Small Town Water TA grant (see P157374) and build on as well as continue the institutional strengthening activities proposed under that program.

5. Subcomponent 1.2: Rehabilitation and Expansion of Water Supply Networks.

(a) Supporting the MEEM in carrying out a program of rehabilitation, construction or expansion of approximately 180 water supply systems under the subsidized concession model, through the provision of cash transfers to municipalities in targeted towns.

These cash transfers (public subsidies) will be complemented by the private concessionaire's financing. Scaling-up the subsidized concession approach will require substantial public funds, through a mix of sources, including donor support, but also increasingly through tariffs and internal resource mobilization from taxes raised at the national or local levels. Based on the previous pilot experience with subsidized concessions, it is estimated that the Project could contribute to financing rehabilitation and expansion works for 180 water supply systems to be managed under that Public-Private Partnership (PPP) model.

Selection process for small town water supply. Small towns will be selected through technical and financial proposals that they will prepare with support from local firms (see Subcomponent 1.1 b) and submit to a 'selecting body' under the MEEM's DSPER. Selection criteria will include the detailed knowledge of the municipality's existing piped water supply assets and condition, quality of the proposal, the soundness of procurement and financial management arrangements in place at the communal level, and capacity to manage a PPP contract. This could be done in three phases, the first one of which would select the best 60 proposals. Rejected ones would receive support to improve and the chance to re-submit in second and third phases.

Management of water supply systems. Under the Project, communes will enter into

No. 2005-082 on March 2, 2005. Its founding members are Benin's Chamber of Commerce and Industry and National Council of Employers.

subsidized concession contracts with OPs who will operate and maintain the water supply system, partially fund and carry out investments in network rehabilitation and expansion, as well as collect payments. The main characteristics of the proposed contracts are detailed below:

- **Scope.** The concession geographic scope will include existing boreholes and networks, as well as all other water infrastructure, including hand pumps and other water points such as standpipes;
- **Contract duration.** Contract duration will be eight years, allowing OPs to operate over several political mandates at the communal level, thus reducing political interference in water supply service delivery;
- **Allocation of risks and responsibilities.** The OP will be in charge of carrying out investments and will recover the costs of these investments through tariffs. Major rehabilitation works that may occur during the contract time frame but that are not included in the contract will be the responsibility of the municipalities. The contract will also define O&M standards and introduce performance incentives in the form of penalties imposed if the OP were to default on its contractual obligations;
- **Financing rehabilitation, reinforcement and extension obligations.** Works detailed in the contracts will have to be carried out within the first two years of implementation. It is expected that OPs will carry out some of the investments with their own funds, and they would be eligible to receiving subsidies, but only after they have carried out the investments. OPs will thus pre-finance expenses expected to be recovered via subsidies and via tariffs.

(b) Enhancing the management of water supply systems, through: (i) carrying out due diligence studies to assess the technical, legal and financial conditions of water systems in selected towns; (ii) supervision and monitoring of the private sector operators' rehabilitation works program; (iii) purchase of required water meters to be installed under the subsidized concession contracts; and (iv) supporting the establishment and the equipment of three regional water meter calibration centers.

6. **Component 2: Improving Fecal Sludge Management (US$27.5 million equivalent).** This component will support public and private actors to ensure clarity on the institutional arrangements for effective urban sanitation service delivery, particularly in the Grand Nokoué Region, and contribute to funding sanitation solutions and infrastructure in selected areas, to improve fecal sludge containment and reduce pollution from the lack of fecal sludge collection and treatment. A description of the fecal sludge sanitation chain building blocks in the Grand Nokoué Region, drawing from the Grand Nokoué Urban Sanitation Masterplan completed in December 2015, is presented in Box 1.1.

7. **Subcomponent 2.1: Institutional Strengthening of Stakeholders Involved in FSM in Urban and Peri-urban Areas.** This subcomponent will focus on supporting public and private actors to ensure clarity on the institutional arrangements for effective regulation, decision-making and monitoring and evaluation (M&E) in urban sanitation service delivery.

(a) Strengthening SONEB's sanitation planning, and M&E capacity, through: (i) the carrying out of training in sanitation assets management, operation and maintenance (O&M), the

development of technical specifications and terms of reference related to sanitation works, as well as investment planning related to the Urban Sanitation Masterplan; and (ii) the acquisition of equipment relative to sanitation training for SONEB's training center, the Water Professions Training Center (CFME);

(b) Strengthening the DA's capacity to regulate, control and re-organize the urban fecal sludge service chain, through: (i) carrying out studies developing technically and financially suitable fecal sludge containment options for urban and peri-urban households, jointly with the DNSP, as well as their integration in the urban construction norms; (ii) developing environmental and quality control norms for fecal sludge management, as well as the corresponding M&E framework; and (iii) carrying out studies developing innovative business solutions to improve desludging and sludge transport in urban areas and optimize the structure in which households, mechanical and exhauster emptying service providers, treatment plants operators, communities and the public sector interact, as well as standardizing fecal sludge emptying and transport services.

(i) The objectives behind the re-organization of the fecal sludge service chain are to: move toward more affordable sludge emptying operations and toward the elimination of bad practices; and rationalize to the extent possible the emptying market by encouraging a certain level of sectorization of local firms, by creating preferred collection zones and fecal sludge treatment plants (FSTPs), for example, which would allow a reduction of the overall costs by optimizing the routes taken by the emptying trucks.

(ii) A 'sanitation subscription' could be proposed to clients to receive regular emptying services (either for free or at a low cost) in exchange for the client being formally registered with SONEB. SONEB would also develop a customer service unit to collect and treat demands from clients (with a subscription or not) and direct them to an emptying firm or professional (preferably accredited), as well as provide technical information to its clients on the proper maintenance of sanitation facilities. Sanitation would be primarily financed through a fee included in the water tariff which would thus cover water production, distribution, as well as septage treatment. Other sources would include dumping fees for emptying trucks at the FSTPs.

(c) Strengthening DNSP's capacity to develop and manage a national program to intervene in urban and peri-urban sanitation, through: (i) developing an urban hygiene promotion and sanitation strategy, including sanitation marketing, behavior change communication (BCC), hygiene promotion, the use of incentives, as well as aspects of community engagement and gender mainstreaming in urban sanitation, in coordination with the DA. The application of this strategy and the monitoring mechanisms to help improve the urban on-site sanitation situation would come hand in hand with the development of a baseline of individual and commercial sanitation facilities; and (ii) developing social marketing methodologies to trigger behavior change related to open defecation and use of adequate fecal sludge containment solutions.

(d) Strengthening the capacity of the domestic private sector to participate in the urban fecal sludge service chain, through: (i) carrying out studies developing innovative business

solutions aimed at improving desludging and sludge transport; and (ii) developing PPP arrangements for the O&M of fecal sludge treatment facilities, as well as sludge disposal and reuse.

8. **Subcomponent 2.2: Household-level Sanitation in Urban and Peri-urban Areas.** This subcomponent will aim at reducing the practice of open defecation, increasing access to improved fecal sludge containment facilities and promoting better hygiene through actions of communication and awareness, by focusing on behavior change and encouraging the use of collective facilities in the absence of individual ones. Access to improved sanitation will be increased through implementing gender-sensitive sanitation marketing campaigns, as well as BCC activities, by working with citizen/neighborhood organizations to induce a dynamic in support of a collective approach to changing behaviors. For this subcomponent, the use of results-based contracts will be explored with the DNSP to delegate the execution of these activities as well as the necessary upstream formative research to an NGO or local firm with experience in urban sanitation.

Box 1.1. Description of the Fecal Sludge Sanitation Chain Building Blocks in the Grand Nokoué Region

Containment. In 2011, open defecation stood at 25 percent in urban areas, fueled by the transposition of behaviors of migrants from rural areas where open defecation stood at 77 percent, and less than one percent of the households were connected to a sewerage network. Households rely almost entirely on individual sewage solutions such as pit latrines (63 percent), soak pits (10 percent) and septic tanks (26 percent), but it was found that fecal waste was often disposed of unsafely in the region, reaching 93 percent in Abomey Calavi and Cotonou Ouest, mostly due to losses associated with poorly built or managed on-site facilities. In addition, greywater is often disposed of in streets or through the existing drainage system (51 percent), soak pits (31 percent) and septic tanks (14 percent).

Emptying and transport. In the Grand Nokoué Region, emptying and desludging of latrines and septic tanks are typically handled mechanically by private operators. It is part of the DA's mandate to regulate this part of the fecal sludge service chain, but it lacks resources for monitoring and enforcement. Strong demand exists for sludge emptying services, including from commercial and institutional clients, but the offer is currently struggling to match it, and there is insufficient treatment capacity in the region.

Treatment. Sludge is currently trucked to the privately-owned Ekpé FSTP threatened by coastal erosion, although not all sludge is effectively dumped at this site. As this FSTP is unable to handle on its own the growing needs of the Region, the Urban Sanitation Masterplan completed in December 2015 has identified the need for the construction of two new FSTPs, one of which will be financed by the project.

Disposal and reuse. Sludge is currently disposed of on the site of the Ekpé FSTP, and no reuse has so far been reported.

9. **Subcomponent 2.3. Urban and Peri-urban septage Collection and Treatment Infrastructure.** This subcomponent will support the provision of facilities and services for the safe management and disposal of fecal sludge by financing infrastructure capital expenditures in the Grand Nokoué area. Fecal sludge treatment in the Grand Nokoué Region will be improved through: (a) the construction of a new FSTP serving the Cotonou Est and Sémé-Kpodji sectors, as well as Porto Novo in the interim, that is, while the Takon FSTP is being built (planned for 2020). Treatment at this FSTP will be separated into liquid and solids streams, with the liquid stream treated in anaerobic and facultative lagoons, and the solids stream to be treated in non-planted drying beds. This technology was deemed appropriate for the Benin context, due to its ease of operation, low associated O&M costs and the current lack of operating

personnel qualified to operate more complex technologies such as digesters; and (b) the provision of on-site semi-collective sanitation solutions in Cotonou (Cité Nouvelle Vie and Cité Houéyiho), in line with the Urban Sanitation Masterplan's recommendations:

- **Cité Houéyiho.** Rehabilitation of an existing sanitation system, including a sewage network and a collective septic tank for approximately 400 people;
- **Cité Vie Nouvelle.** Rehabilitation of the existing sewage network, including connecting public toilets in the neighborhood, as well as construction of a small wastewater treatment plant to serve approximately 1,200 people.

10. **Component 3: Project Management, Monitoring and Evaluation (US$7.0 million equivalent).** This component will support project management activities and strengthen the capacity of the MEEM, DA, DNSP and SONEB to coordinate and execute project activities at the central and municipal levels, including complying with World Bank fiduciary procedures and safeguards, while improving their capacity to engage in dialogue with the community and municipalities. It will also contribute to the acquisition of equipment and the project team's operating costs, as well as: (a) financing selected individual consultants, training, a project accounting assistant and consulting firms to ensure efficient project implementation and M&E by the MEEM's PCU; (b) the carrying out of audits of project financial statements; and (c) supporting sound environmental and social project management, including the preparation of safeguard documents and their monitoring, as well as financing of compensation, if needed.

11. **Component 4: Contingent Emergency Response (US$0.0 million).** Due to the risk of catastrophic events such as floods and droughts in Benin, the proposed project includes a Contingent Emergency Response Component (CERC), to respond rapidly at the GoB's request in the event of an eligible crisis or emergency, subject to the request of the GoB (for example, floods, drought, and so on).

12. Following an adverse natural event or crisis during the execution period of the proposed project, the GoB may request the World Bank to reallocate project funds to support response and reconstruction. This component would facilitate the rapid re-categorization of financing and additionally financing request under streamlined procedures during an emergency, should the Government so request. This component would be implemented in accordance with the World Bank's Special Considerations under OP/BP 10.00, and all expenditures would be appraised, reviewed and found to be acceptable to the World Bank prior to any disbursements. Disbursements would be made against a positive list of critical goods (both domestic and imported) or the procurement of goods, works, and consulting services (including audit costs) required to support the immediate response and recovery needs of the GoB.

13. Preparatory work would be undertaken for the design of the component, including: (a) preparation of an agreed upon preliminary emergency recovery Action Plan of activities; (b) compilation of a positive list of eligible critical imports/needs; (c) terms of reference and contracts for technical services to support the scoping and design of the emergency recovery and reconstruction subprojects; and (d) a list of firms (national and regional) that have a demonstrable track record in emergency response activities related to the anticipated nature and scope of those required. A CER Operations Manual will apply to this component detailing financial management, procurement, safeguard and other necessary implementation arrangements. Details on specific eligible expenditures can be found in Annex

2.

