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Report No: PAD2108

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF (SDR 236.4) MILLION REGULAR CREDIT
(US$320 MILLION EQUIVALENT)
AND
IN THE AMOUNT OF US$125 MILLION SCALE UP FACILITY

TO THE

FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

FOR THE

SECOND ETHIOPIA URBAN WATER SUPPLY AND SANITATION PROJECT

March 10, 2017

Water Global Practice
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective February 28, 2017

Currency Unit	=	Ethiopian Birr
SDR 0.73861244	=	US$1
US$1.35389	=	SDR 1

FISCAL YEAR

July 7 – July 6

ABBREVIATIONS AND ACRONYMS

AAWSA	Addis Ababa Water and Sewerage Authority
CBO	Community-Based Organization
CSA	Central Statistical Agency
DB	Design-Build
DBO	Design, Build, and Operate
EFY	Ethiopian Fiscal Year (EFY)
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ETB	Ethiopian Birr
FA	Financing Agreement
FM	Financial Management
FPMU	Federal Project Management Unit
GAP	Gender Action Plan
GDP	Gross Domestic Product
GoE	Government of Ethiopia
GTP	Growth and Transformation Plan
HR	Human Resource
ICB	International Competitive Bidding
ICT	Information and Communication Technology
IDA	International Development Association
IFR	Interim Financial Report
IRR	Internal Rate of Return
IUSMP	Integrated Urban Sanitation Management Plan
Km	Kilometer
LIA	Low-Income Areas
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
MIS	Management Information System
MoFEC	Ministry of Finance and Economic Cooperation
MoH	Ministry of Health
MoWIE	Ministry of Water, Irrigation, and Electricity
MTR	Midterm Review
M^3	Cubic Meter
NCB	National Competitive Bidding

NPV	Net Present Value
NRW	Nonrevenue Water
NWSC	National WaSH Steering Committee
O&M	Operation and Maintenance
OWNP	One WaSH National Program
PDO	Project Development Objective
PIM	Project Implementation Manual
PIU	Project Implementing Unit
PMU	Project Management Unit
RPF	Resettlement Policy Framework
RWB	Regional Water Bureau
SCADA	Supervisory Control and Data Acquisition
SDG	Sustainable Development Goal
SME	Small and Medium Enterprise
STEP	Systematic Tracking of Exchanges in Procurement
SUF	Scale up Facility
TA	Technical Assistance
ToR	Terms of Reference
TSG	Town Support Group
TTL	Task Team Leader
UWSSP	Urban Water Supply and Sanitation Project
WaSH	Water, Sanitation, and Hygiene
WRDF	Water Resource Development Fund
WSS	Water Supply and Sanitation
WWTP	Wastewater Treatment Plant

Regional Vice President:	Makhtar Diop
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ETHIOPIA

SECOND ETHIOPIA URBAN WATER SUPPLY AND SANITATION PROJECT

TABLE OF CONTENTS

PAD DATA SHEET

Ethiopia

Second Ethiopia Urban Water Supply and Sanitation Project (P156433)

PROJECT APPRAISAL DOCUMENT

AFRICA

Water Global Practice

Report No.: PAD2108

Basic Information			
Project ID P156433	EA Category B - Partial Assessment		Team Leader(s) Yitbarek Tessema,Tesfaye Bekalu Wondem
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ]		
	Financial Intermediaries [ ]		
	Series of Projects [ ]		
Project Implementation Start Date 31-Mar-2017	Project Implementation End Date 31-Dec-2022		
Expected Effectiveness Date 31-Jul-2017	Expected Closing Date 07-Jul-2023		
Joint IFC No			
Practice Manager/Manager Wambui G. Gichuri	Senior Global Practice Director Guang Zhe Chen	Country Director Carolyn Turk	Regional Vice President Makhtar Diop

Borrower: Ministry of Finance and Economic Cooperation			
Responsible Agency: Ministry of Water, Irrigation and Electricity			
Contact:	Nuredin Mohammed	Title:	Director- Water Supply and Sanitation Directorate
Telephone No.:	251912205583	Email:	nuredinmohammed@yahoo.com

Project Financing Data(in USD Million)							
[ ]	Loan	[ ]	IDA Grant	[ ]	Guarantee		
[X]	Credit	[ ]	Grant	[ ]	Other		
Total Project Cost:		505.00		Total Bank Financing:		445.00	
Financing Gap:		0.00					

Financing Source	Amount
BORROWER/RECIPIENT	60.00
International Development Association (IDA)	445.00
Total	505.00

Expected Disbursements (in USD Million)

Fiscal Year	2018	2019	2020	2021	2022	2023	2024	
Annual	20.00	47.00	92.00	102.00	105.00	54.00	25.00	
Cumulative	20.00	67.00	159.00	261.00	366.00	420.00	445.00	

Institutional Data

Practice Area (Lead)

Water

Contributing Practice Areas

Social, Urban, Rural and Resilience Global Practice

Proposed Development Objective(s)

The objective of the project is to increase access to enhanced water supply and sanitation services in an operationally efficient manner in Addis Ababa and selected Secondary Cities.

Components

Component Name	Cost (USD Millions)
Component 1: Sanitation and water supply services improvements in Addis Ababa	260.00
Component 2: Sanitation and water supply services improvement in secondary cities	241.00
Component 3: Project management & institutional strengthening	4.00
Total	505.00

Systematic Operations Risk- Rating Tool (SORT)

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

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

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

Legal Covenants

Name	**Recurrent**	**Due Date**	**Frequency**
Subsidiary Agreement. Schedule 2, Section I - B. 5		30-Sep-2017	

Description of Covenant

The Recipient, through MoWIE, shall, prior to making available to AAWSA the portion of the proceeds of the Financing allocated from time to time to Category 1 of the table in Section IV.A.2 of Schedule 2 ("AAWSA Allocation"), enter into an agreement ("Subsidiary Agreement") with AAWSA on terms and conditions acceptable to the Association.

Name	**Recurrent**	**Due Date**	**Frequency**
Financing Agreement Reference: Schedule 2. Section I- B. 7	**X**		CONTINUOUS

Description of Covenant

The Recipient, through MoWIE, shall ensure that activities under Part 2 of the Project, which are to be carried out in Secondary Cities, are selected and approved in accordance with criteria and procedures, and under financing terms and conditions set forth in the Project Implementation Manual.

Name	Recurrent	Due Date	Frequency
Audit of financial statements. (FA: Schedule 2.Section V- 1 (a)		31-Oct-2017	

Description of Covenant

Within two (2) months from the Effective Date, prepare in accordance with terms of reference acceptable to the Association and furnish to the Association for review, a report detailing the status of the preparation and audit of the entity financial statements of AAWSA and participating Secondary Cities water utilities, as well as a time-bound action plan for the preparation and audit of financial statements that have not been carried out in the past; and
Thereafter, implement such action plan as shall have been approved by the Association and report the progress of implementation of said actions plan along with the interim unaudited financial reports under Section II.B.2 of Schedule-2.

Conditions

Source Of Fund	Name	Type
IDA	Project Implementation Manual	Effectiveness

Description of Condition

The Recipient, through MoWIE (on behalf of the relevant Secondary Cities) and AAWSA, each has adopted the Project Implementation Manual in form and substance acceptable to the association.

Team Composition

Bank Staff

Name	Role	Title	Specialization	Unit
Yitbarek Tessema	Team Leader (ADM Responsible)	Lead Water and Sanitation Specialist	Lead Water and Sanitation Specialist	GWA08
Tesfaye Bekalu Wondem	Team Leader	Sr Water & Sanitation Spec.	Sr. Water and Sanitation Specialist	GWA08
Ayalew Kebede Belew	Procurement Specialist (ADM Responsible)	Senior Procurement Specialist	Sr. Procurement Specialist	GGO01
Abiy Demissie Belay	Financial Management Specialist	Sr Financial Management Specialist	Sr. Financial Management Specialist	GGO25
	Team Member			
Amanuel Teshome Woldetsadik	Team Member	Consultant	M&E-consultant	GWA08
Bereket Belayhun Woldemeskel	Team Member	Consultant	Procurement - Consultant	GGO01
Bethelhem Teka Befekadu	Team Member	Team Assistant	Team Assistant	AFCE3
Christiaan Heymans	Team Member	Sr Water & Sanitation Spec.	Sr. Water and Sanitation Specialist	GWAGP
Chukwudi H. Okafor	Safeguards	Senior Social	Sr. Social	GSU07

	Specialist	Development Specialist	Development Specialist	
Gulilat Birhane Eshetu	Team Member	Sr Water & Sanitation Spec.	Sr. Water and Sanitation Specialist	GWA08
Maiada Mahmoud Abdel Fattah Kassem	Team Member	Finance Officer	Finance Officer	WFALA
Margaret Png	Team Member	Lead Counsel	Lead Councel	LEGAM
Meseret Tsegaw	Team Member	Program Assistant	Program Assistant	GWA08
Nadege Mertus	Team Member	Temporary	Program Assistant	GWA08
Oliver Mark Jones	Team Member	Sr Water & Sanitation Spec.	Sr. Water and Sanitation Specialist	GWA08
Ruth Jane Kennedy-Walker	Safeguards Specialist	Young Professional	Environment Specilialist- Young Professional	GEN07
Shimelis Woldehawariat Badisso	Team Member	Senior Procurement Specialist	Sr. Procurement Specialist	GGO01
Tesfa Teferi Gebreegziabher	Team Member	Consultant	Social Safeguards Specialist	GWA08
Tesfaw Ashagrie Zegale	Team Member	Consultant	Environment Specialist	GEN01
Victoria Hilda Rigby Delmon	Team Member	Senior Counsel	Senior Counsel	GWA02
Wendwosen Feleke	Team Member	Operations Officer	Financial and Economic Analysis	GWA08
Yodit Teamir Rezene	Team Member	Team Assistant	Team assistant	AFCE3
Yohannes Fisseha	Team Member	Consultant	Technical Specialist	GSU13

Extended Team

Name	Title	Office Phone	Location

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Ethiopia	Oromiya	Shashamane	**X**		
Ethiopia	Oromiya	Nek’emtē	**X**		
Ethiopia	Oromiya	Nazrēt	**X**		
Ethiopia	Tigray	Mek'ele	**X**		
Ethiopia	Oromiya	Jimma	**X**		
Ethiopia	Somali	Jijiga	**X**		
Ethiopia	Amhara	Gonder	**X**		

Ethiopia	Amhara	Dessie	**X**		
Ethiopia	Somali	Degeh Bur	**X**		
Ethiopia	Oromiya	Bishoftu	**X**		
Ethiopia	Amhara	Debre Birhan	**X**		
Ethiopia	Amhara	Bahir Dar	**X**		
Ethiopia	SNNPR	Awasa	**X**		
Ethiopia	Bīnshangul Gumuz	Asosa	**X**		
Ethiopia	Oromiya	Āsela	**X**		
Ethiopia	SNNPR	Arba Minch	**X**		
Ethiopia	Tigray	Ādīgrat	**X**		
Ethiopia	Addis Ababa	Addis Ababa	**X**		
Ethiopia	Dire Dawa	Dire Dawa	**X**		
Ethiopia	Gambela	Gambela	**X**		
Ethiopia	Harari	Harari	**X**		
Ethiopia	Āfar	Semera	**X**		
Ethiopia	SNNPR	Wolayta Sodo	**X**		

I. STRATEGIC CONTEXT

A. Country Context

1. **Ethiopia has experienced rapid and stable economic growth over the past decade.** From 2004 to 2014, real gross domestic product (GDP) growth averaged 10.8 percent per year. This is the fastest growth that the country has experienced and is considerably above the average achieved by low-income and Sub-Saharan African countries during this period. Recent growth was also noticeably stable, as the country avoided the historical volatility brought by spells of drought and conflict, which plagued growth trends and prospects in the past.