ANNEX 2: IMPLEMENTATION ARRANGEMENTS

COUNTRY : Benin
Small Town Water Supply and Urban Septage Management Project

Project Institutional and Implementation Arrangements

1. Project implementation arrangements will rely on: (a) the oversight of an inter-ministerial steering committee headed by MEEM's Minister, and (b) an independent Project Coordination Unit (PCU) within MEEM. The PCU will be responsible for overall project coordination, for the administrative, fiduciary, environmental and social management and execution of project activities, according to anti-corruption guidelines, and will be supported by the three technical thematic groups showed below. These arrangements are illustrated in Figure 2.1.

(a) Small Town Water Supply (Component 1), led by DSPER, with the support of MEEM's regional WSS offices, as well as in close collaboration with the municipal governments involved, to which the responsibilities of procurement and FM for the subsidized concessions are legally devolved. This component also intends to leverage domestic private financing;

(b) Urban FSM - Institutional Strengthening, and Containment, Emptying and Transport (Subcomponents 2.1 and 2.2), led by DA, with support from DNSP for social marketing activities related to household-level sanitation in urban and peri-urban areas, as well as in close collaboration with the municipal governments involved;

(c) Urban FSM - Treatment (Subcomponent 2.3), led by SONEB, in close collaboration with DA, DNSP and the municipal governments involved.

2. Each of these thematic groups will coordinate activities on behalf of each institution involved which will help facilitate and operationalize inter-ministerial planning. The PCU will also be responsible for Component 3 as well as for the development of an emergency operations manual under Component 4.

3. **Cooperation agreements.** Cooperation agreements will be signed between the Credit's Recipient, the Ministry of Economy and Finance (MEF) and (a) SONEB[17] for the implementation of project activities under Subcomponent 2.3, as well as (b) the CePEPE for the implementation of activities under Subcomponent 1.1(d).

4. **Risk Sharing Facility (RSF).** FONAGA will be responsible for the implementation of Subcomponent 1.1(c), under the overall coordination of the PCU and technical leadership of the MEF. The RSF will be implemented in accordance with the provisions of: (a) the RSF Framework Agreement between FONAGA and the MEF; and (b) the RSF Manual describing all the details and arrangements under the RSF. This manual will be developed with support from the Public-Private Infrastructure

[17] SONEB is a public company under the MEEM, with a distinct juridical personality and financial autonomy, created by Decree No. 2003-203 on June 12, 2003.

Advisory Facility (PPIAF) and will highlight the operating principles and procedures specific to the RSF, including terms of payment of guarantee agreements, conditions of agreements between commercial banks and FONAGA, as well as the corresponding governance and internal control mechanisms. A special account opened by FONAGA (the RSF Account) will receive part of the proceeds of the credit and will be used to make payments under the RSF (in accordance with the terms and conditions established in the RSF Framework Agreement and the RSF Manual). In addition:

(a) Partial Credit Guarantee Agreements (surety contracts or *Contrat de Cautionnement*) will be signed between participating commercial banks and FONAGA, in which FONAGA states that it stands surety for the private sector operators for the amount representing 50 percent of the commercial loan contracted by the latter;

(b) Letters of Guarantee (*Lettre de Garantie*) will be signed by FONAGA, vouching for the private sector operator which has contracted a loan to execute water supply rehabilitation and extension works. This Letter will be required when paying for the guarantee;

(c) Loan Agreements will be signed between participating private sector operators and commercial banks to finance the rehabilitation works to be executed in the first three years of the subsidized concessions contracts.

5. In case of default of payment by the operators, the commercial banks will have a period of 30 days to notify FONAGA about the outstanding payments. Three months after the first unpaid installment, the commercial banks, after providing evidence that no amicable agreement could be reached to resolve the issue, will send FONAGA a Request for Payment of the Partial Guarantee (*Appel de la Garantie*) to request payment of the outstanding guaranteed amount. Following this request and payment notification by FONAGA, commercial banks will be required to issue a Letter of Subrogation (*Acte de Subrogation*) to enable it to sue the principal debtor to recover monies paid.

6. If part of the funds deposited in the RSF Account are not required to cover payments due under or in connection with any Partial Credit Guarantee Agreements or if there are any balances remaining after the commitments under each Partial Credit Guarantee Agreement have expired, the FONAGA will refund said amounts to the Project's Operational Account managed by the PCU for refunds to the International Development Association (IDA). Refunds to the IDA shall be credited, prior to the Closing Date, to the Financing Account for subsequent withdrawal or for cancellation in accordance with the relevant provisions of the Financing Agreement, including the General Conditions.

7. **Steering committee.** At the national level, oversight will be provided by an inter-ministerial steering committee headed by the Minister of MEEM. The steering committee will provide overall guidance and review of project implementation progress and budgets, and will facilitate the coordination and collaboration between ministries, municipal authorities, and other government agencies involved in the project implementation. The steering committee will be composed of MEEM, Ministry of Living Environment and Sustainable Development (MCVDD), Ministries of Health, Economy and Finance, Decentralization and Local Governance, as well as the mayors of the participating municipalities in the Grand Nokoué Region (Cotonou, Abomey-Calavi, Porto Novo and Sémé-Kpodji). The steering committee will meet twice a year to review activity reports and progress on implementation of work plans, provide recommendations to advance project implementation, as well as ensure that

project objectives are met and project activities are consistent with GoB strategic WSS documents and initiatives. These include:

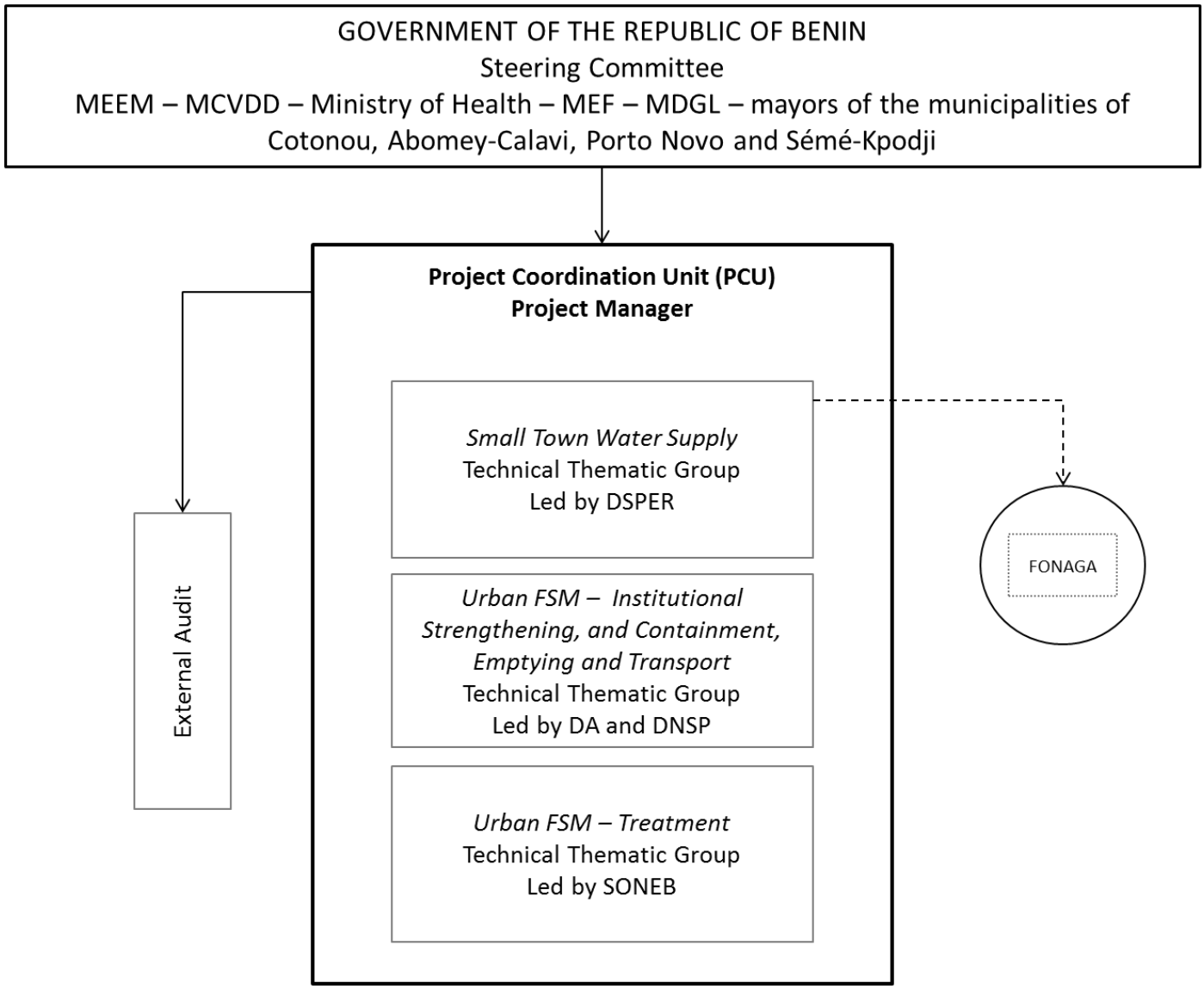
- The upcoming 2016–2030 Strategy for Small Town Water Supply Service Delivery. Guiding principles are: (a) a programmatic approach for the sector; (b) integrated water resources management; (c) supporting communal asset ownership and responsibility in service delivery; (d) professionalized management of water distribution systems (local private sector participation); and (e) sector regulation with citizen engagement. Cross-cutting themes are: (a) BCC for improved hygiene practices; and (b) integration of gender aspects in sector policy and actions;

- The Grand Nokoué Urban Sanitation Masterplan, which will present an opportunity to support the GoB in implementing on-site sanitation solutions at scale, in an urban context. The Urban Sanitation Masterplan validated by the GoB on December 9, 2015, also includes guidance on greywater management, provisions to evolve to sewerage networks in the long-term, and uses experience in rural areas with Community-Led total Sanitation (CLTS), as well as an ongoing pilot in Porto Novo aiming at adapting rural household-level sanitation activities to an urban context, to draw lessons for the proposed project;

- DNSP's Hygiene Promotion and Basic Sanitation Strategy approved in 2012;

- Existing and future PGSSEs developed in participating communes, as part of the country's 2012 National Drinking Water Quality Monitoring Strategy. Through this strategy, water system operators have the responsibility to develop and follow a PGSSE, with guidance from the DNSP, including preventive and corrective measures to reduce risks related to water quality along the drinking water production and distribution chains.

Figure 2.1. Institutional and Implementation Arrangements



8. **Specific responsibilities and training needs.** The allocation of implementation responsibilities from the different actors involved in rural and small town water supply and urban sanitation services delivery are presented in Table 2.1. This table also presents the different training needs corresponding to each of these stakeholders.

Financial Management

9. Overall project FM aspects will be the responsibility of the PCU, including: (a) managing the operational account; and (b) preparing withdrawal applications and reporting to be submitted to the

World Bank.

Table 2.1. Project Stakeholders, Responsibilities, and Capacity-building Activities to be Financed under the Project

Stakeholder	Responsibilities	Capacity building activities
MEEM, including the DSPER and its deconcentrated offices	Water supply in small towns • The DSPER will lead the selection process of small towns for implementation of subsidized concessions contracts • The DSPER's deconcentrated water offices are responsible for the supporting the establishment of ACEPs and their training, generally, and as part of the Project, they will lead the training of ACEPs in asset management (second phase of the cascade training) Steering committee: participation of a high-level representative (the committee will be led by the MEEM's Minister)	Water supply in small towns • Support in defining a national monitoring and regulation strategy (in line with the sector's programmatic approach) for water service delivery in rural areas and small towns • Development of benchmarking tools to monitor the performance of private operators • Updating guidelines for tariff setting • Asset management for the DSPER's deconcentrated water offices (first phase of cascade training)
MCVDD, including the DA and the DE	Urban sanitation • The DA will lead the policy dialogue on the reorganization and standardization of the emptying and transport fecal sludge service chain building blocks • The DE is responsible for the enforcement of norms related to effluent discharges to the environment and their quality Steering committee: participation of a high-level representative	Urban sanitation • Training in the development of technically and financially suitable fecal sludge containment options for urban and peri-urban households • Training in the development of environmental and quality control norms, as well as the corresponding monitoring framework • Support for the reorganization and standardization of the emptying and transport fecal sludge service chain stages
Ministry of Health, including the DNSP	Water supply in small towns • Provide guidance on the elaboration of PGSSEs Urban sanitation • The DNSP will lead the policy dialogue on the containment fecal sludge service chain building block and define the national policy on hygiene, basic sanitation and prevention • Operate the National Reference Laboratory Steering committee: participation of a high-level representative	Water supply in small towns • Training in the implementation, auditing and monitoring of Drinking Water Safety Management Plans (PGSSE) Urban sanitation • Support in the definition of a national urban sanitation strategy, including sanitation marketing, BCC, hygiene promotion, the use of incentives, as well as aspects of community engagement and gender mainstreaming in urban sanitation • Development of social marketing methodologies to trigger behavior change related to open defecation and use of adequate fecal sludge containment solutions in the Grand Nokoué region
MEF	• Provide leadership for FONAGA RSF, as well as its control. The management of the FONAGA is delegated to the CePEPE Steering committee: participation of a high-	—

Stakeholder	Responsibilities	Capacity building activities
	level representative	
MDGL	Steering committee: participation of a high-level representative	—
SONEB	Urban sanitation • FSTP, semi-collective solution and wastewater treatment plant asset owner and responsible for their operation • Supervise sanitation infrastructure operation and maintenance delegation contracts to the private sector • Develop a client service unit ensuring the link between users (households) and emptying professionals • Manage the Water Professions Training Center (CFME) and continue to develop a sanitation curriculum	Urban sanitation • Training in planning and monitoring the investments included in the Grand Nokoué Urban Sanitation Masterplan • Training in the preparation of technical specifications and terms of reference related to sanitation works • Training in sanitation assets management, operation and maintenance (O&M), as well as M&E; • Support in the development of a tariff policy for fecal sludge and wastewater services • Training in sanitation professions and equipment for the CFME • Houéyiho and Cité Nouvelle pilots : these pilots will allow SONEB and local sanitation actors to develop a capacity in managing and operating sanitation systems
ABE	Water supply in small towns and urban sanitation • The ABE will be in charge of monitoring the implementation of environmental measures and will conduct periodic capacity building events (continual training) for municipality staff • The ABE will be in charge of validating resettlement documents and of corresponding periodic monitoring	—
Municipalities (communes)	Water supply in small towns • Responsible for providing water supply services, through contracts with private operators • Contract supervision firms for works to be performed by private operators Urban sanitation • Responsible for ensuring that laws and policies regarding sanitation are respected (pouvoir de police de l'assainissement) Steering committee: participation of high-level representatives from each of the communes of the Grand Nokoué Region	Water supply in small towns • Training in managing its water supply assets and planning water investments • Training in performance monitoring and control of private operators, using mobile data collection tools • Training in citizen engagement and local governance, through the GPSA-funded pilot, with the aim of empowering municipal officials to adopt social accountability mechanisms such as public audits to better manage water fees collected and resources
SME Support and Promotion Center (CePEPE)	• Provide training for water supply SMEs in improving service delivery quality;	—
FONAGA	• Promotes and develops small and medium enterprises (SMEs) through the use of a partial guarantee facility for commercial loans granted by local banks and financial	—

Stakeholder	Responsibilities	Capacity building activities
	institutions to interested SMEs. It also provides warranty bonds for SMEs to carry out works and service contracts • Managed by the CePEPE	
Domestic private sector OPs in Benin typically are local Small and Medium Enterprises (SMEs) or small consulting firms working in the water supply sector or in civil works, which see the development of PPPs as an opportunity to develop their business and increase their profit margins. Most of the SMEs are registered companies and pay taxes, and a number of them have associated themselves under the Association des Fermiers du Benin (AFEB)	Water supply in small towns • Participate in the O&M of small town water supply systems, through subsidized concession contracts with communes Urban sanitation • Participate in the emptying and transport build blocks of the fecal sludge service chain • Participate in the O&M of FSTPs, through delegation contracts with SONEB. The private firms will pay fees (redevances d'exploitation et de renouvellement) to SONEB	Water supply in small towns • Training in business plan development, commercial management and operational efficiency • Support to facilitate access to financing through specific products (commercial loans, advances for works and guarantee instruments) • Support during the subsidized concessions contracts' preparation and the transaction processes to ensure that contractual risks and responsibilities are well understood (so as to reduce the risk of contract failure downstream) Urban sanitation • Support in the development of innovative business solutions to improve desludging and sludge transport in urban areas and optimize the structure in which households, mechanical and exhauster emptying service providers, treatment plants operators, communities and the public sector interact • Development of PPP arrangements for the O&M of fecal sludge treatment facilities, as well as sludge disposal and reuse • Exploring the use of guarantee funds for fecal sludge entrepreneurs (for the renewal of emptying truck fleets, for example, and financing of PPP capital investments)
ACEP	Water supply in small towns • Represent water users to the municipal administration and support the municipality in better monitoring the quality of public water services • Play an advocacy role for water users in relation to SONEB, the municipalities and service providers (such as OPs) • Play an active role in the grievance redress mechanisms in place (management of complaints) to improve water services	Water supply in small towns • Training in citizen engagement and local governance through the GPSA-funded pilot with the aim of strengthening the capacity and oversight functions of ACEPs
AFEB	Water supply in small towns • Develop lobbying power to better organize the emerging group of water supply entrepreneurs and actively play a role in sector development. • Identify key areas to build the capacity of OPs • Lead the selection process to identify SMEs eligible to receiving grants from the SME	—

Stakeholder	Responsibilities	Capacity building activities
	Grant Facility managed by CePEPE	

10. **FM capacity assessment and remedial actions.** The project team carried out an assessment of the FM capacity of the PCU to be set-up within the MEEM, in accordance with the FM Practices Manual issued by the FM Board on March 1, 2010. The MEEM has no previous experience with World Bank FM procedures but has an adequate multi-projects accounting software that could be customized to fit the new project needs. The main measures identified and that can be addressed with existing World Bank financing include: (a) the recruitment of an FM specialist with qualifications and experiences satisfactory to the World Bank; (b) the preparation and adoption of a Project Operations Manual (POM) including acceptable FM procedures; and (c) the preparation and adoption of a RSF Manual describing all the details and arrangements under the RSF.

11. To mitigate fraud and corruption risks in the public sector and reinforce governance, the following actions were incorporated into project design: (a) the recruitment of an experienced internal auditor who will conduct regular internal audit missions to ensure compliance of rules established under the PPP operations and to improve project implementation effectiveness; (b) the annual review by the independent financial auditor of a reasonable sample of the subsidized concessions operations to ensure that activities were completed pursuant to the agreed procedures and that funds were used for the purposes intended; and (c) a special opinion on payments made from the Special Account opened for the RSF.

12. The conclusion of the assessment is that project FM arrangements are being established to satisfy the World Bank's minimum requirements under OP/BP 10.00, after which they will be adequate to provide, with reasonable assurance, accurate and timely information on the status of the Project, as required by the World Bank.

13. The overall FM risk rating for the project is assessed as 'Substantial' and it is expected that it will be reduced to 'Moderate', once the mitigation measures are implemented.

14. **Country issues.** The overall inherent risk of the public financial management (PFM) system in Benin is rated as 'Substantial'. The Public Expenditure and Financial Accountability (PEFA) assessment completed in 2014 in Benin revealed mixed performances. Despite actions taken to improve the participatory process in budget preparation, great challenges remain in this area especially in aligning annual budgets to public policies. Budget execution and controls are also affected by the insufficient integration of the PFM information system, the frequent use of exceptional procedures and the lack of human, financial and material resources which limit the effectiveness of national oversight institutions. Some progress has been noted in respecting legal deadlines for public financial reporting and external auditing but there is still a need for improvement on the quality of the work done. Major delays are also noted in the exercise of jurisdictional control and in examining budget execution reports by the National Assembly.

15. The GoB is implementing an action plan to address the main weaknesses identified by the PEFA assessment and to support the implementation of the new organic budget law voted in 2013 which complies with the 2009 West African Economic and Monetary Union (WAEMU) PFM directives that aim for the modernization of the whole PFM system.

16. **Budgeting**. The project budgeting process will be clearly defined in the FM Manual and the budget will be reviewed and adopted by the Steering Committee before the beginning of the year. Annual draft budgets will be submitted to the World Bank's non-objection before adoption and implementation.

17. **Flow of funds.** One Designated Account will be opened at the Central Bank of Benin (BCEAO). The funds will be released to an Operational Account to be opened in a reputable commercial bank. The Operational Account will be managed by the PCU. Cash withdrawal transactions from the Operational Account will be authorized respectively by the Project Coordinator and the Project's FM Specialist. The account is set up to fund eligible expenditures based on the approved annual activity plans. The Designated Account's ceiling, for approximately four months of expenditures, will be determined later. The PCU will open a Special Account in a reputable commercial bank for the RSF. This Special Account will be used to make payments in accordance with the Disbursement Letter (DL) and the terms and conditions established in the RSF Framework Agreement and the RSF Manual. Payments from the Special Account will be subject to acceptable arrangements for the World Bank, and expenditures will be incurred only once a Partial Credit Guarantee Agreement is signed between FONAGA and each private sector operator.

18. Figure **2.2** illustrates the flow of funds for the Project.

19. **Accounting and reporting.** SYSCOHADA is the assigned accounting system in West African francophone countries. Project accounts will be maintained on a cash basis, supported with appropriate records and procedures to track commitments and to safeguard assets. Annual financial statements will be prepared by the PCU in accordance with the SYSCOHADA but considering specificities related to external financed investment projects. Accounting and control procedures will be documented in the FM Manual. To support the experienced FM specialist who will be recruited prior to project effectiveness, a well-qualified FM officer will be dedicated full time by the ministry to the Project to ensure timely accounting of project operations. Additional FM staff could be recruited depending on the assessment of the FM workload over project implementation. The PCU will prepare quarterly Interim Financial Reports (IFRs) reflecting operations of the Designated Account and submitted to the World Bank within 45 days after the end of the calendar quarter. The format of IFRs will be included in the POM and will comprise the following: (a) a report on the sources and use of funds - cumulative (project-to-date; year-to-date) and for the period, showing budgeted amounts versus actual expenditures, including a variance analysis; and (b) and a forecast of sources and uses of funds.