2. **There has been a significant reduction in poverty, but challenges remain**. Over the decade from 2004 to 2014, real GDP per capita increased on average by 8 percent per year. Poverty declined substantially from 55.3 percent in 2000 to 33.5 percent in 2011, based on the international poverty line of US$1.90 per/day. There has also been significant improvement in nutrition, health, education, and access to services. While experiencing this rapid growth, Ethiopia remained one of the most equal countries in the world with a Gini coefficient of consumption of 0.30 in 2011. However, despite this progress, the country ranked only 174 out of 188 in the human development index (HDI) of the United Nations Development Program (2015) and the poorest 15 percent of the population experienced a decline in well-being during 2005–2011, mainly as a result of higher food prices.

3. **The Government's Growth and Transformation Plan (GTP)** sets a goal of becoming a middle-income country by 2025, with annual economic growth of 11.2 percent per year over the period and gross national income per capita reaching US$1,560 in 2025. A second phase of the GTP (GTP II - 2015/16-2020/21) is currently under implementation. The Government has a powerful role in the economy, especially in priority sectors such as industry and agriculture, which are the key drivers of sustained economic growth and job creation.

4. **Decentralization of service delivery to local levels is actively pursued.** The current federal system of government was established in the early 1990s and since 2003, the country has decentralized service delivery responsibilities to the regional and district (woreda) levels. Critical public functions such as water and sanitation, solid waste management, and public health services have been devolved. Underlying this decentralized system is formula-based fiscal transfers.

B. Sectoral and Institutional Context

Sector context

5. **The sector context for urban water supply and sanitation (WSS) is best understood from three main perspectives**: (a) rapid urbanization; (b) large-scale infrastructure investment and service delivery improvement requirements; and (c) a need for systematic policy and institutional transformation in urban and water sector governance.

6. **Structural transformation of the Ethiopian economy is driving rapid urbanization and increasing pressure on service provision, including for WSS**. Urbanization is set to continue as the economy transforms from being predominantly rural and agriculture, to an increasingly urban society driven by manufacturing and services. The urbanization momentum is illustrated by the urban share of Ethiopia's population, doubling from 8.5 percent in 1967 to 17.4 percent in 2012, and an annual average urbanization rate of 3.77 percent since 1996. Addis Ababa, by far the largest city in the country, has an estimated population of 3.35 million, which is expected to increase by about 38 percent in 2030. This urban growth is recognized in the GTP II not only as an opportunity for sustained economic growth and structural transformation, but also as a challenge, including for the provision of WSS for the growing urban population.

7. **Ethiopia has made good progress in terms of extending access to water services.** In urban areas, 93 percent of households now have access to an improved source of drinking water, with a

significant increase from 10 percent to 56 percent having access to piped water on premise. This is significantly higher than the results achieved countrywide, still the 57 percent national coverage for water achieved in 2015, is in line with the Millennium Development Goal (MDG) target.

8. **The country fell far short of the MDG targets for sanitation though.** Open defecation has been reduced significantly in urban areas (from 39 percent in 1990 to 6 percent in 2015). However, for most households this has not translated into improved sanitation facilities. The numbers of public and communal latrines in urban areas fall far short of demand, leaving many low income people without latrine services. In 2015, the percentage of people in urban areas with access to improved latrines had increased to just 27 percent from 20 percent in 1990, much lower than the Sub-Saharan Africa average of 40 percent. There has however been an increase in the use of shared latrines, from 30 percent in 1990 to 40 percent in 2015, due in part to higher population density, and also because of the high prevalence of rented accommodation. Against the national MDG target of 57 percent, Ethiopia achieved only 28 percent sanitation coverage.

9. **Without improved services, cities are becoming increasingly polluted, which affects the quality of life, and could ultimately jeopardize economic growth.** More than 60 percent of households in urban areas use traditional pit latrines and about 6 percent of urban residents are still practicing open defecation. Fecal sludge is often accumulated in poorly designed and built pits, and then discharged directly into storm drains, open water bodies or the ground, or manually removed and dumped into the neighborhood or the wider environment.[1] The effect of all this is exposing urban residents to health hazards, as seen for example with a cholera outbreak in 2016.

10. **Responding to these challenges requires large-scale sanitation and water infrastructure investment, as well as systemic policy and institutional transformation**. Any city level investment strategy and related institutional support would need to focus on citywide impact and reach, but with specific measures to include low income residents. This demands responding to the lack of reliable water supply, especially in low income areas (LIAs); the protection of water sources; and thinking beyond conventional sewerage to pursue feasible, affordable options for onsite sanitation and fecal sludge management. Recent World Bank analyses[2] have shown the importance of actively working towards inclusive city-wide sanitation, and within that framework, addressing and linking different stages of a "sanitation service chain" that cuts across collection, transportation, disposal and treatment of wastewater in poor urban areas. Failure to ensure such links throughout the service chain typically results in untreated fecal sludge contaminating the environment, with negative public health impacts. To set up such mechanisms along the service chain and provide the institutional system to carry it, requires clearly defined and organized delivery mechanisms, as well as mobilization and allocation of adequate fiscal resources. The urban WSS system in Ethiopia lacks such institutional mechanisms of adequate capacity.

11. **Institutional ambiguities and inefficiencies curtail service delivery improvements**. Several sector reforms since the 1990s have introduced policies and institutional changes that have been associated with positive reforms in other parts of the world. Pivotal to this have been attempts to define and assign institutional accountability lines more clearly, and move towards cost recovery and other sustainable financing practices. There is wide acknowledgement, though, that much more is needed, including institutional reforms and substantial institutional and human resource (HR) capacity building. No service provider is as yet able to sustain their service financially, and all still lack the necessary operational efficiency. Underpricing and high non-revenue water (NRW) undermine service levels. Although the water tariffs set by utilities are supposed to support a

[1] Safe management of household excreta is defined as the containment, extraction, and transportation of excreta to a designated disposal or treatment site, or the safe re-use of excreta at the household or community level, as appropriate to the local context.

[2] World Bank 2016, Fecal Sludge Management: Diagnostics for Service Delivery in Urban Areas - Tools and Guidelines.

gradual move to full cost recovery, the fact that they need to be endorsed by the respective management board and approved by the region has reduced the incentives for full cost recovery and financial sustainability.

12. **A set of policies and strategies set priorities and provide directions for the sector development.** The country's water resources policy calls for efficient, equitable, and optimum utilization of water resources for sustainable socio-economic development. It also highlights the need for WSS services to be integrated at all levels in a sustainable and coherent framework. The Government is also following a strategy that responds to the capacity constraint and, promotes partnership between the public and private providers to pave the way for the move towards a longer term goal of efficient, universal and affordable service provision within a supporting policy and regulatory framework. The federal government's goal of ensuring that cities are open defecation free by 2020 requires thinking beyond conventional sewerage, which is expensive, even more so given the shortage of water, and the physical difficulty of developing services rapidly in densely populated areas. The Government's draft Integrated Urban Sanitation and Hygiene Strategy emphasizes improving existing latrines and fecal sludge management, investing more in decentralized wastewater treatment plants (WWTPs), introducing wastewater reuse, and achieving safe wastewater management. Achieving the impact of these strategies is a long term process, but will lead to establishing stronger institutions with robust federal and regional level enabling frameworks, increasing access to WSS services, and improving the health and productivity of urban dwellers to enable them to play an active role in the country's economic growth.

Addis Ababa

13. **The largest concentration of people is in the capital city, Addis Ababa, where services are struggling to keep up with rising demand due to urbanization.** The water coverage in the city is over 90 percent, but supply is intermittent with some sub-cities having access to water for only 12 hours a day for less than three days per week.[3] Coping with the demand from the extensive housing development in the city is a continuing challenge.[4] Most residents use some form of on-site sanitation: Half of the residents use shared pit latrines, while about 18.3 percent and 26.4 percent, respectively, use private pit latrines or flush toilets, including pour flushing. The problems of open defecation; unsafe containment; and lack of appropriate desludging services, transportation and treatment of wastewater remains significant.

14. **Addis Ababa is the only city in Ethiopia with a sewerage network, although only about 10 percent of the population has access to the sewerage services.** Addis Ababa has three sewerage catchments (Akakai, Kality and Eastern). There are 20 existing treatment plants with 15 decentralized WWTPs with conveyance and treatment capacity of 60,500 m^3 per day under construction.[5] The World Bank-supported Urban Water Supply and Sanitation Project (UWSSP-1), P101473, is financing expansion of the Kality sewerage system to add capacity of 90,000 m^3 per day. This is due for completion in late 2017, but will not have adequate capacity to address the full demand. The strategy of the Addis Ababa Water and Sewerage Authority (AAWSA) is to construct and outsource mobile and fixed public and communal latrines in low income and public areas, but the rollout lags far behind demand. Desludging services - primarily pit emptying and transportation -

[3] The findings of a recent socio economic survey of 4220 sampled households in 28 woredas of Addis Ababa indicate that the average access to water is about 16 hours per day, for about 5.4 days per week. Sub-cities such as Gulele receive water on average for 12 hours per day, for 2.2 days per week, while Kolfe Keraniyo receives water for 19 hours per day.

[4] So far 101,632 condominium houses have been transferred to the targeted households, of which 94,915 are for residential and 6,717 for business purposes. In the second GTP (2015/16-2020/21), the city planned to construct 350,000 condominium houses for low and medium income level households.

[5] 12 are completed (three have started operations) and three are under construction

are provided through AAWSA's own 104 vacuum trucks; AAWSA also regulates a fleet of 58 private vacuum truck operators. A recent World Bank Group analysis[6] found that the management and maintenance of these fleets are a major problem (only 62 percent are functional), and that safe management of excreta is not common. Reception facilities, such as Addis's existing treatment plants in Kaliti and Kotebe, do not have adequate capacity to deal with the city's volumes of sludge.