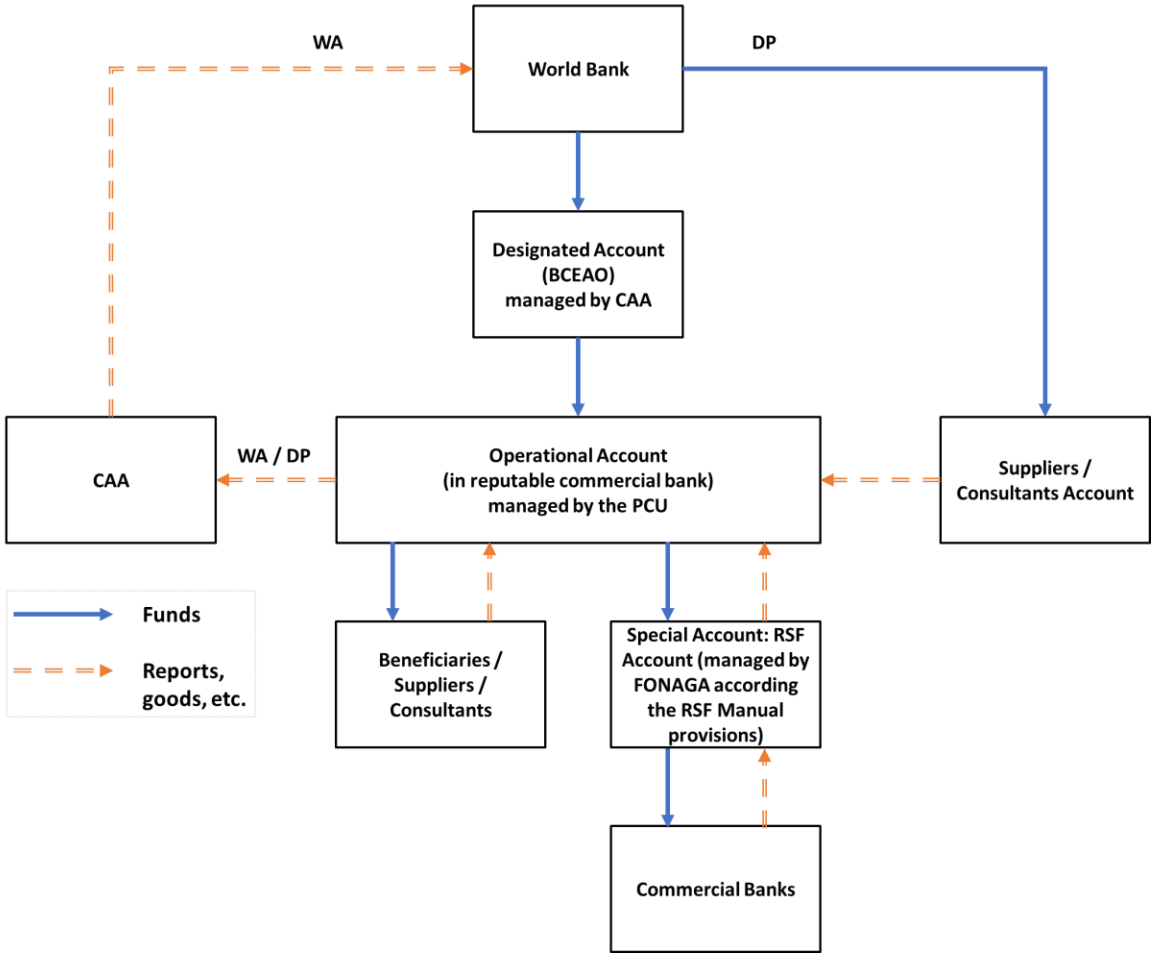
20. **Internal control and internal auditing arrangements.** FM and administrative procedures will document the FM and disbursement arrangements including internal controls, budget process, assets safeguards, and clarify roles and responsibilities of all stakeholders. An experienced internal auditor will be recruited after project effectiveness. This auditor will contribute to strengthening project governance by providing governance advice to the project team and by conducting regular internal audit missions to ensure due compliance with agreed procedures especially under the subsidized concession operations.

21. **Annual financial audit.** An external independent and qualified private sector auditor will be recruited to carry out the audit of the Project's financial statements under the supervision of the supreme audit institution. Therefore, annual audits will be conducted based on Terms of References (TOR) agreed with the supreme audit institution and that are satisfactory to the World Bank. The auditor

will express an opinion on the Annual Financial Statements, and perform his audit in compliance with International Standards on Auditing (ISAs). The auditor will be required to prepare a Management Letter detailing observations and comments, providing recommendations for improvements in the accounting system and the internal control environment. The external auditor will especially review each year a reasonable sample of the subsidized concession operations to ensure that activities were completed pursuant to the agreed procedures and that funds were used for the purposes intended. The external auditor will also be required to express a special opinion on payments made from the Special Account opened for the RSF. The audit report on the annual project financial statements and activities of the Designated Account will be submitted to the IDA within six months after the end of each project fiscal year.

22. **FM actions plan.** The action plan below indicates the actions to be taken for the project to strengthen the Project's FM system.

Figure 2.2. ***Flow of Funds***



Note: CAA = Autonomous Amortization Fund (*Caisse Autonome d'Amortissement*); DP = Direct Payment; WA = Withdrawal Application; BCEAO = Central Bank.

Table 2.2. FM Action Plan

Number	Activity/Action	Target Completion	Responsibility
1	Appointment of an FM specialist and an accountant with experience and qualifications satisfactory to the World Bank	Prior to effectiveness	Project Preparation Unit/Word Bank team
2	Prepare a good POM draft including an acceptable Financial and Accounting Manual	Prior to effectiveness	Project Preparation Unit/Word Bank team
3	Customize the existing computerized accounting system to fit project needs and generate useful information and financial statements	Prior to implementation (see MOP)	Project Preparation Unit and PCU
4	Appointment of the external auditor acceptable to IDA	Prior to implementation (see MOP)	PCU/*Chambre des Comptes*
5	Appointment of an internal auditor acceptable to IDA	Prior to implementation (see MOP)	PCU

23. **Fiduciary risks and mitigation measures.** The FM risk assessment and mitigations measures are summarized in Table 2.3.

Table 2.3. Fiduciary Risks and Mitigation Measures

Risk	Risk	Risk mitigation measures	Conditionality	Residual
Inherent Risks:	*S*			***S***
Country level: Poor governance and slow pace of implementation of PFM reforms	S	PFM actions plan in implementation to address the weaknesses identified in PEFA assessment		S
Entity level: The PCU to be set-up within the MEEM has no previous experience in managing IDA projects	S	Qualified and experienced FM staff will be recruited	FMS to be recruited prior to project effectiveness	M
Project level: Misunderstanding of responsibility as the Project involves several stakeholders	S	A POM including FM procedures, internal controls and a clear description of the roles and responsibilities of the various stakeholders will be developed with appropriate trainings	Good POM draft included FM aspects to be available by effectiveness	S
Control Risks:	*M*			***S***
Delays in project budget preparation process	S	Support from the FM specialist		M
Accounting				
Lack of qualified FM specialists and appropriate accounting system	S	An experienced FMS will be recruited and the existing project accounting software will be customized to fit the new project needs	- FMS to be recruited prior to project effectiveness - Accounting software to be customized	M

Risk	Risk	Risk mitigation measures	Conditionality	Residual
Inherent Risks:	*S*			***S***
			prior to implementation - A well-qualified FM officer to be dedicated full time to the Project by the MEEM before effectiveness	
Internal Audit				
Misuse of FM procedures	S	The FM manual will outline approval and authorization procedures with clear segregation of duties. Recruitment of internal auditor.	Recruitment of internal auditor prior to project implementation	S
Funds Flow	S			M
Difficulties in the timely submission of acceptable WA may delay funds mobilization. Risk of fraud and corruption on matching grants operations	S	Government representatives to be involved in replenishment of funds into the Designated Account will be adequately trained prior to project effectiveness. (a) Specific procedures to be set-up for the subsidized concession PPP operations, (b) Training sessions to be provided.		S
Reporting				
Delay and difficulties in preparation of acceptable IFRs and financial statements	S	Support from the FM specialist	Agreement on IFR formats and contents in the POM	M
External Audit				
Project audit reports might be submitted with delay and inacceptable quality. Risk of fraud and corruption on Matching grants and Risk Sharing Facility	S	An independent qualified financial external auditor will be recruited under the oversight of Benin Supreme Audit institution.	Appointment of the external auditor prior to project implementation	S
Overall Risk	**S**			**S**

Note: H = High; S = Substantial; M = Moderate; L = Low.

Disbursements

24. **Disbursement methods and processes. The Autonomous Amortization Fund (Caisse Autonome**

d'Amortissement, CAA) is the assigned representative of the Recipient for the mobilization of IDA funds. Withdrawal application requests will be prepared by the Project's FM Specialist signed by a designated signatory or signatories (the signature authorization letter is signed by the Minister of Finance), and sent to the World Bank for processing. This procedure applies to all World Bank-financed projects in Benin. The Project will submit applications using the electronic delivery tool, 'e-Disbursements', available at the World Bank's Client Connection website/web-based portal. The Authorized Signatory Letter signed by the GoB will include authorization for the designated signatories to receive Secure Identification Credentials (SIDC) from the World Bank for the purpose of delivering such applications by electronic means.

25. Disbursements under the Project will be transaction-based. In addition to making advances to the Designated Account, other disbursement methods (reimbursement, direct payment and special commitment) will be available for use under the Project. Further instructions on the withdrawal of proceeds will be outlined in the disbursement letter and details on the operation of the Designated Account will be provided in the Project Financial and Accounting Manual.

26. With regards to the public subsidies to be paid to support private water supply operators under Component 1, the involved municipalities will handle the overall legal responsibilities in the establishment, management and supervision of the concession agreements. However, the fund flow channel will be simplified by direct payment from the Project Operational Account once due clearances are received from the municipalities in accordance with specific rules to be detailed in the POM.

27. Table 2.4 specifies the categories of eligible expenditures to be financed out of the proceeds of the Credit, the amounts under each category, and the percentage of expenditures to be financed for eligible expenditures in each category.

Disbursement under Component 4 - Contingent Emergency Response:

- Specific eligible expenditures under the category of Goods include: (a) construction materials; (b) emergency water supply and sanitation facilities; (c) petroleum and fuel products; and (d) any other goods items acceptable to the World Bank, and agreed upon between the Borrower and the World Bank;

- Specific eligible expenditures under the category of Works include emergency infrastructure works (repairs, rehabilitation, construction, and so on) to mitigate the risks associated with the disaster for affected populations, and any other Works acceptable to the World Bank, and agreed upon between the Borrower and the World Bank;

- Specific eligible expenditures under the category of Services include urgent studies (technical, social, environmental, and so on), necessary as a result of the effects of the disaster, such as the identification of priority works, feasibility assessments, engineering designs of adequate works, delivery of related analyses, and any other Services acceptable to the World Bank, and agreed upon between the Borrower and the World Bank.

28. Eligible expenses will be detailed in the Emergency Operations Manual.

Table 2.4. Disbursement Categories

Category	Amount of the Financing Allocated (€)	Percentage of Expenditures to be Financed (inclusive of taxes)
(1) Goods, Works, Non-consulting services, Consultants' services, Operating Costs and Training for Parts 1, 2 and 3, except parts 1.1 (c) and 1.2 (a) of the Project	46,500,000	100
(2) Partial Credit Guarantee under Part 1.1 (c) of the Project	1,800,000	100% of amounts disbursed under a Partial Credit Guarantee Agreement
(3) Cash transfers under Part 1.2 (a) of the Project	13,800,000	100
(4) Emergency Expenditures under Part 4 of the Project	0	100
Total Amount	62,100,000	

Procurement

29. The PCU will be responsible for the overall coordination of procurement activities for all components, and directly responsible for procurement under Components 2, 3 and 4. Beneficiary municipalities for water supply activities will be competitively selected, and the beneficiary municipalities' procurement capacity will be a key selection criterion, and consider: (a) the results of the capacity assessment of all 77 municipalities of Benin conducted in 2014 by a consultant hired through the ongoing PSDCC Project; and (b) the annual municipality procurement audit.

30. **Procurement capacity assessment and remedial actions.** An assessment of the capacity of the MEEM to implement procurement activities of the Project was carried out and finalized on May 31, 2016. The assessment reviewed the organizational structure for the implementation of the Project and outlined the main issues and recommendations in the Procurement Risk Assessment Management System (P-RAMS). The assessment revealed that the MEEM has no previous experience in World Bank procurement procedures, and recommended that the PCU be adequately staffed with a recruited Procurement Specialist with specific technical skills in negotiations and with a good understanding of large consultancy contracts. The overall project risk for procurement is rated 'Substantial' before mitigation. Risk mitigation measures were discussed and agreed to with the MEEM, and the residual risk is assessed as 'Moderate' after the adoption of the following measures:

(a) Recruitment before effectiveness of a qualified procurement specialist to be based at the PCU level to supervise all project procurement activities and be responsible for procurement activities under Components 2, 3, and 4; the procurement specialist's terms of reference will be agreed to by IDA;

(b) Creation of a procurement commission in MEEM in line with Decree no. 2010-496 of November 26, 2010;

(c) Preparation of a manual of administrative, financial, and accounting procedures to clarify the role of each team member involved in the Project's procurement process, the maximum delay for each procurement stage, specifically with regard to the review, approval system, and signature of contracts;

(d) Organization of a workshop at the beginning of the Project to train all key stakeholders involved in procurement on World Bank procurement procedures and policies;

(e) Development and implementation of a permanent training program and a certification/qualification system for procurement staff;

(f) Setting up at the PCU level of an adequate filing system in compliance with the World Bank procurement filing manual for the program records. The Project will finance appropriate equipment to support this measure.

31. **Guidelines.** Procurement for the Project will be carried out in accordance with the World Bank's '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, or the World Bank's 'Guidelines: Selection and Employment of Consultants', dated January 2011 and revised in July 2014, the '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 2011, and the provisions of the Financial Agreement. In addition, the guidance note to World Bank staff entitled *Rapid Response to Crises and Emergencies-Streamlined Procurement Procedure (2014)* will be used for Component 4.

32. **Procurement documents.** Procurement will be carried out using the World Bank's Standard Bidding Documents or Standard Requests for Proposal (RFP) respectively for all International Competitive Bidding (ICB) for goods, works and recruitment of consultants. For National Competitive Bidding (NCB), the Borrower will submit a sample form of bidding documents to the World Bank's prior review and will use this type of document throughout project implementation, once agreed upon. The Sample Form of Evaluation Reports developed by the World Bank will be used. In the particular case of procurement under the subsidized concession PPP arrangements (Component 1), the Project will use bidding documents developed under the subsidized concession pilot (see P132114) with support from the IFC, amended with procurement criteria. For certain procurement activities that need rapid responses, especially in emergency situations, the simple sample documents included in the annexes of the World Bank *Rapid Response to Crises and Emergencies-Streamlined Procurement Procedure* guidance note will be used for Component 4.

33. **Advertising.** A comprehensive General Procurement Notice will be prepared by the Borrower and published on the United Nations Development Business (UNDB) website following Board approval, to announce major consulting assignments and any International Competitive Bidding (ICB) processes. The General Procurement Notice shall include all ICB for works, goods and non-consulting services contracts and all large consulting contracts (that is, those estimated to cost US$100,000 or more). In

addition, a specific procurement notice is required for all goods, works to be procured under ICB on the UNDB website. Requests for Expressions of Interest (EOIs) for consulting services expected to cost more than US$100,000 shall also be advertised on UNDB. An EOI is required in the national gazette, a national newspaper or on an electronic portal of free access for all consulting firm services regardless of the contract amount. In the case of National Competitive Bidding (NCB), a specific procurement notice will be published in the national gazette, a national newspaper or on an electronic portal of free access. Contract awards will also be published on UNDB, in accordance with the World Bank's Procurement (paragraph 2.60) and Consultant (paragraph 2.28) Guidelines.

34. **Procurement of goods.** Goods procured under the Project's Components 1, 2 and 3 and estimated to cost US$1,000,000 equivalent or more per contract shall be procured through ICB. To the extent possible and practicable, orders for goods shall be grouped into larger contracts wherever possible to achieve greater economy, at the procuring entity level. Contracts estimated to cost less than US$1,000,000 but equal to or above US$100,000 equivalent per contract may be procured through NCB. Contracts for goods and commodities estimated to cost less than US$100,000 equivalent per contract and contracts for the purchase of vehicles and fuel estimated to cost less than US$500,000 equivalent per contract may be procured using shopping procedures in accordance with paragraph 3.5 of the Procurement Guidelines and based on a model request for quotations satisfactory to the World Bank. Direct contracting may be used in exceptional circumstances with the World Bank's prior approval, in accordance with paragraphs 3.6 and 3.7 of the Procurement Guidelines.

35. **Procurement of works.** Works procured under the Project's Components 1, 2 and 3 and estimated to cost US$10,000,000 equivalent or more per contract shall be procured through ICB. To the extent possible and practicable, works shall be grouped into larger contracts wherever possible to achieve greater economy, at the procuring entity level. Contracts estimated to cost less than US$10,000,000 but equal to or above US$200,000 equivalent per contract may be procured through NCB. Contracts for goods and commodities estimated to cost less than US$200,000 equivalent per contract may be procured using shopping procedures in accordance with paragraph 3.5 of the Procurement Guidelines and based on a model request for quotations satisfactory to the World Bank. Direct contracting may be used in exceptional circumstances with the World Bank's prior approval, in accordance with paragraphs 3.6 and 3.7 of the Procurement Guidelines.

36. **Selection of consultants.** Consultants' services procured under the Project's Components 1, 2 and 3 and estimated to cost US$500,000 equivalent or more will be awarded following the procedure of Quality- and Cost-Based Selection (QCBS). Consulting services estimated to cost less than US$300,000 per contract under the Project will be procured following the procedures of Selection Based on the Consultants' Qualifications (CQS). Selection under Fixed Budget (FBS) and Least-Cost Selection (LCS) methods will be applied in the circumstances as respectively described under paragraphs 3.5 and 3.6 of the Consultant Guidelines. For all contracts to be awarded following QCBS, LCS, and FBS, the World Bank's Standard RFPs will be used. Procedures of Selection of Individual Consultants will be followed for assignments that meet the requirements of paragraphs 5.1 and 5.3 of the Consultant Guidelines. LCS procedures will be used for assignments for selecting the auditors. Single-Source Selection (SSS) procedures will be followed for assignments that meet the requirements of paragraphs 3.10–3.12 of the Consultant Guidelines and will always require the World Bank's prior review regardless of the amount.

37. Consultancy assignments estimated to cost the equivalent of US$100,000 or more as well as

engineering design and supervision contracts estimated to cost the equivalent of US$300,000 or more will be advertised for EOIs on UNDB and the World Bank's external website through Client Connection, and in at least one newspaper of wide national circulation. In addition, EOIs for specialized assignments may be advertised in an international newspaper or magazine. In the case of assignments estimated to cost less than US$100,000 for consultancy assignments and US$300,000 for engineering design and supervision contracts, the assignment will be advertised nationally. The short list of firms for assignments estimated to cost less than US$100,000 for consultancy assignments and US$300,000 for engineering design and contract supervisions may be made up entirely of national consultants. However, foreign consultants who wish to participate should not be excluded from consideration.

38. **Operational costs.** These costs consist in incremental expenses arising under the Project and based on PTAs and budgets approved by IDA. Such costs may include office rent and maintenance; utilities (including electricity, water and gas); communications (including telephone and Internet charges); equipment rentals, operation and maintenance; office materials and supplies (stationery and other consumables, but not the purchase of equipment); lease of vehicles, operation, maintenance, and repair; and travel and transport costs for staff associated with project implementation. These items will be procured by using the procedures detailed in the manual of procedures, which was reviewed and found acceptable to the World Bank.

39. **Capacity building, training programs, workshops, seminars and conferences.** A number of targeted trainings and workshops are anticipated under the Project to build capacity of implementing agencies to ensure efficient implementation, provide the required knowledge, as well as ensure sustainability of project activities. All training and workshop activities will be carried out based on approved annual programs that will identify the general framework of training activities for the year and approved terms of reference, including: (a) the type of training or workshop; (b) the personnel to be trained; (c) the selection methods of institutions or individuals conducting such training; (d) the institutions that will conduct the training; (e) the justification for the training and how it will lead to effective performance and implementation of the Project and or sector; (f) the duration of the proposed training; and (g) the estimated cost of the training. A report by the trainee upon completion of training will be required. All trainings, terms of reference of contracts estimated to more than US$10,000 will be subject to IDA prior review.

40. **Procurement prior review thresholds.** The procurement plan shall set forth those contracts that shall be subject to the World Bank's prior review. All other contracts shall be subject to post review by the World Bank. However, relevant contracts below prior review thresholds listed in table 2.5, which are deemed complex and/or have significant risk levels, will be subject to prior review. Such contracts will also be identified in the procurement plans. A summary of prior review and procurement method thresholds for the Project is given in Table 2.5. All terms of reference for consultant services, regardless of contract value, shall also be subject to the World Bank's prior review.

41. **Revision.** The prior review thresholds and other measures to be taken to mitigate procurement risk should be reevaluated once a year with a view to 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 measure of both types of thresholds, ICB and prior review, may be required by IDA.

Table 2.5. Thresholds for Procurement Methods and Prior Review

Expenditure Category	Contract Value (threshold) (US$)	Procurement Method for Components 1, 2, and 3	Contract Subject to Prior Review (US$)	Procurement Method for Component 4
1. Works	≥10 000,000	ICB	All contracts	
	<10,000,000	NCB	None	
	<200,000	Shopping	none	Shopping for simple works with contract value <US$1,000,000
	No threshold	Community Contracting	None	
2. Goods	≥1 000,000	ICB	All contracts	
	<1 000,000	NCB	none	
	<100,000 for goods and commodities	Shopping	none	Shopping for goods with contract value <US$500,000
	<500,000 for fuel and vehicles	Shopping	none	
	No threshold	Direct contracting	All contracts	
3.Consultancy	≥500,000	QCBS	All contracts of 500,000 and more	
	<300,000	QCBS; LCS; CQS; Other	none	CQS for Consultant with contract value <US$300,000
	≥200,000	IC	All	
	<200,000	IC	none	
	No threshold	Single Source (Selection Firms and Individuals)	All contracts	
4. Training	Annual Plan		All Training	
All TORs regardless of the value of the contract are subject to prior review				

Note: QBS = Quality-Based Selection; CQS = Selection Based on the Consultants' Qualification (for contracts below US$100,000); SSS = Single-Source Selection; IC = Selection of Individual Consultants.

42. **Procurement plan.** A Procurement Plan for the first 18 months of project implementation has been prepared and approved. During implementation, the procurement plan will be updated in agreement with the project team as required, at least annually, to reflect actual project implementation needs and improvements in institutional capacity. It will be available in the Project's database and a summary will be disclosed on the World Bank's external website once the project is approved by the World Bank's Board of Directors.

43. **Frequency of procurement reviews and supervision.** In addition to prior reviews to be carried out from IDA offices, the capacity assessment recommended two field supervision missions and at least one procurement post review per year. The procurement specialist in the Benin Country Office will provide continuous support to implementing agencies. Independent procurement reviews will be carried out if necessary.

Environmental and Social (including safeguards)

44. The Project is rated 'Category B' because proposed interventions (small to medium scale civil works) are not likely to result in significant negative impacts. This is mainly due to the limited scale of the interventions, their dispersed locations, and the nature of the potential impacts, which are easily identifiable, mostly temporary and easily mitigated with known management techniques. Two safeguard policies were triggered to ensure the appropriate mitigation of the aforementioned issues, namely OP 4.01 on Environmental Assessment and OP 4.12 on Involuntary Resettlement. The overall impact of the project is substantially positive due to improvement of sanitation and living conditions in the intervention areas.

45. **Involuntary Resettlement (OP/BP 4.12).** Since project locations at this stage are not known with utmost certainty, a Resettlement Policy Framework (RPF) was prepared, consulted upon and disclosed in-country and at the Infoshop on August 19 and September 1st, 2016 respectively. Site-specific Resettlement Action Plans (RAPs) or Abbreviated Resettlement Action Plans (ARAPs) will be prepared if and when necessary during the implementation phase. These will be reviewed, approved and disclosed in-country and at the Infoshop prior to the commencement of civil works.

46. Due to the works planned under the Project, mainly the implementation of Components 1 and 2, there will likely be some land acquisition, as well as temporary restrictions in access to neighborhoods and homes. Temporary population displacement could also occur during project implementation. These impacts are addressed through the RPF, which will guide the preparation of any potential RAPs during project implementation. Positive impacts include health improvements associated with clean drinking water, reduction in diseases related to the inadequate disposal of fecal matter, as well as increased security with women benefitting from household connections (as opposed to having to walk certain distances to obtain drinking water).

47. The RPF includes the guidelines and procedures for compensation and/or resettlement in the event that future activities under the Project should require land acquisition, involuntary resettlement or cause restriction of access to livelihoods or assets and resources. The RPF contains: (a) an assessment of the country regulatory and institutional framework for land acquisition and compensation, including a gap analysis; (b) likely categories of affected assets and parties, including an entitlement matrix, as well as the potential scope of impacts; (c) a compensation framework consistent with OP 4.12 and the national legislation; (d) measures to assist vulnerable groups; (e) a consultation framework to enable the participation of affected populations in the preparation of specific resettlement plans; (f) an institutional framework to implement the resettlement policy framework; (g) a grievance redress mechanism; and (h) a monitoring and evaluation framework and budget.

48. **Environmental Assessment (OP/BP 4.01).** Since project locations at this stage are not known with utmost certainty, an Environmental and Social Management Framework (ESMF) was prepared,

consulted upon and disclosed in-country and at the Infoshop on August 19 and September 1st 2016, respectively. Site-specific Environmental and Social Management Plans (ESMPs) will be prepared as and when necessary during the implementation phase. These will be reviewed, approved and disclosed in-country and at the Infoshop prior to the commencement of civil works.

49. Potential environmental impacts have been identified in the ESMF and appropriate mitigation measures will be inserted into the site-specific ESMPs at the appropriate time during implementation. The impacts on a minor scale include air and dust emissions, noise and vibration, disposal of construction wastes and public safety/health concerns, water contamination and sludge/fecal matter disposal. Positive impacts include improved water quality and access to clean water in rural areas and small towns, through the professionalization of water supply service delivery, as well as improved levels of fecal sludge treatment, and hygiene and sanitation conditions, in urban and peri-urban areas of the Grand Nokoué Region.