15. **AAWSA has undertaken reforms, but deep-rooted institutional problems remain in critical aspects of water services**. The current billing system, for example, is labor intensive and its software, business processes and checks and balances are not in tune with the standards in well-functioning utilities globally, including in Africa. At the moment 16 percent of the meter reading shows connected households to be using less than 1 m^3 per month, which appears very low in comparison to utilities in other countries. Similarly, a lack of effective electronic systems and reliable data makes it impossible to respond to customer complaints effectively and to keep track of different customers. This compromises the ability to do volumetric charging and optimize the revenue potential, for example, of large customers. The city institutions are stretched for financial and human resources and capacity to ensure that appropriate technological choices and systems for water and sanitation services are accessible.

Secondary Cities

16. **The demand for improved sanitation services in the secondary cities is also growing fast**. Currently, none of the secondary cities has a sewerage system. A limited number of municipalities in these cities have vacuum trucks to desludge latrines and septic tanks, but fleet management and operation is patchy, and mechanical failure is common. In some cases, private vacuum trucks operate side by side with the utility's trucks, but coverage remains low. Sludge is mostly released into the environment without adequate treatment due to the absence of reception facilities.

17. **At the city level, multiple institutions are involved**. Water and Sewerage entities in each municipality are legally mandated to provide wastewater services in the large cities, but municipalities are responsible for solid waste and storm water management. In most cases municipalities have not been able to coordinate sanitation services - wastewater, solid waste and storm water - effectively. The lack of coordination between solid waste and liquid waste services, as well as drainage, is a problem since these waste streams are often mixed together; for example drainage channels are contaminated with fecal waste, and are blocked by solid waste.

18. **Several areas are in need of capacity enhancement**, **including skills development, performance incentives, and overall, a more business oriented approach driven by a clear business plan with measurable targets.** This applies to all functions and roles, from senior strategic leadership approaches and skills, to updating technical skills at the operational level, and developing greater ownership of the institutional agenda. Data are currently inadequate to present a clear NRW profile of the utilities, which makes it difficult to pinpoint the core of the problem. More transparent HR systems and databases will enable utilities to hold staff accountable for their performance on clearly assigned responsibilities.

Institutional Context

19. **Water sector reforms have concentrated on establishing a decentralized enabling and operational environment for basic service delivery**. Devolution of powers to regional governments in the 1990s provided Regional Water Bureaus (RWBs) with considerable autonomy over the development of water supply services, with the national government primarily tasked with policy, coordination and regulatory functions. A second wave of decentralization since 2004 entailed devolving service delivery responsibilities to the municipal and district (woreda) levels.

[6] Source: Institutions and Service Provision of Urban Sanitation in Addis Ababa (August 2016).

Subsequently, water utilities were also established in larger cities, with their own governing boards, and the expectation of becoming financially sustainable. They are also typically responsible for sewerage, but public health functions including hygiene and behavior change fall under the municipalities. This means that responsibility for sanitation does not reside in one institution at the city level.

20. **Different ministries and agencies have responsibilities pertaining to WSS services**. The Ministry of Water, Irrigation and Electricity (MoWIE) is the lead institution responsible for policy, strategy and national program development and overall monitoring of the water sector at the national level. In cities, the water and sewerage utilities are responsible for provision of water supply, and are directly accountable to water boards, which are in turn partly regulated by RWBs. The Ministry of Works, Urban Development and Housing Construction also plays a part in monitoring the standard of municipal services, including water supply and solid waste.

21. **Institutional arrangements for urban sanitation are even more complex than those for water**. Institutional fragmentation and unclear responsibilities have led to gaps in service provision. Inadequate coordination of planning, design, implementation and supervision often result in poor quality, delays in construction and incomplete asset management, as well as unclear division of roles between local governments and operators. MoWIE; the Ministry of Works, Urban Development and Housing Construction; and the Ministry of Health (MoH) share responsibilities for monitoring and oversight of hygiene and sanitation services at the national level which has made it more difficult to hold utilities accountable for improvements in service quality and coverage. Each ministry tends to focus on its own mandate, as well as internal planning and management systems.

22. **Mechanisms or institutional capacity to enforce public health proclamations and pollution control regulation are weak**, **even though 'polluters pay' principles have been adopted formally.** The existing regulations mostly do not clearly define the minimum standards for services, and are mostly silent on the urban sanitation delivery chain of collection, transportation, treatment, and disposal. The capacity of institutions and functionaries responsible for regulation also requires attention.

23. **Private sector participation in WSS is limited**. Water utilities and local governments have not harnessed the full potential of the private sector to improve the efficiency of service provision. This is in part because a conducive enabling environment for private sector participation is not in place. There are some examples of private engagement in the emptying and transportation of domestic waste, but to build on them, contract management skills need to be developed in municipalities and utilities, and the legal frameworks for engaging private partners have to be clarified and refined.

24. **The involvement of development partners in urban WSS is limited to a few financiers, of which the World Bank's share is the largest**. Through its WSS projects, the World Bank has brought international knowledge to the sector, such as on the creation of autonomous water utilities, and has served as a platform to leverage resources from other development partners. The proposed project will be a continuation and expansion of the World Bank's long term engagement in the sector and support to the efforts of the Government of Ethiopia (GoE) to improve urban sanitation services. The Water Supply Development and Rehabilitation Project (1996 – 2003) initiated – in addition to a US$65.5 million investment in water supply infrastructure – sector dialogue and institutional reform, mainly the creation of autonomous city water utilities. The Water Supply and Sanitation Project (WSSP), co-financed by the U.K. Department for International Development in 2004 –2013, helped scale up these reforms to 203 woredas and 87 cities, supporting decentralization and a demand- driven approach, efficiency enhancement and business planning, and a move from a project-focused to a performance based, programmatic approach. The current Urban Water Supply and, Sanitation Project (P101473) has stepped up support for operational efficiency improvement, performance agreements, and piloting approaches for services for the urban poor in the LIAs. The Sustainable and Equitable Water, Sanitation, and Hygiene (WaSH)

Services Project (P157690) (2016-2018) has assisted the Government in operationalizing WaSH policies and institutional structures to pursue equitable water supply, security and safety; and sustainable access and use of sanitation and hygiene services at scale.

C. Higher Level Objectives to which the Project Contributes

25. **The proposed project aligns fully with the GTP II urban development agenda**, which regards urban centers as key economic agents, and identifies addressing infrastructure gaps as a major priority alongside job creation and housing. It specifically calls for expansion of sustainable potable water supply and improving urban sanitation. The project objectives and components are also consistent with Ethiopia's international commitments, including Sustainable Development Goal (SDG) 6 and SDG 11[7].

26. **The proposed design is also aligned with the World Bank Group's draft Country Partnership Framework (CPF)[8] FY18-FY21** which is under preparation, and the Systematic Country Diagnostic (SCD) which has informed the Country Partnership Strategy process. Building on the lessons from the World Bank's just completed Country Partnership Strategy (CPS) (2013-2016) for Ethiopia that emphasizes increased access to and improved quality of infrastructure services, in particular water supply and sanitation, the SCD calls for 'getting urbanization right', with improved infrastructure services to support economic growth, competitiveness and job creation, and resilience and reducing vulnerability.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

27. The objective of the project is to increase access to enhanced water supply and sanitation services in an operationally efficient manner in Addis Ababa and selected secondary cities.

B. Project Beneficiaries

28. **The main project beneficiaries are expected to be 3.38 million people (50 percent of them women)** residing in Addis Ababa and the selected 22 secondary cities. Of these, 2.76 million will benefit from improved sanitation facilities and 623,000 from access to improved water supply services. Service providers will benefit from operational and efficiency improvements, whereas local governments and communities as a whole will gain from enhanced services and cleaner environments.

29. **The project will facilitate the creation of job opportunities for women and youth** through economic opportunities related to the management and operation of water and sanitation service delivery, including the outsourcing of the management of public sanitation facilities to local youth groups. Poor households, the most vulnerable, will be targeted particularly to benefit from such opportunities at public and communal latrines.

[7] SDG 6 is "ensure availability and sustainable management of water and sanitation for all" and includes targets for adequate and equitable sanitation and for substantially improving water use efficiency by 2030. SDG 11 is "making cities inclusive, safe, resilient and sustainable", which includes targets by 2030 to ensure access for all to: adequate, safe and affordable housing and basic services, and to upgrade slums".

[8] The Country Management Unit is developing the Country Partnership Framework to guide the World Bank Group's engagement in the coming years.

C. PDO Level Results Indicators

30. **The following indicators will be used to measure progress** toward achieving the Project Development Objective (PDO).

1. People in urban areas whose excreta is safely managed under the project (number)
2. People in urban areas with access to improved water sources under the project (number) (Core)
3. Operation cost -coverage ratio (ratio)
4. Savings from NRW interventions under the project (m^3/year)
5. Direct project beneficiaries, of which percent are female (number) (Core)

III. PROJECT DESCRIPTION

A. Project Components

31. **The project is designed to support service providers in Addis and select secondary cities move towards a longer term goal of efficient, universal and affordable service provision within a supporting policy and regulatory framework.** This is a decade or longer process, but by the end of the project, it is expected that Addis Ababa and the participating cities will have increased access to WSS services, and will have contributed to improving the health and productivity of urban dwellers to enable them to play an active role in the country's economic growth. Institutional strengthening will secure more robust federal and regional level enabling frameworks and support, while the participating utilities will be assisted to become more business oriented, with measurable business plans, adequate human and operating capacity and data systems to provide WSS services effectively.

32. The project will support the Government's effort to respond to the increasing urban demand through investments in sanitation infrastructure, and engaging private operators to improve O&M of the facilities. There will also be activities to improve WSS services levels by facilitating the establishment of institutional arrangements for modernizing the operational and management systems of utilities in Addis Ababa and the selected secondary cities. While equity was taken into consideration in the selection of the participating cities, the project will be implemented following a stepped approach[9] which requires utilities to acquire the capacity to plan, implement and manage the WSS services to meet the eligibility criteria for accessing investment financing.

Component 1: Sanitation and water supply services improvements in Addis Ababa (US$260 million equivalent).

33. The project will finance the construction of sanitation facilities in various settlements and socio economic situations and will seek to implement appropriate cost-effective sanitation options. These options include a centralized WWTP covering the eastern catchment with an estimated daily capacity of 80,000 m^3, a trunk line of 43 km and 96 km secondary lines which are expected to serve about one-third of the Addis population in the expanding areas of the city. There will also be support for appropriate household sanitation facilities, decentralized sewerage systems for condominium housing sites, fecal sludge management facilities and transfer stations for densely populated LIAs, and household sanitation facilities in areas without connections to the sewerage system.

Subcomponent 1.1: Sanitation services improvement in Addis Ababa (U$224.6 million equivalent).

34. This subcomponent will entail the following: (a) sanitation assessments, feasibility studies, and the design and construction of a WWTP for the eastern catchment, through a design, build and operate (DBO) approach[10]; (b) sewerage networks for the eastern catchment; (c) improvement of

[9] The stepped approach is detailed in Figure 2.3 in Annex 2.

[10] DBO procurement streamlines the design-build (DB) delivery approach with a single private contractor designing, constructing and operating a new facility. The advantages of this approach are lower capital and maintenance costs, use of

operation and maintenance (O&M) management of existing WWTPs; (d) improvement of sanitation services in unserved and LIAs, including construction of communal and public latrines; and (e) procurement of appropriate desludging equipment for fecal sludge treatment plants.

Subcomponent 1.2: Operational efficiency improvements in Addis Ababa (US$33.1 million equivalent).

35. This subcomponent will support AAWSA to improve WSS services levels by modernizing the operational and management system, including: (a) NRW reduction and management; (b) customer care; (c) financial management (FM); (d) network management; and (e) improving sewer connections and fleet management systems. The project will also support management contracts to fill O&M capacity gaps and establish effective management systems, including performance-based contracts for small-scale leak detection and repair. Critical areas will include business plans and performance agreements to focus on: (a) implementation of operational processes and performance improvements; (b) HR improvements and change management; (c) a comprehensive Supervisory Control and Data Acquisition (SCADA) system to secure supervisory control and data acquisition; (d) ability to analyze real-time data; and (e) a dedicated operator support to assist AAWSA to translate high-level plans to action.

Subcomponent 1.3: Project management and institutional strengthening in Addis Ababa (US$2.3 million equivalent).

36. AAWSA's existing project management capacity will be supplemented through additional staff before the start of the project and during implementation to enhance the capacity of the management board and utility staff to manage WSS facilities effectively. This assistance will cover the cost of training on project implementation and utility operations, regional, international, and in-country exposure visits and learning exchanges, procuring office equipment and vehicles, and miscellaneous expenses.

***Component* 2: Sanitation and water supply services improvement in secondary cities (US$241 million equivalent).**

37. Under this component, 22 cities selected from all the regional states and the Dire Dawa city administration will be supported. The interventions in the selected cities will be incremental and open to mixed approaches, rather than single solutions. The starting point is to address the problem of open defecation, followed by improving and systematizing fecal sludge management and ultimately to assist with investment in sewer systems where feasible. Separate feasibility studies and detailed designs will be developed for each city to determine the appropriate technological solutions for their specific contexts. This component will finance (a) feasibility studies, detailed design, and construction of wastewater management systems for all secondary cities utilities; (b) development of an integrated city sanitation plan for all 22 cities; (c) design and construction of 800 communal and public latrines; and (d) procurement of different capacity vacuum trucks. Activities under Subcomponents 2.2 and 2.3 will include (a) development/updating of 22 secondary cities utility business plans; (b) a study for improving billing and accounting systems of these secondary cities utilities; (c) feasibility studies and detailed designs of water supply system for selected utilities; (d) selection and employment of PIU key staff; and (e) supply of field vehicles for utilities.

Subcomponent 2.1: Sanitation services improvement in secondary cities (US$196 million equivalent)

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robust technology and equipment, shorter delivery schedules, and a single contract. DBO risks include weak supervision and too much upfront pricing, with long-term operational requirements left vague.

38. This subcomponent will finance studies and design, technical assistance (TA) and infrastructure development. This support will improve fecal sludge management facilities and conventional sewer systems where feasible, support t the Urban Health Extension Program, construct communal and public latrines, procure desludging equipment, rehabilitate or construct wastewater and fecal sludge treatment plants, and develop small and medium enterprises (SMEs) to manage public latrines and similar facilities.

Subcomponent 2.2: Water supply and operational efficiency improvement in secondary cities (US$36.8 million equivalent)

39. This subcomponent will finance interventions to help WSS agencies modernize service provision, and improve the management of NRW. This will entail: (a) establishment of performance based systems to incentivize the reduction of NRW; (b) water supply provision to unserved and LIAs; (c) TA and studies for situation assessment and development of NRW reduction and management interventions, development of billing and accounting systems, customer care, FM improvement, network management, and improving the provision of sanitation services; (d) capacity building and training on billing and accounting and, improvement in the customer data base and citizen engagement, gender, and management for water boards; (e) piloting of modern meter reading and collection technology and other efficiency interventions for possible scale-up; and (f) public awareness creation and communication strategy for demand management.

Subcomponent 2.3: Project management and institutional development in secondary cities (US$8.2 million equivalent)

40. This subcomponent will fund capacity enhancement for water board members and utility staff to manage WSS facilities. This will include staff training; exposure visits and study tours; provision of equipment; and awareness creation for the management team, boards, utilities, municipalities, and urban health extension workers. The project will also support the establishment of utility performance monitoring and benchmarking, and the preparation of business plans. Project management costs will include communications, monitoring and evaluation (M&E), procurement, FM, safeguards, and other functions. Institutional development will also cover: (a) establishment of work systems and the development of guidelines and manuals; (b) procurement of vehicles, relevant instruments and tools; and (c) staff training.

***Component* 3: Project management and institutional strengthening (US$4 million equivalent)**

41. This subcomponent will help MoWIE and RWBs manage the project and strengthen their institutional capacity, and will include short term training, study tours, and carefully planned acquisition of office equipment; and vehicles. This component will also finance several studies to support improvements in sector performance, such as options for private participation; data collection and monitoring systems related to performance-based agreements, monitoring and benchmarking; the establishment of independent bodies to regulate utility performance; and emerging needs for applied research, technology choice, waste reuse, and other topics (see Annex 2, Component 3).

B. Project Financing

42. **The estimated project cost** is US$505 million, to be financed by a combination of IDA credit (US$320 million), IDA Scale Up Facility (SUF) Credit (US$125 million) and US$60 million from counterpart funding by the Addis Ababa City Administration (see Table 1). The Scale Up Facility is a one-off facility to provide additional support to eligible IDA clients for the remainder of the IDA17 period. The GoE will channel US$170 million to AAWSA in the form of a sub-loan and US$30 million in the form of grant. The credit proceeds for secondary city utilities will be passed on either as a

grant or credit, depending on presentation of acceptable business plans and project proposals by each utility.

Project Cost and Financing

Table 1: Project Cost by Component

Project Components	Project Cost	IDA Regular Financing	IDA Scale Up Facility	GoE Contribution	% of IDA Financing
1. Component 1: Sanitation and water supply services improvements in Addis Ababa					
1.1 Sanitation services improvement in Addis Ababa.	224.6	39.6	125.0	60.0	73
1.2. Operational efficiency improvement in Addis Ababa.	33.1	33.1	0	0	100
1.3 Project management and institutional strengthening in Addis Ababa	2.3	2.3	0	0	100
Total Component 1	**260.0**	**75.0**	**125.0**	**60.0**	**77**
2. Component 2: Sanitation and water supply services improvements in secondary cities					
2.1 Sanitation services improvement in secondary cities	196.0	196.0	0	0	100
2.2. Water supply and operational efficiency improvement in secondary cities	36.8	36.8	0	0	100
2.3. Project management and institutional development in secondary cities	8.2	8.2	0	0	100
Total Component 2	**241.0**	**241.0**	**0**	**0**	**100**
3. Component 3: Project management and institutional strengthening	**4.0**	**4.0**	0	0	100
Total Costs	**505.0**	**320.0**	**125.0**	**60.0**	**88**

Note: [a] The cost estimates include 15 percent price and physical contingencies.
[b] The utilities and city administrations will mobilize additional resources if the cost of the appropriate technology exceeds the resource allocated for them under the project.
[C] IDA original SDR amount for the US$125m SUF is SDR 92,400,000.

C. Lessons Learned and Reflected in the Project Design

43. The project design has been informed by lessons learned from the on-going UWSSP-1 (P101473); the Ethiopia Local Government Development Project II (P133592); and from international experience captured in a major World Bank report published in 2016: *Fecal Sludge Management: Diagnostics and Guidelines for Service Delivery in Poor Urban Areas (P146128).* The design has also drawn on two current World Bank analytical tasks in Ethiopia*: Support to Government of Ethiopia to Improve Urban and Small Town Sanitation Service Management (P151356) and Sustainable and Equitable WaSH Services in Ethiopia (P157690).* Some of the key lessons reflected in UWSSP-2's design are listed:

(a) **Decentralizing responsibility for service delivery can lead to improved effectiveness, but requires institutional strengthening efforts at all levels**. It is important to have or build the necessary capacity and systems at all levels to be responsive to community needs and be accountable for policies, actions, and use of funds. The rules of the game also need to be respected, so that local institutions are able to levy tariffs that enable them to provide effective services. UWSSP-2's design includes a strong set of interventions to support institutional strengthening at the local level, as well as to help develop relations with the higher tiers.

(b) **Coordination among public institutions is important,** which is contingent on clear roles and responsibilities at the outset between different tiers of government and also in the relationships between institutions at each level of government. UWSSP-2's design recognizes that utilities are part of a bigger institutional system, especially in the case of

urban systems with multiple stakeholders, and seeks to help the GoE secure clear roles and coordinate institutions.

(c) **A stepped approach is appropriate to ensure sustainable service delivery.** The project will help improve utilities' technical, financial, and operational capacity in a sequenced manner to ensure absorption and effective use of project investment resources while ensuring sustainability of service delivery (See Annex 2).

(d) **Consultations are important when demand for improved sanitation is low.** Low demand for sanitation is due to among other things low levels of awareness of the benefits of safe sanitation, as well as affordability issues amid considerable poverty, lack of space in dense urban settings, predominantly rental housing. In UWSSP-2, improved consultation with the community will help motivate behavior change and market the benefits of improved sanitation to increase the demand for services.

(e) **Ensuring sufficient household demand for connections to sewer systems is key**. Low interest in connections to the sewer system potentially poses serious challenges. This can be addressed by a clear policy and regulatory framework, enforcement mechanisms and communication strategies developed and communicated upfront, with adequate lead time. These aspects are embedded in UWSSP-2's design.

(f) **Combining water supply and wastewater services in one institution improves efficiency**, both functionally and for billing and operational efficiency purposes. Subcomponent 1.2 will engage in these issues.

(g) **Stakeholder consultation and involvement are central to successful service delivery.** Service delivery is more effective and sustainable when stakeholders are consulted and the roles and responsibilities for actors, including the private sector, are clearly defined. UWSSP-2's design hence emphasizes stakeholder engagement.

(h) **Using existing government structures provides traction and enhances ownership**, **and embeds capacity and incentive systems.** This can be complemented productively by contracted staff in specific areas. Local town support groups (TSGs) established under the Ethiopia Water Supply and Sanitation Project and in the on-going One WaSH National Program (OWNP) have also helped build utilities' capacity through on-the-job and practical training. UWSSP-2 will draw on these resources to help establish a network of practitioners to facilitate the exchange of good practice in improving sector performance.

(i) **An M&E communication strategy is important.** When sector data collection, analysis and dissemination are inadequate, the availability and accessibility of information becomes a constraint for planning and development in the water sector. UWSSP-2's design therefore provides for a concerted, well-financed effort to implement and refine the proposed M&E system, and improve and communicate the data clearly as part of customer and citizen engagement.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

44. **UWSSP-2 implementation arrangements** will largely follow the mechanisms of the on-going UWSSP-1, with slight modifications to capture recent developments. A Project Implementation Manual (PIM) will be developed before project effectiveness to outline detailed steps and procedures, as well as the institutional and implementation arrangements and the rules of engagement for planning, appraisal, contracting and implementation. Standard operating procedures, forms, bidding documents for works, and terms of reference (ToR) for consultants will be incorporated into the PIM.