50. At any time when necessary, MEEM will consult project-affected groups and local authorities on the Project's environmental and social aspects, and will take their views into account. The Project Team will initiate these consultations as early as possible and to ensure meaningful consultations with a wide range of stakeholders to ensure inclusiveness, will provide relevant material in a timely manner prior to consultation, in a form and language(s) that are understandable and accessible to the groups being consulted.

51. **Institutional arrangements for the implementation of the ESMF and RPF:**

- The PCU will be accountable for the implementation of the project safeguard instruments with the support of the DSPER, DNSP, SONEB and the DA. As such, it shall hire and maintain a specialist in environmental and social safeguards as part of its staff, and will coordinate the resettlement process;

- The Benin Environmental Agency (ABE) will be in charge of monitoring the implementation of environmental measures and will conduct periodic capacity building events (continual training) for municipality staff. This agency will also be in charge of validating resettlement documents and of corresponding periodic monitoring;

- The local private sector shall follow and implement the environmental and social requirements as recommended in the corresponding studies and documents;

- The mayors of beneficiary municipalities shall implement their own plans with regards to environmental and natural resources management in accordance with national laws and policies. The Project will be carried out in municipalities in compliance with the institutional mechanisms which guarantee the participation of their communities.

52. **Staffing.** The PCU's safeguards specialist will be trained in the World Bank's safeguard policies' implementation requirements and the World Bank Team's environmental and social safeguard specialists will provide guidance to the PCU and the MEEM. During project implementation support missions, the World Bank Team will assess the implementation of the safeguard documents and recommend additional strengthening, if required. The safeguards documents, along with the requisite

attachments, will be shared directly with the involved stakeholders, including ministries (MCVDD, Ministry of Health), as well as concerned private entities and development partners involved with the Project.

Monitoring and Evaluation

53. The PCU, with support from the MEEM's relevant departments and ministries, will monitor and evaluate project performance based on the results framework. Financing will be made available under Component 1 for capacity building in M&E for DSPER, and for other partners if deemed necessary.

54. The overall responsibility for M&E will lie with the PCU, which will consolidate all reports and provide the necessary outputs with support from each technical thematic group, as well as from OPs, NGOs and independent consultants, as required. Specific coverage and service level baselines for the selected communities for small town water supply will be completed during the selection process, and data from the Urban Sanitation Masterplan for the Grand Nokoué region will be used to define the baseline for urban sanitation activities. In addition, the Project will finance WSS services beneficiary surveys at mid-term and at project closure.

Box 2.1. mWater™: What it is and How it Works

mWater™ is a 'mobile-to-web' technology platform that can be used for three different type of services:

- Asset inventory and mapping (from water network inventory to user mapping);
- Management of water services to optimize operational efficiency; and
- Monitoring water services, via a web platform accessible to asset owners (municipalities) and other authorized parties (central government).

mWater™ services will be contracted to improve asset knowledge (so as to enable sound investment decisions) for different types of users: municipalities and the central government or OPs looking to improve the management of piped water systems, particularly through increased responsiveness to maintenance needs and regulatory authorities.

mWater™ first requires that water systems be geo-referenced, and automatically registers the amount of bulk water that is produced in each system. Using their mobile phones, the OPs' staff enter operational data through the platform, including crucial information from meter readings and maintenance work carried out. This data is instantly accessible and visible to authorized users via the web platform. In addition, mWater™ enables the generation of activity reports that OPs are required to submit to municipalities on a monthly basis. These reports can be generated 'with a simple click' if the data is entered correctly and regularly, and include the calculation of monthly fees and charges owed by the OP to the municipality. This technology comes with a business-to-business cost model agreed upon by the stakeholders during a pilot supported by WSP.

55. One of the key M&E issues that will be tackled by the Project is improving the national monitoring framework for the rural water supply sector, which has opted to use the mWater™ mobile phone technology platform (see Box 2.1) to: (a) facilitate the monitoring of OPs through a shared data platform accessible by municipalities, the DSPER or OPs; and (b) harmonize reporting tools so as to enable stronger monitoring at the local (municipality) and central levels (DSPER). In the framework of this project, the uses of mWater™ will be extended to improving asset knowledge (inventory and water

network cartography), as well as technical and financial management for a total of 500 piped water systems in the country.

56. Monitoring of environmental and social safeguards will be conducted by the PCU. In addition, the Project's M&E system will be fed by progress reports from the PCU and data will be reviewed by frequent World Bank implementation support missions. Progress reports will also include information on procurement, contracts, disbursements, FM, beneficiaries, and other outputs. Annual independent audit reports will be prepared to monitor use of funds and physical progress. Details on M&E arrangements, including M&E responsibilities, data collection requirements and frequency will be provided in the Project Operations Manual (POM).

57. Support will be brought to project stakeholders to create M&E frameworks that can go beyond the Project's timeline and activities, in particular for: (a) SONEB's sanitation-related activities and assets; (b) the DA's reorganization and regulation of the urban sanitation service chain; and (c) the DNSP's sanitation and hygiene communication and awareness campaigns and activities. The Project will also use and contribute to the results frameworks included in the 2016–2018 ministerial programmatic budgets (BPOs) and medium term expenditure frameworks developed by the ministries responsible for water, sanitation and hygiene promotion and approved in October 2015, as well as participate in annual sector reviews to update them.

Role of Partners (if applicable)

58. Table 2.6 summarizes the focus of the main financial and technical partners in the WSS sector in Benin, which illustrates the gaps in urban sanitation and rural water supply which the proposed project seeks to address, in complementarity with the programs from other partners. Meetings with these partners during implementation support missions will be essential to coordinating activities and ensuring consistency in the approaches implemented in urban sanitation and rural water supply.

Table 2.6. Technical and Financial Partner Programs in the Benin WSS Sector

Technical and Financial Partner	Urban/Peri-urban Water	Urban/Peri-urban Sanitation	Rural and Small Towns Water	Rural and Small Towns Sanitation
African Development Bank (ADB)	Infrastructure and technical assistance, mostly with SONEB (national level)	—	—	—
European Investment Bank (EIB)	Infrastructure and technical assistance, mostly with SONEB (large cities)	—	—	—
German Development Bank (KfW)	Infrastructure and technical assistance, mostly with SONEB (national level)	Financing for the construction of an FSTP in the Grand Nokoué Region (Cotonou-Ouest)	—	—
German Cooperation	Technical	—	—	—

Technical and Financial Partner	Urban/Peri-urban Water	Urban/Peri-urban Sanitation	Rural and Small Towns Water	Rural and Small Towns Sanitation
for International Development Agency (GiZ)	assistance with SONEB and MEEM			
Embassy of Netherlands	Infrastructure with SONEB (national level)	—	Infrastructure and technical assistance with communes, and integrated water resources management	Public sanitation infrastructure and technical assistance to sector and communes
UNICEF	—	—	—	Public sanitation infrastructure and technical assistance to communes (CLTS)
Water Supply and Sanitation Collaborative Council (WSSCC)	—	—	—	Technical assistance to communes (CLTS and hygiene promotion)
West African Development Bank (BOAD)	Infrastructure with SONEB (national level)	—	—	—
NGOs (Helvetas, Protos, and so on)	—	—	Infrastructure and technical assistance to communes	Public sanitation infrastructure and technical assistance to communes

ANNEX 3: IMPLEMENTATION SUPPORT PLAN

COUNTRY : Benin
Small Town Water Supply and Urban Septage Management Project

Strategy and Approach for Implementation Support

1. The strategy for World Bank Project Implementation Support reflects the nature of the Project and its risk profile (outlined in the Project SORT) and aims to enhance the quality of GoB's delivery of proposed project interventions. The implementation support focuses on risk mitigation measures identified in the PAD and standard World Bank supervision (including technical, institutional, environmental and social safeguards) and fiduciary aspects (financial management and procurement).

Implementation Support Plan and Resource Requirements

2. Quarterly implementation support missions (including field visits to investments financed under Components 1 and 2) will concentrate on the following areas:

(a) **Strategic**. To the extent possible, implementation support missions will meet with the PCU, MEEM, SONEB, CePEPE/FONAGA, the DA and the DNSP, and other financial and technical partners to: (i) review project activities; (ii) reconfirm strategic alignment of the Project's multi-sector aspects; and (iii) ensure the necessary coordination across respective stakeholders;

(b) **Technical**. Implementation support will concentrate on the implementation of the institutional strengthening, capacity building and works with regards to Components 1 and 2, as well as on ensuring the PCU's ability to provide quality assurance for project interventions. Regular field visits will serve to verify compliance with the Project Operations Manual (POM) and encourage adjustments to project design, as needed, given results on the ground. The World Bank technical support team may be supplemented with additional technical support as needed, on a short-term basis by short-term external technical experts. Ongoing support by World Bank specialists for monitoring and evaluation as well as contracted evaluation expertise, as needed, will strengthen the PCU's and the technical thematic groups' ability to both monitor project progress and assess the impact of interventions. The World Bank team will review technical inputs including terms of reference and bidding documents to ensure adequate technical specifications. In addition, support on procurement aspects will ensure proper preparation of requests for proposals, bidding documents, and eventual evaluation of bids and proposals;

(c) **Safeguards**. The World Bank worked with and advised the GoB on the preparation of (and later consultation for) the social and environmental safeguards instruments for the proposed project. This support will continue throughout project implementation with regard to the investments financed under the Project. The World Bank also worked closely with the Client's team during preparation and consultations will take place during project implementation. The Project is required to fully implement the project environmental, social and health and safety management plans/systems and environmental and social

requirements in the POM;

(d) **Fiduciary**. The World Bank evaluated the financial management (FM) and procurement capacity of the PCU to take on its project fiduciary responsibilities, the results of which are presented in Annex 2. In addition, based on the outcome of the FM risk assessment, the following implementation support plan is proposed (see Table 3.1). The objective of the implementation support plan is to ensure that a satisfactory FM system is maintained throughout the Project's life.

Table 3.1. FM Implementation Support Plan

FM Activity	Frequency
Desk reviews	
Review of Interim Financial Reports	Quarterly
Review of project audit report	Annually
Review of other relevant information such as interim internal control systems reports	Continuous as they become available
On site visits	
Review of FM system overall operation	Twice per year (during implementation support missions)
Monitoring of actions taken on issues highlighted in audit reports, auditors' management letters, internal audit and other reports	As needed
Transaction reviews (if needed)	As needed
Capacity building support	
FM training sessions	During implementation and as and when needed

(e) **Client relations**. The Task Team Leader(s) will: (i) coordinate World Bank implementation support to ensure consistent project implementation, as specified in the legal and Project OM; and (ii) meet regularly with the Client's senior representatives (that is, Project Coordinator, MEEM, SONEB, DA and DNSP Directors, as well as with line ministry representatives) to gauge project progress (including the mid-term review) in achieving the PDO and address implementation roadblocks, as they may arise.