45. **The project will introduce DBO contracts** to engage experienced operators, thus minimizing the interface risk between the design, construction and operation stages, bringing innovation, and supporting training of utility staff. It will also support the establishment and strengthening of O&M systems.

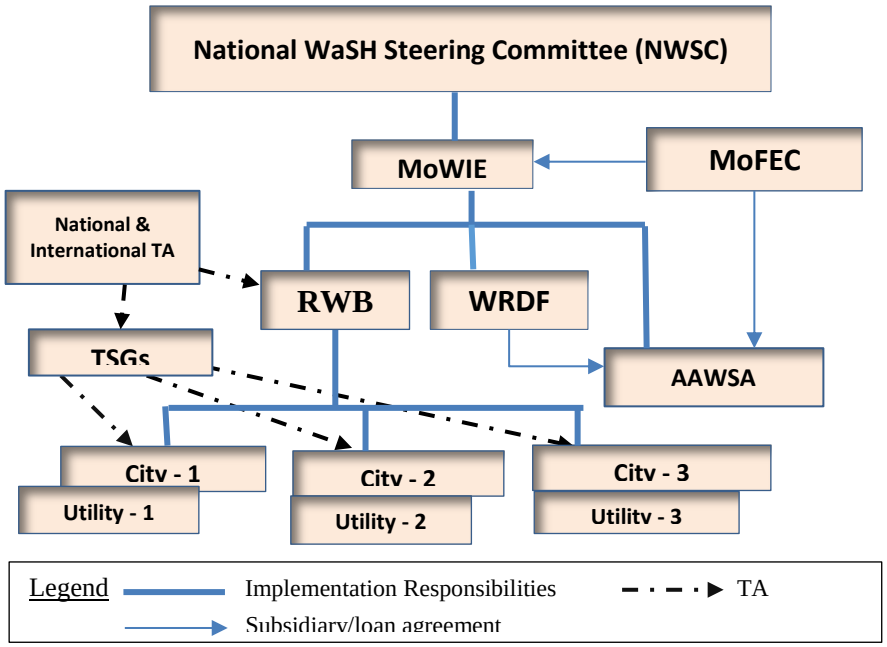


Figure 1: Institutional Arrangements

Note: WRDF = Water Resource Development Fund.

46. **To ensure that the project benefits the most disadvantaged, an appropriate targeting approach has been established.** It will include: (a) creating opportunities for groups of women and unemployed youth, organized under small and micro enterprises, to manage and operate public toilets; (b) adopting affordable and simple technologies that can be replicated at the community and household levels; (c) locating public toilets at strategic places with concentration of people (for example, bus terminals, markets, public spaces and religious activity centers); and (d) investing in affordable and safely positioned public pay-and-use toilets and showers in LIAs, to be managed by women and youth-led community based organizations (CBOs).

47. **The institutional arrangements will involve several role-players.** The highest governing body of the project is the NWSC that constitutes MoWIE as Chair, and includes the MoH, Ministry of Education, and Ministry of Finance and Economic Cooperation (MoFEC). The NWSC leads the dialogue on the sector and service delivery standards, resource mobilization and financing, and M&E. The Water and Sanitation Directorate and the Federal Project Management Unit (FPMU) within MoWIE will directly be responsible for the implementation of the project in the secondary cities outside Addis Ababa. The project office at AAWSA will be responsible for all activities in Addis Ababa. Figure 1 illustrates the key actors that will be involved in the UWSSP-2 implementation.

48. **Responsibility for the development and provision of WSS services in urban areas is a task shared among the utilities and local governments**. Generally, water utilities are responsible for the provision of water and sewerage services, while local governments are responsible for collecting and safely disposing solid waste. Though the MoH has the overarching shared responsibility on hygiene and sanitation (including guidance on approach, oversight role, and the relevant methodological tools), the health departments in each project city are responsible for hygiene promotion. Details of the roles and responsibilities of project institutions are provided in Annex 3.

B. Results Monitoring and Evaluation

49. **The M&E system will complement the performance-based, phased approach.** It will also draw on lessons from UWSSP-1. Annex 1 elaborates on results monitoring.

50. **Responsibility for M&E of progress toward achievement of the PDO is assigned at the federal, regional, and city levels**. At the federal level, overall responsibility for M&E will lie with MoWIE. AAWSA will produce performance reports (financial and technical) for Component 1. Every quarter, project performance reports (financial and technical) will be prepared both by MoWIE and AAWSA no later than 45 days after the end of the reporting period. RWB and utilities of secondary cities will each appoint a dedicated M&E staff member who will be responsible for the coordination of M&E activities.

51. **The baseline data on selected indicators for WaSH will be taken from utility performance indicators.** These include impacts on customers, operational performance, and financial performance. Progress on these indicators will be updated annually by the participating utilities. Job opportunities that will be created for women and youth under UWSSP-2 will be documented as part of periodic implementation reports.

52. **Capacity needs assessments will be conducted to inform the TA under Component 3** to strengthen data collection and M&E capacities at all levels, including refresher and on-the- job training in M&E for federal and regional PMUs and M&E staff. The M&E system will be fine-tuned continuously through deliberation and as training progresses to build local capacity.

53. **The midterm review (MTR) at the end of the third year of implementation will assess the overall performance of the project and its progress** toward achieving the development objectives. It will also assess the efficiency and effectiveness of project design and implementation and highlight the need for any adjustments. User satisfaction surveys at the MTR stage and at project completion will cover household satisfaction with the functioning, continuity, maintenance, and affordability of WSS services, and whether wastewater and wastewater reuse are perceived as safely managed.

C. Sustainability

54. **Experience has shown that the impact of multiple social, economic, technical, institutional, or environmental factors over time may influence the sustainability of urban WSS services**. Based on lessons learned from similar projects, UWSSP-2's design will work toward strengthening and supporting the sustainability of systems through involving beneficiary communities and strengthening the participation and roles of women in all stages of project design and implementation. Beneficiary selection will be based on targets set by AAWSA and the local governments, verified by robust social and technical analysis. UWSSP-2 will actively seek to increase accountability by helping institutionalize public reporting of the performance of service providers on a regular basis.

55. **Strengthening the units responsible for post-construction support will be important**, together with supporting the enabling environment for active participation of the private sector and small and micro enterprises to support O&M. This will be supported by periodic refresher training.

56. **Appropriate technologies will be deployed**, such as for cost effective, simplified, wastewater containment, collection, transportation, safe treatment, and disposal/reuse.

57. **To ensure financial and economic long-term sustainability of the sector**, the project will support implementation of the GoE's cost recovery policy, partly on some of the activities in Addis Ababa, promoting community contribution and cost sharing in the design of urban sanitation services. It will also support activities to improve operational efficiency of urban water supply by financing activities and incentive mechanisms to reduce system losses through leak detection

programs, metering of consumers and encouraging conservation, streamlining sector institutions, and adopting modern management methods for the services.

V. KEY RISKS

A. Overall Risk Rating and Explanation of Key Risks

58. **The overall implementation risk** of the project is *substantial.*

59. **Political and governance risks are rated high** because of the recently declared state of emergency and political unrest. The political situation appears to be improving, which may result in lifting the state of emergency. However, a resurgence of the unrest would impede implementation progress. The process of tariff revisions also carries political risk, as political and social factors may delay or even prevent tariff increases, which in turn could add to financial risk. AAWSA's proposed tariff revision is currently under review by the managing board and it will inform how and when MoWIE and the utilities of the project secondary cities take action on tariff revisions or mobilization of alternative resources to cover potential financing gaps.

60. **Sector Strategies and Policies risks are rated substantial**. The existing WSS sector policy and strategy are over 15 years old and needs updating to address emerging urban sanitation challenges resulting from urbanization and rapid population growth. The project will finance sector reviews and studies to provide evidence on performance and effectiveness of policy provisions and share experiences from other countries to help the government in its effort to update the sector policies.

61. **Institutional Capacity for Implementation and Sustainability/Fiduciary Risks (Substantial).** Limited capacity and experience of selected secondary cities on implementation and management of urban sanitation could substantially affect implementation progress and effective operationalization of the facilities. Most of the participating cities have weak capacity in financial management and procurement that could substantially affect implementation. The project will require availability of critical fiduciary staffs and finance capacity building at every level to support FM, procurement, contract management, and safeguards, and to put in place improved systems for M&E. An implementation support team will be engaged, including international and national experts in selected skill areas, while the TSGs will provide roaming TA.

62. **Technical Design of Project (Substantial). There are several design risks worth noting.** Limited experience in the design and management of WWTPs may affect AAWSA, especially in technical design, operation, maintenance, and management of the WWTPs to be supported by the project. To mitigate this risk, the project will promote private sector participation through the introduction of DBO contracts and performance based service improvement. A low demand for sewer connections, due to limited awareness and affordability constraints among targeted beneficiaries, poses a risk of a low connection rate and underutilization of facilities. To mitigate this, UWSSP-1 is supporting the establishment of an affordable connection strategy and regulations. UWSSP-2 will build on this and refine the strategy and regulations, while operational efficiency improvement activities will continue supporting a dedicated team at AAWSA to interact with the community and customers on a proactive plan for increasing connections.

63. **Stakeholder risks (Substantial).** The involvement of various ministries and bureaus in the planning, implementation, management and regulation of urban water and sanitation, and the lack of adequate coordination among these stakeholders may pose substantial risk to project implementation. The project will support efforts to better define sanitation responsibilities and establish a coordination mechanism. At the national and regional level the WaSH steering committees will have oversight role and facilitate coordination among various actors while the city administration will facilitate coordination at city level. The project will promote continuous dialogue as well as engagement of stakeholders during design and implementation of the project. The 'Not in My Backyard' syndrome poses risk due to low-income households' limited awareness of the risk of

their current sanitation situation and the need for improved systems, as well as resistance against construction of off-grid sanitation facilities. This could delay the timely identification and allocation of land for constructing sanitation facilities. In mitigation, the project will support the existing Urban Health Extension Program to consult with communities.

64. **Climate and disaster risk (other)** is rated as moderate. It will be mitigated by appropriate design that considers runoff, flood water and drought, as well as information regarding recharging and depletion of ground water sources.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

65. This financial and economic analysis covers Component 1 and Component 2, which account for about 99 percent of the total project cost. The results of the analysis are summarized in the following paragraphs; Annex 5 provides more details.

66. The project is expected to improve the customer and revenue base of AAWSA and participating secondary cities through increased waste emptying, conveyance, disposal and treatment capacity, as well as through reduced NRW and operational expense, and improved collection efficiency. At the end of the project, utilities financial status is expected to improve and enable them to use up to 25 percent of their revenue for replacement and expansion of their service and be on track for a gradual move toward full cost recovery.

67. **Addis Ababa investments.** The financial and economic returns of the Addis Ababa investments, as measured by net present value (NPV) and internal rate of return (IRR), are summarized in Table 2 and show that the project is financially and economically viable, with positive NPV and the financial and economic IRRs greater than the discount rates used.

Table 2: Summary of Financial and Economic Analysis of Addis Ababa Investments

No.	Scenario	NPV in US$ million	IRR (%)
1	Financial Base Case	45.3	12.9
2	Economic Base Case	**92.7**	**16.1**

68. Table 3 shows the resilience of these investments against the potential risks by estimating the switching values of costs and benefits against various risks. For financial NPV to be zero and IRR to equal the discount rate, either the cost has to increase by about 29 percent or revenue has to drop by 20 percent. However, NPV will be zero if a 10 percent cost increase is combined with a 10 percent decline in revenue.

69. **The project aims to increase AAWSA's operational coverage ratio from the current 1.04 (and an average of 1.1 for the past six years) to 1.29 at the end of the project**. To this end, the project is expected to improve the customer and revenue base of AAWSA through increased wastewater emptying, conveyance, disposal and treatment capacity, as well as interventions to reduce NRW and operational expenses, and improve collection efficiency. The projected cash flow schedule shows that the project would generate sufficient cash to cover all cash requirements, including for debt service requirements for existing and future loans. Net cash flows increase over time from Ethiopian Birr (ETB) 52.1 million to nearly ETB 2 billion at the end of the 10th year. This will enable AAWSA to finance some replacement costs from its own revenue.

Table 3: Potential Risks and Switching Values for Addis Ababa Investments

Scenario	Potential Risk	Impact	Change Required from Base Case for NPV to be Zero and IRR = Discount Rate
1	Limited implementation capacity, involvement of multiple stakeholders and weak coordination increasing cost	Cost over run	29.3% increase in cost
2	Limited awareness of beneficiaries, low demand for sewer connections, underutilization of sanitation facilities	Revenue decline over the life of the analysis	20% decline in revenue
3	Increased cost with reduction in revenue	Increased cost with reduction in revenue	10% increase in cost associated with 10% decline in revenue
4	Delay in tariff revision	Political and governance risk	5 year delay

70. **The project will have a fiscal impact both on AAWSA and the Addis Ababa city administration**. The city administration is expected to provide US$60 million as counterpart funds. However, as the project is a GTP II priority, it is a fiscal relief rather than a burden for the city administration.[11] AAWSA has to repay the sub-loan of US$170 million in IDA funds for the construction of a trunk line and a sewer treatment plant for the eastern catchment and other infrastructures. The sub-loan will be channeled through the Water Resources Development Fund (WRDF) at an annual interest rate of not more than 3 percent over 25 years, with a five year grace period. UWSSP-2 revenue enhancement interventions and the completion of on-going projects in South Ayat and other areas will inject 218,000 m^3 water per day into the system, thereby increasing AAWSA's revenue base sufficiently to enable it to service the IDA sub-loan.

71. **Secondary cities.** Specific project interventions in secondary cities will be determined after feasibility studies and detailed designs are completed in each city. A combination of centralized sewer system, decentralized sewer system and fecal sludge management are considered technically feasible and appropriate, depending on the specific local conditions (for example, availability of water supply, types of household sanitation facility, and settlement patterns).

72. **The methodology applied in the cost benefit analysis for Addis Ababa component was adopted with some modifications to fit the specific context of each city included in the analysis**. The financial and economic returns for three sample secondary cities, as measured by NPV and IRR, are summarized in Table 4. The results show that project investments are both financially and economically viable, with positive NPV, and the financial and economic IRR greater than the discount rates used.

73. **Switching values for selected secondary cities.** More than a 10 percent increase in cost for Debrebirehan and more than a 14 percent decline in revenue for Bishoftu will result in a negative NPV and a financial IRR of less than the 10 percent discount rate. A combination of cost increases and revenue reductions will have stronger impacts on the returns on investments: the NPV will be negative if the investment cost increases by more than 10 percent, combined with a revenue reduction of more than 7 percent and 8 percent, respectively, for Gondar and Bishoftu.

[11] AAWSA's estimated capital budget requirement to fulfill GTP II targets in water supply and sewerage projects (2015/16-2020/21) is estimated at ETB 55.9 billion (US$2.5 billion), of which ETB 24.3 billion (US 1.08 billion) is allocated for various sewerage projects and largely to be financed by subsidies from the Addis Ababa city administration.

74. **Operating cost coverage.** The utilities currently cover their operational expenses, and the average operational coverage ratio is estimated to range from 1.09 to 1.50. UWSSP-2 investments are expected to improve the customer and revenue base of the utilities through increased wastewater conveyance, disposal, and treatment capacity, as well as improved operational efficiency. UWSSP-2 investments are therefore expected to increase the average operating cost coverage ratio upon completion to 1.34 from the current level of 1.09.

75. **Affordability.** The percentage of disposable income spent on WSS services (affordability index) varies among the project cities and ranges from 1.7 percent in Addis Ababa to 5 percent in Gondar; see Annex 5, Table 5.7. These are within the international benchmark affordability range of 3 to 5 percent. The relatively low value in Addis Ababa indicates that there is potential for tariff revisions without impacting the affordability threshold.

Table 4: Summary of Financial and Economic Analysis for Sample Secondary Cities

No.	Scenarios	NPV in US$, million	IRR (%)
1	**Base Case Financial**		
	Gondar	2.87	15.2
	Bishoftu	2.95	33.94
	Debrebirehan	2.35	18.90
2	**Base Case Economic**		
	Gondar	21.49	30.10
	Bishoftu	9.85	59.75
	Debrebirehan	13.33	39.25

B. Technical

76. **Addis Ababa sanitation:** Limited capacity to operate and manage the existing and proposed infrastructure is a threat for the sustainability of the system in Addis Ababa. For these reasons, the project will support the introduction of a DBO approach for the new treatment plants, while providing assistance to outsource the O&M for existing facilities to private operators. The design, construction, and management of the public latrines will build on AAWSA's past experience where it constructed and outsourced the management to SMEs. To reduce open defecation in Addis Ababa, communal latrines will be constructed in areas where communities do not have household or shared latrines. Consultants are being short-listed to undertake feasibility studies, and prepare detailed designs and tender documents for contracts for the eastern catchment sewerage system.

77. **Addis Ababa operational efficiency.** Investment in recent years has focused on increasing water production. AAWSA now has to improve WSS services levels by modernizing the operational and management systems, including through performance-based contracts for NRW reduction and management, customer care, FM, network management, and improving sewer connections and fleet management systems. The utility has already commissioned some studies and plans to improve WSS service provision, including developing a comprehensive NRW strategy, designing a SCADA system, and putting in place WSS improvement plans. The project will support implementation of these plans in a more strategic and a performance-based approach, with performance incentives built into the process. Critical areas will include business plans and performance agreements to focus on implementation of operational processes and performance improvements, HR improvements and change management, and dedicated operator support to assist AAWSA to translate its plans into action.

78. **Project management and institutional strengthening in Addis Ababa.** AAWSA has a project implementation office with experience in managing World Bank-financed contracts. The project will

supplement this existing project management capacity through additional staff under new management contracts.

79. **Implementation readiness in the secondary cities.** Consultants are being shortlisted for feasibility studies and detailed designs in the first five cities which have the prerequisite capacity from previous projects. The remaining participating cities will receive capacity building support to be able to absorb investment financing from the project. The existing UWSSP-1 ToRs will be used to engage TSGs who will be hired to provide TA and implementation support to the utilities.

80. **Institutional development in secondary cities.** Capacity for efficient utility management and implementation of World Bank financed projects is very limited in most of these cities. The two-step approach will provide TA and implementation support in a manner that will ensure availability of minimum capacity to implement and sustain investments in the utilities. It will also serve as an incentive for the utilities to improve capacity and graduate to eligibility for investment financing. Training and exposure visits have been organized in the course of project preparation and will continue to be provided during implementation.

81. **Project management and institutional strengthening at the federal and regional levels are essential ingredients of success in the project and WSS sector at large.** MoWIE and RWBs will manage the overall project and appropriate activities to strengthen its institutional capacity are included in the project.

C. Financial Management

82. **A FM assessment was conducted in accordance with the FM Practices Manual for World Bank Financed Investment Operations** issued by the FM Sector Board on March 1, 2010, retrofitted on February 4, 2015 and supporting guidelines. Lessons from the current UWSSP-1 project and existing information drawn from various FM supervision reports, audit report, and financial report were reviewed and applied. In addition to this, visits were conducted to assess the current situation at MoWIE, AAWSA and sample new city water utilities that are expected to benefit from the project.[12]

83. The strength of the program includes MoWIE, AAWSA, and the five secondary cities' utilities that have extensive experience in handling World Bank-financed projects, relatively stable staffing at the federal level, and clean audit reports being submitted for the current program. The main weaknesses in FM arrangements continue to be delay in entity audit at AAWSA and the other utilities visited during the assessment. Particular issues requiring attention at AAWSA include delay in closing the books of account and preparing financial statements (hence, the entity audit has been continuously delayed) primarily due to delay in implementing new system (AGRESSO), delay in clearing suspense balance, significant outstanding advance and payable balances. Most of the new city utilities visited had weaknesses in record-keeping, closing accounts, and financial reporting with audit back-logs. Other challenges include inconsistencies in budget preparation, shortage of qualified accountants and auditors particularly at the regional level, and weak internal audit oversight for the entities in general and projects in particular. Lack of experience in implementing World Bank-financed projects is another challenge for city utilities, which were not part of earlier World Bank - financed projects, for example, UWSSP-1.

84. The project, while largely following government rules and regulations under channel 2 fund flow mechanisms, will have its own FM manual, to be available as part of the PIM, by project effectiveness, which would outline the detailed FM procedures and requirements. Under the project, special emphasis will be placed on the new benefiting city utilities to assess, identify and

[12] Sample visited new participating utilities are Adama, Gambella, Debrebirehan, Wolaita Sodo and Shashemene.

mitigate gaps, and build their FM capacity on an ongoing basis. Basic accounting and internal control systems, including staffing will need to be in place particularly in these new city utilities before releasing resources to them. The risk of double dipping in the five utilities of UWSSP-1 with UWSSP 2 during the overlapping period is low. This is because the overlapping period is short and different/distinct activities are being financed by the two operations. But to avoid this risk of duplication of activities, monitoring systems will be in place. All disbursement methods are available to the project. Fund from IDA will flow directly to MoWIE through a segregated designated account for onward use and transfers to the utilities. The program will use report-based disbursement, with submission of quarterly interim financial reports (IFRs) that includes forecasts for advances/replenishment of Designated Account. Staffing arrangements have been outlined to supplement the existing system. The project will submit these quarterly IFRs within 45 days of end of the quarter. The project will have its accounts audited on an annual basis and its financial statement will be audited by an independent external auditor acceptable to the World Bank and will submit the annual external auditor's report within six months of the fiscal year end.