What would be the main focus in terms of support to implementation during:

Time	Focus	Skills Needed	Resource Estimate	Partner Role
First twelve months	Establishment and Training of PCU in planning, M&E, procurement and FM	TTL, Procurement and FM specialists	4 staff weeks for each	-
12–48 months	(a) Support the MEEM and the municipalities in preparing and launching the PPP transactions (b) Support the DNSP in	TTL, Institutional Specialist, Sanitation Specialist, Behavior Change	4 staff weeks for each per FY	For (a): the Project will explore the use of previous collaboration arrangements

Time	Focus	Skills Needed	Resource Estimate	Partner Role
	the preparation and launch of results-based contracts for sanitation marketing and BCC activities in urban areas (c) Support the DA in preparing in the preparation of results-based contracts for the fecal sludge emptying and transport services in urban areas (d) Support SONEB in the preparation of sanitation infrastructure bidding documents	Specialist and PPP Specialist		with the IFC which brings a track record of closing PPP transactions in Benin For (a), (b) and (c): the Project will engage with the local private sector before, during and after contracts have been launched to ensure that potential operators have a good understanding of their role in water supply and sanitation, but also that the Project caters to their capacity, as well as training needs

Skills Mix Required (staff weeks and trips per FY)

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task Team Leader(s) (Supervision)	8	4	HQ- and Country-based
Institutional Specialist	4	2	HQ-based or other region
Sanitation Specialist	4	2	HQ-based or other region
Behavior Change Specialist	2	2	HQ-based or other region
PPP Specialist	4	2	HQ-based or other region
Procurement Specialist	3	2	Country-based
Financial Management Specialist	3	2	Country-based

Skills Mix Required (staff weeks and trips per FY)			
Environmental Specialist	3	2	HQ-based or other region
Social Specialist	3	2	HQ-based or other region
Gender Specialist	2	2	HQ- or country-based
Citizen Engagement Specialist	2	2	HQ-based or other region
Legal Counsel	3	1	HQ-based
Technical Experts	4	4	HQ-based or other region

Partners

Name	Institution/Country	Role
Client	Ministry of Economy and Finance	Project Counterpart, overall responsible for Project implementation, in compliance with agreements spelled out in Financing Agreement coordinating the GoB's support for the Project Participate in the Steering Committee
Water and Sanitation Partners (see also Table 3.2)	MEEM, SONEB, DNSP and DA	Responsible for execution of project components
Project Partner Institutions (Governmental)	MCVDD, Ministries of Health, Economy and Finance, Decentralization and Local Governance	Participate in the Project's Steering Committee
Local Institutions and Authorities	Local authorities at the municipal level, both for rural water supply (municipalities to be selected) and urban sanitation (municipalities in the Grand Nokoué Region, that is, Cotonou, Abomey-Calavi, Porto Novo and Sémé-Kpodji)	Key actors in promoting and supporting project interventions, as well as in participatory and decision-making mechanisms supported in the Project
World Bank and other financial and technical partners (see also Table 2.6)	ADB, EIB, KfW, GiZ, Embassy of Netherlands, UNICEF, WSSCC, BOAD	Ensure coordination so that financed programs complement one another with regard to sectors of intervention, geographical areas of intervention, timeline and sequencing, and so on to leverage development impacts

Partners		
Private sector partners	TBD	Commercial partners to support project implementation, WSS systems operation (including investments for rural water supply) and supervision of works
NGOs	TBD	Non-governmental partners to support project implementation, particularly with regards to citizen engagement in rural water supply, and sanitation and hygiene promotion in urban sanitation

ANNEX 4: ECONOMIC AND FINANCIAL ANALYSIS

COUNTRY : Benin
Small Town Water Supply and Urban Septage Management Project

1. The Economic Analysis Section of this annex aims to assess the efficiency of project activities. The Financial Analysis Section aims to assess the Financial Internal Rate of Return (FIRR) of the water supply activities, both from the rural water supply sector's perspective and from the perspective of private operators.

A. Economic Analysis

2. **Methodology and scope.** The economic analysis consists of: (a) a cost benefit analysis (CBA), which is carried out for water supply activities related to Component 1 (Scaling up the Small Town Water Supply Subsidized Concession Model); and (b) an efficiency analysis of the sanitation activities. Due to the framework nature of the rehabilitation and expansion of water supply systems targeted in Component 1, the CBA relies on the outcome of the pilot concessions that were awarded in 2014. The efficiency analysis of the sanitation activities relies on various tools, including: (a) the analysis of the cost-effectiveness of the urban and peri-urban septage collection and treatment infrastructure to be constructed under the project; and (b) a CBA of the improvement of on-site household facilities, which is expected to result from the total sanitation and sanitation marketing campaigns, and carried out from the households' perspective. The economic analysis encompasses about 58 percent of the total project costs.

Water Supply

3. The CBA is carried out over a 25-year period, using constant prices and excluding taxes and transfer payments. A discount rate of 6 percent is used in the net present value (NPV) calculations. This value is in line with recommendations of the Sustainable Development Vide Presidency (GGSVP) and consistent with the growth rate of Benin's GDP per capita.

Table 4.1. Investment Costs for Economic Analysis

Activities	Unit Cost (US$, thousands)	Quantity	Total Cost (US$, thousands)
Rehabilitation and expansion of water	87,719	180	15,790
• Subsidy (80%)	70,175	180	12,632
• PO contributions (20%)	17,544	180	3,158
Design, supervision	8,772	180	1,579
Water meters	35	20,000	700
Subtotal			17,369
Preparation of transactions (local	200,000	6	1,200
Oversight (international consultants)		Lump	400
Subtotal			1,600
Total			18,969

Source: Pilot concession transactions and World Bank estimates.

4. **Investment costs.** The investment costs associated with water supply include: (a) the full cost of the rehabilitation and expansion of the water supply systems (project-financed subsidies and contributions of the POs); (b) the costs associated with the preparation and oversight of the transactions; (c) design and works supervision; and (d) the costs of water meters provided under the project. The average cost of the rehabilitation/expansion works is drawn from the costs observed in the pilot concessions (CFAF 50 million per system). The direct transaction costs (preparation of bidding documents) are estimated at US$400,000 per annual cycle of transactions. Each cycle comprises 12 clusters of 5 systems, which would be awarded to 6 local consultants (10 systems per consultant). The cost of the international consultant overseeing the process is estimated at US$400,000.

5. **Supply sources and water demand.** The estimates of daily water consumption are drawn from the due diligence studies carried out prior to the pilot concession transactions. It is assumed that each new connection would serve three households of eight people, who were previously supplied by standposts. The daily per capita consumption of the household of the connection's owner is higher than the one of the other households supplied by the connection. Each new standpost is assumed to supply about 200 people. The estimates are given in Table 4.2.

Table 4.2. Supply Sources and Water Demand

Supply source	*Without project*	*With project*
Standpost	5 lpcd	5 lpcd
New private connection:		
Owner's household	5 lpcd	20 lpcd
Other households supplied by the connection	5 lpcd	15 lpcd

Source: Due diligence studies and World Bank estimates.

6. **Water benefits.** Water benefits are the benefits accruing to the actual project beneficiaries, which consist of: (a) a proxy of the value of water consumption of the additional population obtaining access to improved water sources; (b) the surplus accruing to (previously unconnected) beneficiaries; and (c) the cost savings resulting from the rehabilitation of facilities.

7. The proposed project's water supply works essentially consist of rehabilitation/expansion of existing piped systems, and most beneficiaries would be supplied through household connections. Therefore, following the practice used in urban water supply projects, the best proxy for the value of piped water is the actual water tariff. The weighted average of the tariffs of the 10 systems of the pilot concessions, which vary from CFAF 420 to CFAF 600 per m^3amounts to CFAF 526 per m^3. The water consumed at standposts is valued at CFAF 25 per bucket of 30 liters (CFAF 825 per m^3).

8. The consumer surplus is equal to the increase of water consumption multiplied by the difference of the water price paid before and after the project and by the price elasticity (0.5). It is assumed that each new connection would serve three households of eight people, who were previously supplied by standposts. As mentioned above the daily per capita consumption of the household of the connection's owner is higher than the one of the other households supplied by the connection. Table 4.3 summarizes the computation of the consumer surplus generated by a new connection.

9. The rehabilitation would also generate energy cost savings. The review of the pumping and power equipment of the existing schemes, which was carried out as part of the due diligence of the pilot

concessions, showed that half of the systems were equipped with pumps or diesel groups un-fitted to the characteristics of the boreholes. Substantial savings (from 30 to 50 percent of energy costs) could be achieved by optimizing the selection of pumps and diesel groups as part of the rehabilitation process. On average, the energy savings are estimated to about CFAF 26 per m^3 produced.

Table 4.3. Consumer Surplus per Connection

	Unit	Without Project	With Project
		Standpost	Connection
Cost/m^3	CFAF	825	526
HH Monthly consumption:			
Owner's HH	m^3	1.22	4.87
Other HH		1.22	3.65
Average monthly cost:			
Owner's HH	CFAF	1,004	2,560
Other HH		1,004	1,920
Monthly surplus per connection	CFAF		1,273
Annual surplus per connection	CFAF		15,279

Source: Due diligence studies.

10. **Incremental costs.** The average operating costs of the water systems were estimated on the basis of the information provided by MEEM and in the due diligence studies of the pilot concessions. The energy costs are the average costs after the replacement of pumping equipment (see above). The due diligence also found that the installation of chlorination equipment would not be a sustainable option and that an adequate quality of water could be achieved through weekly disinfections of the water storage tanks with hypochlorite. Incremental costs will thus be as follows:

- Energy costs (including periodic maintenance of diesel groups): CFAF 134 per additional m^3 produced;
- Treatment costs: CFAF 3,000 per month per system;
- Network maintenance costs: CFAF 10 per additional m^3 produced;
- Staff and commercial costs: CFAF 2,000 per new connection per year and CFAF 50 per m^3 sold at standposts;
- Monitoring costs (MEEM): CFAF 20,000 per month per system.

11. **Results.** The economic internal rate of return (EIRR) is estimated at 13.8 percent. The net present value (NPV) of the project's water benefits and costs is estimated at US$14.6 million, with a 6 percent discount rate. As the project activities are restricted to rehabilitation and expansion of distribution facilities the calculation of the long-term marginal cost of water would not provide meaningful results.

12. **Sensitivity Analysis.** A range of scenarios has been developed to test the sensitivity of the EIRR to the main elements of the cash-flows. The variables tested for the sensitivity analysis were: (a) investment costs; (b) operations and maintenance costs overrun; and (c) water demand. The outcome of the scenarios is given in Table 4.4 below, which also provides the switching values of the variables.

Table 4.4. Results of the Sensitivity Analysis

Scenario	*EIRR*	*NPV@6% (US$, millions)*	*Switching Value*
Base scenario	13.8%	14.6	
Investment cost increase 20%	11.4%	11.6	97.8%
O&M cost increase 20%	12.6%	5.4	123.4%
Overall demand decrease 20%	9.1%	7.2	31.7%
Combined investment and O&M cost increase 10% and demand decrease 10%	9.8%	7.3	

13. The switching values show that the results are robust when CAPEX or OPEX increase. They are much more sensitive to the variation of water demand. Given the relatively low level of the per capita daily consumption that was assumed in the base case, a weak demand response to the project activities is unlikely.

Sanitation

14. **Linkage with the Urban Sanitation Masterplan.** The proposed activities derive from the recent Masterplan covering the *Grand Nokoué* region. The Masterplan helped: (a) differentiate areas respectively suitable to on-site sanitation (*Abomey-Calavi* and the northern part of *Porto-Novo*), and to conventional and condominial sewerage (most of *Cotonou* and *Sémé-Kpodji*); and (b) set investment priorities. The Masterplan gave the highest priority to: (a) the establishment of a functional sludge service chain, including the construction of two FSTPs by 2017 (one in *Cotonou-Ouest* to be financed by of the German cooperation and one for *Cotonou-Est* and *Sémé-Kpodji*, to be financed by the proposed project); and (b) the quick elimination of critical pollution spots where concentrated raw septage is dumped on the beach, including the *Cité Nouvelle* building development, which is proposed to be financed by the project. The Masterplan also emphasized that the improvement of the sludge service chain and the adequate functioning of the FSTP will be contingent upon the improvement of the on-site sanitation household facilities (pit latrines and septic tanks), most of which are not built to standards (leaking septage and being prone to overflows when the water table rises in the rainy season).

15. **Tools of the efficiency analysis.** Whereas the health, sanitary and environmental benefits of Component 2 of the proposed project (Improving the Septage Infrastructure and Service Chain) are unquestionable, their impact may not be easily quantified (now and at project completion) separately of other ongoing and future WSS and health programs. The efficiency of the activities of Component 2 would therefore be assessed as follows:

- Activities related to the construction of infrastructure (FSTP and semi-collective sanitation of Cité Nouvelle) are assessed through cost-effectiveness/cost-minimization analyses

- Activities supporting the improvement of on-site sanitation activities are assessed through a CBA carried out from the household perspective.

16. **Cost-effectiveness analysis.** The selection of the sanitation option retained by the WMP, which gives priority to the containment of sludge, is mostly dictated by the hydrogeological conditions (soil and water table levels), and reinforced by the fact that the full disposal of greywater would entail sewerage investments in the order of US$400 million, out of range of the available financing. In this context the estimated cost of the *Cotonou-Est* FSTP (about US$14.4 million), which is designed to serve about 615,000 people appears commensurate with the recent investments in similar facilities in the subregion. The unit cost of the Cotonou FSTP amounts to US$23 per capita, whereas unit costs of US$18 to US$25 were observed in Senegal and Burkina Faso.