85. It is the conclusion of the FM assessment that the FM arrangements meet the IDA requirements according to OP/BP 10.00. On the basis of the assessment the project's FM risk is rated substantial. As shown in Annex 3, an action plan has been developed and agreed to mitigate the risks and address the overall identified in the project.

D. Procurement

86. **Procurement under the project will be implemented by MoWIE, AAWSA, secondary cities Water and Sanitation utilities and RWBs** based on their respective components. The FPMU at MoWIE will: (a) monitor, supervise and coordinate all procurement activities; (b) coordinate procurement reviews; and (c) consolidate the project procurement plan received from each implementing agency. MoWIE will be responsible for the procurement of major common user items and strategic goods and equipment, and for advertising International Competitive Bidding (ICB) contracts on United Nations Development Business (UNDB) online on behalf of secondary cities Utilities and RWBs. MoWIE will also be responsible for reviewing and channeling to the World Bank all procurement documents requiring prior review.

87. **The project procurement capacity assessment covered MoWIE, regional, and utility-level institutions in Addis Ababa and a sample of secondary cities.** MoWIE procurement team and AAWSA have experience in handling procurement activities under World Bank-financed projects. Utilities of secondary cities participating in UWSSP-1 (Dire Dawa, Hawassa, Mekelle, Gondar, and Jima) have some experience in handling procurement activities of reasonable value under World Bank procurement guidelines. The remaining secondary cities utilities have limited or no experience in World Bank procurement procedures. MoWIE and RWBs are expected to provide support to these secondary cities utilities.

88. **A procurement action plan has been agreed to address procurement risks** and includes preparation of a procurement manual, acceptable to the World Bank, as part of the PIM; appointment/deployment of procurement and contract management staff at AAWSA and each secondary city utility; provision of procurement and contract management training to procurement staff, including in Systematic Tracking of Exchanges in Procurement (STEP) and other relevant project officials; and appointment of an independent procurement auditor for the project.

89. **A procurement plan for the first 18 months of project implementation, acceptable to the World Bank has been prepared.** This plan will be posted on the project website and on the World Bank's website. The procurement plan will be updated at least annually or as required to reflect changes.

90. **Procurement under the UWSSP-2 will be carried out in accordance with the World Bank's Guidelines.** '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 July 2014 (Procurement Guidelines); 'Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers' dated January 2011 and revised July 2014 (Consultant Guidelines); '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 (Anti-Corruption Guidelines); and the provisions stipulated in the Legal Agreement. Annex 3 provides more details on procurement.

E. Social (including Safeguards)

91. **The project will generate significant social benefits** through the provision of improved WSS services, including time savings (especially for women and children), an improved environment, and reduced health risks. Negative social impacts include health and safety of people near construction sites. Project activities may require the taking of privately owned land and might affect shops and informal traders who operate near the proposed construction sites. The World Bank's safeguard policy on Involuntary Resettlement (OP/BP 4.12) is therefore triggered. As the precise locations of project construction activities has not been finalized, a Resettlement Policy Framework (RPF) acceptable to the World Bank has been prepared and disclosed. Site- specific Resettlement Action Plans, acceptable to the World Bank, will be prepared as required.

92. **The RPF was disclosed on December 8, 2016 on MoWIE's website (www.mowie.gov.et/home) and on the World Bank's external website on December 13, 2016**. The environmental and climate change directorate within MoWIE, together with social safeguards experts in MoWIE, will support the cities in resettlement planning (valuation commissions, censuses, payment of compensation); select consultants to develop appropriate resettlement action plans; and participate in M&E (possibly through consultants for the most significant resettlement activities, if any). The FPMU environment and social safeguards team will monitor compliance of resettlement activities in accordance with the RPF, Ethiopian law, and OP 4.12. Implementation of the RPF in Addis Ababa will be the responsibility of AAWSA.

93. **Gender equity and citizen engagement are key aspects of the project**. As part of project preparation, the Women's Affairs Directorate of MoWIE was consulted and meetings were held in the participating cities, including communities. Key gender and citizen engagement issues relating to WSS sector were identified, and a Gender Action Plan (GAP) has been prepared to focus on: (a) ensuring women's equitable participation in project-related public consultations; (b) incorporating gender and disability-responsive designs in WSS infrastructure and services; (c) promoting employment opportunities for women and youth; (d) paying special attention to access to the range of sanitation solutions and the affordability of services; and (e) strengthening the implementing agencies' institutional capacities for gender mainstreaming.

94. **Gender mainstreaming activities.** In this context, the project will: (a) explore innovative information and communication technology (ICT) mechanisms to channel the voices of women (and men) during project implementation and longer-term service delivery; (b) establish mechanisms to capture the voice of women (and men) in decision making in urban sanitation and water supply services; (c) promote openings for women alongside men, to benefit from the economic opportunities in the urban water and sanitation value chain; and (d) invest in affordable, safe public pay-and-use toilets and showers managed by women and youth-led CBOs in LIAs. In addition, the project will ensure the active participation of women in project Steering Committees at all levels.

95. **TA will be provided to MoWIE's Women's Affairs Directorate and participating cities** to: (a) monitor the implementation of gender mainstreaming guidelines; (b) conduct a study on the different constraints that men and women face in relation to urban WSS facilities and services; and

(c) propose actions for gender training of staff, contractors, and consultants to ensure an understanding of women's issues. Gender-disaggregated information will be also collected as part of the project M&E system. Social M&E surveys will be conducted with beneficiaries before the MTR using gender-disaggregated data to measure and verify citizens' perceptions of the project's activities. The survey will serve as a tool to define gender or social issues and recommendations for further improvements in the WSS activities.

96. **A Grievance Redress Mechanism (GRM) will be set up in each of the participating cities.** This will enable people to report concerns or complaints on any aspect of the project. Grievance committees will be established at various locations in participating cities to address complaints, and to ensure that complaints are logged, tracked, and resolved promptly and that the public has ready access to the tracking system and the status of disposal of complaints and grievances.

F. Environment (including Safeguards)

97. **The proposed investments are likely to incur some adverse environmental and social impacts requiring mitigation** (that is, soil erosion, soil and water pollution, a potential increase in malaria, loss of vegetation, traffic accidents and air pollution) due to the project's construction and rehabilitation activities under Components 1 and 2. The project has triggered OP 4.01-Environmental Assessment; OP 4.11-Physical Cultural Resources, OP 4.12-Involuntary Resettlement and OP 7.50-Projects on International Waterways. The environmental screening category is B.

98. **The key safeguard policy issues raised by the project are**: (a) potential adverse environmental impacts, such as soil and water pollution, loss of vegetation, and soil erosion due to the planned construction and rehabilitation activities; (b) potential contamination of surface and groundwater by wastewater effluents; and (c) potential adverse social impacts that might result from the need for land acquisition and/or the loss of access to economic assets and livelihoods due to planned rehabilitation and investment activities.

99. **Environmental and Social Management Framework (ESMF).** Because the potential adverse environmental and social impacts of future investments could not be identified prior to appraisal, an ESMF for the project, acceptable to the World Bank, has been prepared. The ESMF includes Environmental Guidelines for contractors. The ESMF outlines the steps of the environmental and social screening process (environmental and social screening form, assignment of the appropriate environmental category to the sub-project; carrying out the appropriate level of environmental work based on the screening results, public consultations process, procedures for review and clearance of the environmental and social screening results as well as separate Environmental Impact Assessment (EIA) reports, and environmental M&E). The ESMF was disclosed on February 14, 2017 on MoWIE's website (www.mowie.gov.et/home) and at the World Bank's external website on February 16, 2017.

100. **To ensure effective implementation of the ESMF, the environmental and climate change directorate within MoWIE will oversee safeguards implementation in the project.** The directorate will closely work with the FPMU's environment and social safeguards team which will undertake regular environmental monitoring. The report will be incorporated in the project's M&E system. Annual environmental monitoring reports will be prepared by AAWSA and other secondary cities including summaries of (a) environmental screening forms; (b) Environmental and Social Impact Assessments (ESIAs) carried out in the course of the year; and (c) a summary of the environmental monitoring carried out on systems during the construction and operational phases. The annual reports will be reviewed by MoWIE and copies will be sent to the World Bank and Regional Environmental Protection Agencies (REPAs).

101. **OP 4.11 Physical Cultural Resources.** This policy is triggered due to the possibility of chance findings during construction and rehabilitation activities. Any potential chance finds will be identified and dealt with in the context of the ESMF.

G. Other Safeguard Policies

102. **OP 7.50 International Waterways is triggered because project interventions are expected to be spread across three river basins in Ethiopia that are classified as international waterways**. They include the Blue Nile and Wabishebile Rivers, and the Rift Valley lakes. Riparian countries expected to be affected by this project include Egypt, Kenya, Somalia, and Sudan. It is not anticipated that the project will cause appreciable harm to any of the riparian countries through water deprivation, pollution, or otherwise. Neither is it anticipated that the implementation of project activities will adversely change the overall quantity or quality of water flowing to or from any of the riparian of the international waterways. Nevertheless, the World Bank has notified riparian governments on behalf of the Government of Ethiopia pursuant to paragraph 4 of OP 7.50. While none of the riparian countries objected to the project, the Governments of Kenya and Somalia requested additional data and information and proposed to further work with the Government of Ethiopia on the shared surface and ground water sources. The World Bank forwarded their requests to the Government of Ethiopia and provided additional information and clarification to the government of Somalia.