17. The investment contemplated for eliminating the *point noir* of Cité Nouvelle is estimated at US$2.60 million, including a wastewater treatment plant (WWTP) with a cost of US$2.04 million. With a served population of only 1,200 people, this leads to a per capita cost in excess of US$2,150, which is four or five times higher than the usual unit cost of conventional sewerage and treatment in the subregion. This very high cost may be explained by the site conditions, which dictate a costly treatment process, and prevent connecting additional developments to the WWTP. Actually, the alternative option for eliminating this black spot, which would consist of relying on collective septic tanks, would be even costlier when considering the emptying costs associated with a permanent disposal of effluents. The construction of the WWTP is also justified as: (a) representing a first opportunity for SONEB to be involved in wastewater treatment; and (b) offering the possibility of testing a pilot treatment option to be replicated to other areas close to the sea with severe site constraints. However, it would be advisable to review the possibility of replication against the feasibility of the construction of a larger plant in a more suitable site and using a less costly treatment process combined with the laying of a sewer interceptor, to serve a greater population.

18. **CBA of improved on-site facilities.** The potential benefits accruing to households improving their existing on-site facilities or constructing improved on-site facilities for new homes result from the reduced frequency of emptying their pit latrines or septic tanks. The associated cost is the cost of the replacement of the existing facility or the cost difference between a substandard facility and an improved facility (in the case of a new construction). The assumptions, based on the data gathered in the WMP are given in Table 4.5.

Table 4.5. Household Facilities: Construction Costs and Emptying Costs

Type of HH Facility	*Construction Cost (CFAF)*	*Emptying Frequency (No. per year)*	*Emptying Cost (CFAF)*	
			Unit Cost	**Annual Cost**
Pit latrine				
Substandard pit latrine	100,000	2.0	25,000	50,000
Improved (lined) pit latrine	200,000	0.5	44,500	22,250
Septic tank				
Substandard septic tank	500,000	4.0	30,000	120,000
Improved (lined) septic tank	934,000	0.2	44,500	8,900

Source: Urban Sanitation Masterplan.

19. **Results.** The calculations of the internal rate of return, from the households' perspective are carried out over a 15-year period for each type of facility and in the two situations (replacement of existing facility or new construction). The results are given in Table 4.6.

Table 4.6. Results of the CBA

Type of HH facility	*Internal Rate of Return*
Pit latrine	
Replacement of existing facility	11%
New construction	27%
Septic tank	
Replacement of existing facility	8%
New construction	25%

B. Financial Analysis

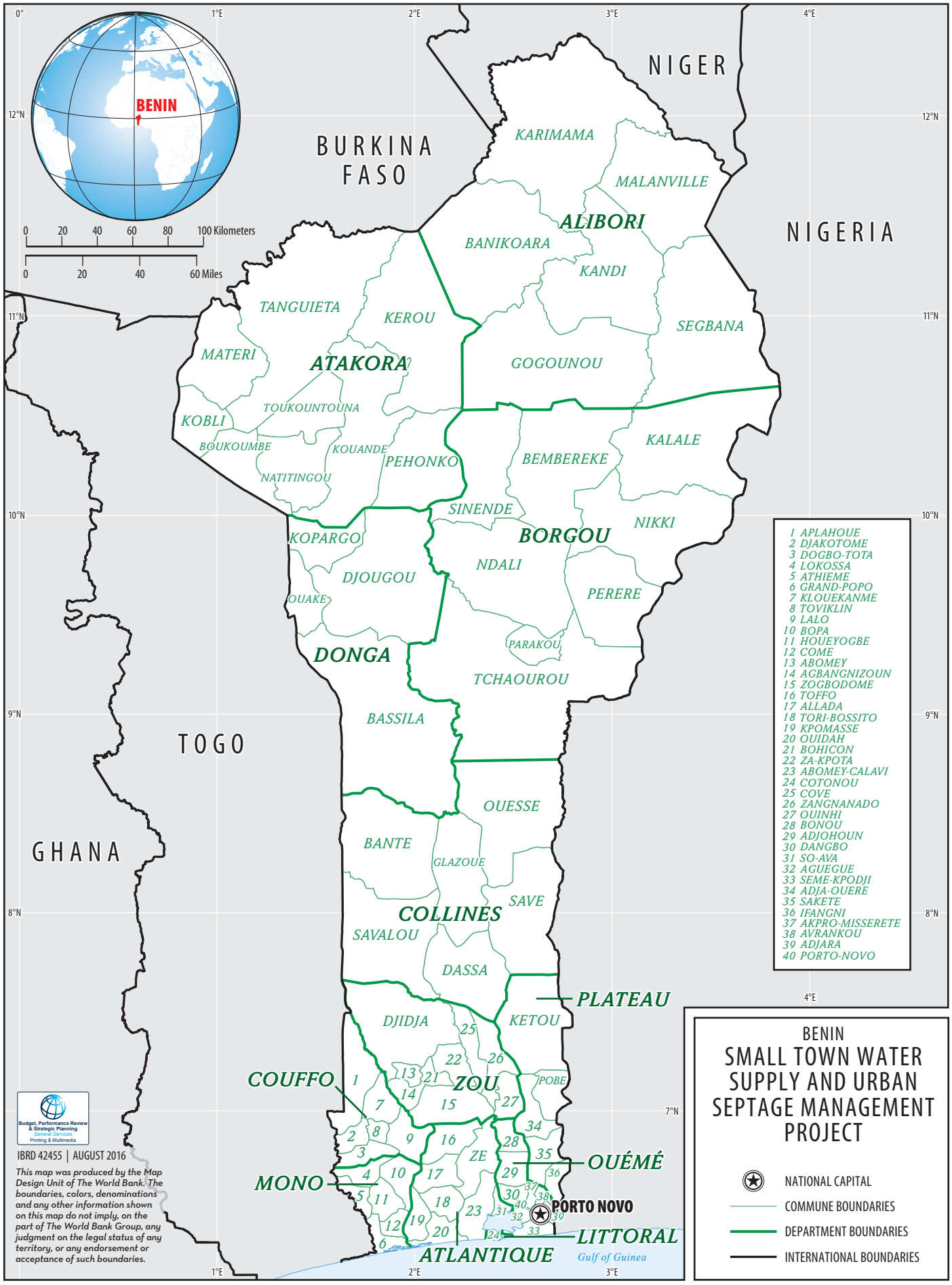
20. **Global assessment.** The financial impact of the water activities of the proposed project is assessed by the FIRR derived from the CBA. The analysis is carried out from the perspective of both the public stakeholders and professional operators (OPs). Financial calculations consider the financial revenues and costs in the with/without project situations, including taxes and excluding non-cash generating benefits (cost savings and consumer surplus). The FIRR is estimated at 9.4 percent.

21. **Private operators' perspective.** When carried out from the private operators' perspective, the analysis takes into account the following elements:

- Investment and financial costs: the investment costs consist of the PO's contribution to the rehabilitation expansion works (excluding the public subsidy and the transaction costs). The contribution is assumed to be financed from a mix of equity funds (30 percent) and commercial loans (70 percent) with a 8 percent interest and a five-year repayment period, including a grace period of two years

- Operating costs include: the incremental operating costs that were considered in the economic analysis plus a provision for fixed costs (CFAF 1 million per system per year), the fees payable to the commune and the renewal fund (about CFAF 147 per m^3) and the income tax (30 percent)

22. The analysis is carried over eight years, which is the duration of the concession contracts. The FIRR is estimated at 24.8 percent. Not surprisingly, this FIRR is quite sensible to the percentage of the public subsidy (80 percent in the base case). A decrease of 3 percentage points of the public subsidy would bring the FIRR to 16 percent, which was the value contemplated in the financial simulations carried out prior to the transactions of the pilot phase.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5 ATHIEME
6 GRAND-POPO
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23 ABOMEY-CALAVI
24 COTONOU
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26 ZANGNANADO
27 OUINHI
28 BONOU
29 ADJOHOUN
30 DANGBO
31 SO-AVA
32 AGUEGUE
33 SEME-KPODJI
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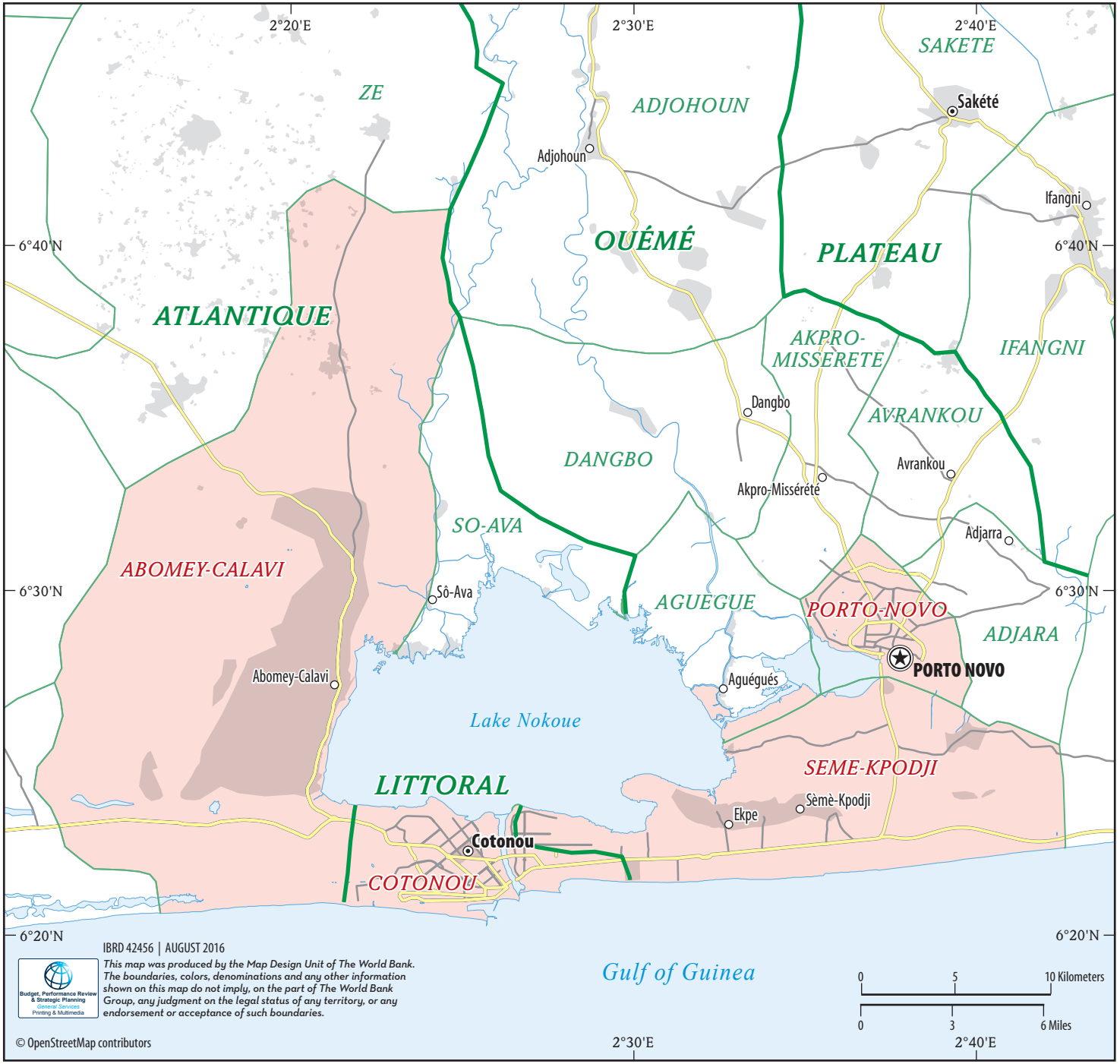
BENIN
SMALL TOWN WATER SUPPLY AND URBAN SEPTAGE MANAGEMENT PROJECT
NATIONAL CAPITAL
COMMUNE BOUNDARIES
DEPARTMENT BOUNDARIES
INTERNATIONAL BOUNDARIES

BENIN

SMALL TOWN WATER SUPPLY AND URBAN SEPTAGE MANAGEMENT PROJECT

GRAND NOKOUÉ REGION

- GRAND NOKOUÉ REGION
- SELECTED CITIES
- DEPARTMENT CAPITALS
- NATIONAL CAPITAL
- URBAN AREAS
- SECONDARY ROADS
- MAIN ROADS
- COMMUNE BOUNDARIES
- DEPARTMENT BOUNDARIES
- INTERNATIONAL BOUNDARIES



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