H. World Bank Grievance Redress

103. **Communities and individuals who believe that they are adversely affected by a World Bank supported project may submit complaints to existing project-level grievance redress mechanisms or the World Bank's Grievance Redress Service (GRS)**. The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the World Bank's independent Inspection Panel, which determines whether harm occurred, or could occur, as a result of World Bank 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 World Bank management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate GRS, please visit www.worldBank.org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

ANNEX 1. RESULTS FRAMEWORK AND MONITORING

Country: Ethiopia

Ethiopia: *Second Ethiopia Urban Water Supply and Sanitation Project (P156433)*

A. **Result Framework**

The proposed development objective of the project is to increase access to enhanced water supply and sanitation services in an operationally efficient manner in Addis Ababa and selected secondary cities.	
These results are at	**Project Level**

#	Indicator Name	Core	Unit of Measure	Base Line	Cumulative Target Values					
					YR1	YR2	YR3	YR4	YR5	End Target
A	**Project Development Objective indicators**									
1	People in urban areas whose excreta is safely managed under the project		Number	-	-	-	127,000	842,000	1,868,000	2,762,000
1.1	Addis Ababa			-	-		17,000	49,000	280,000	495,000
1.2	Secondary Cities			-	-	-	110,000	793,000	1,588,000	2,267,000
2	Number of people in urban areas with access to improved water sources under the project;		Number	-	-	-	-	187,000	405,000	623,000
2.1	Addis Ababa	**X**		-	-	-	-	46,000	100,000	154,000
2.2	Secondary Cities			-	-	-	-	141,000	305,000	469,000
3	Operation cost coverage ratio		Ratio	1.04	1.04	1.04	1.04	1.11	1.2	1.29
3.1	Addis Ababa			1.04	1.04	1.04	1.04	1.11	1.2	1.29
3.2	Secondary Cities			1.09	1.09	1.09	1.09	1.16	1.25	1.34
4	Savings from NRW interventions under the project		m^3/year		-	-	-	3,248,000	7,045,000	10,841,000
4.1	Addis Ababa			0	-	-	-	2,007,000	4,344,000	6,680,000
4.2	Secondary Cities			0	-	-	-	1,241,000	2,701,000	4,161,000
5	Direct project beneficiaries,		Number	-	-	-	110,000	1,029,000	2,229,000	3,385,000
	Female beneficiaries	**X**	percent			-	50	50	50	50
	Intermediate Results Indicators									
	Component 1: Sanitation and water supply services improvements in Addis Ababa									
1	New sewer connections constructed under the		Number	-	-	-	-		37500	55000

#	Indicator Name	Core	Unit of Measure	Base Line	Cumulative Target Values					
					YR1	YR2	YR3	YR4	YR5	End Target
	project									
1.1	Residential Connection			-	-	-	-		36000	50000
1.2	Commercial Connection			-	-	-	-		1500	5000
2	Improved wastewater collection, transport, and disposal capacity under the project		m^3/day	-	-	-	7,000	130,000	180,000	223,000
2.1	Addis Ababa			-	-	-	-	80,000	80,000	80,000
2.2	Secondary Cities			-	-	-	7,000	50,000	100,000	143,000
3	Participating cities that have prepared and implemented an integrated urban sanitation management plan under the project.		Number	-	6	15	23	23	23	23
3.1	Addis Ababa			-	1	1	1	1	1	1
3.2	Secondary Cities			-	5	14	22	22	22	22
4	People trained to improve hygiene behavior or sanitation practices under the project'	X	Number	-	13000	26000	58000	128000	203000	234000
4.1	People trained to improve hygiene behavior or sanitation practices under the project' (Female)			-	6500	13000	29000	64000	101500	117000
5	Public and communal latrines constructed under the project and providing service		Number	-		150	400	650	1000	1000
5.1	Addis Ababa			-		50	100	150	200	200
5.2	Secondary Cities			-		100	300	500	800	800
Component 2: Sanitation and water supply services and improvements in secondary cities										
6	New piped household water connections resulting from the project'	X	Number	-	-	-		37000	48000	61000
6.1	Addis Ababa			-	-	-		10000	13000	17000
6.2	Secondary Cities			-	-	-		27000	35000	44000
7	Participating utilities that have established/ are using NRW data management system		Number	-	-	-	14	23	23	23
7.1	Addis Ababa			-	-	-	1	1	1	1
7.2	Secondary Cities/towns			-	-	-	13	22	22	22
8	Collection efficiency of participating utilities		Percentage	81	81	84	87	88	91	95
8.1	Addis Ababa			87	87	87	89	91	93	95
8.2	Secondary Cities/town			81	81	84	87	88	91	95

#	Indicator Name	Core	Unit of Measure	Base Line	Cumulative Target Values					
					YR1	YR2	YR3	YR4	YR5	End Target
9	Participating utilities with updated business plan:		Number	-		23	23	23	23	23
9.1	Addis Ababa					1	1	1	1	1
9.2	Secondary Cities					22	22	22	22	22
Component 3: Project management and institutional strengthening										
10	Trained PMU staff at federal, regional, and city level under the project		Staff training days	-	2850	5700	8350	10700	12350	12350
10.1	Addis Ababa			-	400	750	1000	1250	1400	1400
10.2	MoWIE, Regional Water Bureaus and Secondary Cities			-	2500	4950	7350	9450	10950	10950
11	Participating utilities in secondary cities that have assigned a unit responsible for sanitation services:		Number	-	11	22	22	22	22	22
12	Grievances registered related to delivery of project benefits that are actually addressed		Percentage		85	85	85	85	85	85

Note: PMU = Project Management Unit.

A. **Indicator Description**

#	Project Outcomes	Project Result Indicators	Indicator definition	Frequency	Data Source/ Methodology	Responsibility for Data Collection
PDO level Outcome						
1	To increase access to enhanced WSS services in an operationally efficient manner in Addis Ababa and selected secondary Cities".	Number of people in urban areas whose excreta are safely managed under the project.	Definition: This indicator measures the cumulative number of people who benefited from access to wastewater conveyance, safe treatment and disposal services. For the case of Sewerage network, the number of actual connections will be the base for calculating beneficiaries. The actual number of beneficiaries from fecal sludge management is estimated by multiplying the actual number of newly procured/ constructed sanitation facilities by the estimate of the number of people using the sanitation facilities. Calculation: ✓ Access to sewer piped connection (centralized) = Number of connection to piped sewer network x average number of household size ✓ Access to decentralized wastewater collection and treatment= capacity of newly constructed decentralized TP (m3/d) x 1000 / (l/c/d demand of water/average waste generated as a percent of daily water consumed (80 percent)) ✓ Access to waste water collection and safe disposal (onsite) = (Total capacity of newly procured Vacuum trucks or constructed treatment ponds (m3/d) x 1000 / l/c/d demand of water) / average waste generated as a percent of daily water consumed (10 percent) ✓ Access to sanitation facility for LIA = number of communal/public latrines constructed under the project x average number of people using the sanitation facilities	Annual	Household surveys/ regular utility reports	MoWIE/AAWSA/ secondary cities utilities/ consultants

#	Project Outcomes	Project Result Indicators	Indicator definition	Frequency	Data Source/ Methodology	Responsibility for Data Collection
2		Number of people in urban areas with access to improved water sources under the project;	This indicator measures the actual number of people in urban 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 connections (house or yard connections), public standpipe, boreholes, protected dug well, protected spring and rainwater collection. Hence, "Improved Water Sources" do not include, among others, 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 United nations children's Fund-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 MDGs. Guidance on people with access: The data on the number of people provided with access can be estimated by TTLs by multiplying (a) the actual number of piped connections with an estimate of the number of people per household connection; and/or (b) 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 urban classification: The classification should follow the official definition used in the country.	Annual	Household surveys/ regular utility reports	MoWIE/AAWSA/ secondary cities utilities/ consultant
3		Direct project beneficiaries, of which female beneficiaries	Definition: This core indicator measures the cumulative number of Female beneficiaries from both improved sanitation and water supply facilities that have been constructed under the project. Calculation: ✓ Direct project beneficiaries of which female beneficiaries = proportion of female against total beneficiaries	Annual	Household surveys/ regular utility reports	MoWIE/AAWSA/ secondary cities utilities/ consultant

#	Project Outcomes	Project Result Indicators	Indicator definition	Frequency	Data Source/ Methodology	Responsibility for Data Collection
4	Improved financial viability of utilities	Operation cost coverage ratio	Definition: A utility's operating cost coverage ratio measures the extent to which utility's revenue covers the basic O&M costs. It is used to assess the improvement on financial viability of participating utilities as a result of the intervention. Calculation: ✓ Operating cost coverage ratio = Revenue / Operating Expense Risks: ✓ There is a *possible problem of percentage aggregation* during the process of compiling the results of the secondary utilities and average of utility reported percentages will not give the true image. For this each utilities should provide source information (cash collected from all types of customers and utilities operating expense) to support the percentage data and Regions and MoWIE should only use these source files to aggregate and reach at the required value	Annual	Official records, management information system (MIS) regular reports	MoWIE/AAWSA/ secondary cities utilities
5	Reduced NRW	Savings from NRW interventions under the project m^3/day	Definition: This indicator measures the saving on NRW (Technical) as a result of the project intervention. Calculation: ✓ Saving from NRW interventions under the project (m^3/d) = the aggregate physical loss avoided due to the project interventions at each Demand Management Area (DMA) Risks: ✓ With the current capacity of utilities to document NRW data it will be difficult to get updates on the results. The risk of easy availability of NRW data is expected to be minimized through the NRW data management system that the project will support	Annual	Official records, MIS regular reports	MoWIE/AAWSA/ secondary cities utilities
Intermediate Indicators						
Indicator for Urban Sanitation subcomponent						

#	Project Outcomes	Project Result Indicators	Indicator definition	Frequency	Data Source/ Methodology	Responsibility for Data Collection
1	Increased access to sewer connection	New sewer connections constructed under the project	This indicator is measured as the cumulative number of new sewer connections constructed under the project. The baseline value is expected to be zero.	Semi Annual	Official records/regular reports	AAWSA
2	Increased capacity of wastewater conveyance and safe disposal	Improved Wastewater collection, transport and disposal capacity under the project (m^3/d)	Definition: This indicator measures additional waste water conveyance (either through VTs and networks) and treatment and safe disposal capacity created as a result of the interventions. The intervention on transfer stations (if any) will be captured through the increase in daily service frequency of VTs. Utilities are expected to provide separate result information for collection and transport through VTs, collection and transport through Network and waste water disposal and treatment capacities. Calculation: ✓ Added collection and transport capacity by VTs = (number of newly added VTs x collection capacity of VTs x daily service frequency of VTs) ✓ Added collection transport capacity of sewerage network = maximum sludge caring capacity of the newly constructed network ✓ Added waste water treatment and disposal capacity = maximum design capacity of newly constructed treatment and disposal plants (centralized TP, decentralized TP, waste stabilization pond)	Semi Annual	Official records/regular reports	MoWIE/AAWSA/secondary cities utilities
3	Improved alignment of utility sanitation activities with high level integrated urban sanitation management plan	Number of participating Cities that have prepared and implemented an integrated urban sanitation management plan (IUSMP) under the project	Definition: This indicator counts the number of participating Cities that have prepared and put in practice an integrated urban sanitation management plan. It is used to determine if utilities have started to be guided by an integrated urban sanitation management plan as a result of the intervention Calculation: ✓ Number of participating Cities that have prepared and use an IUSMP = count of participating utilities that have prepared and use IUSMP	Semi Annual	Official records/regular reports	MoWIE/AAWSA secondary cities utilities

#	Project Outcomes	Project Result Indicators	Indicator definition	Frequency	Data Source/ Methodology	Responsibility for Data Collection
4	Improved awareness on hygiene and sanitation	People trained to improve hygiene behavior or sanitation practices under the project'	This indicator measures the cumulative number of people who have participated in a training activity to conduct improved hygiene behavior or sanitation practices. This does not include people who have been educated and/or informed through public information or mass publication campaigns. The baseline value for this indicator is expected to be zero.	Semi Annual	Official records/regular reports	City administrations and utilities
5	Improved sanitation service for LIAs	Number of public and communal latrines constructed under the project and providing service:	Definition: This indicator measures the number of public and communal latrines constructed and providing service under the project. The indicator is used to specifically measure the project's pro poor intervention in Low Income Areas (LIAs). The number of sit for a single public/communal latrine and the number of organized LIA households for a single communal latrine are required to be documented. Calculation: ✓ Number of public and communal latrines constructed under the project = count of public latrines + count of communal latrines constructed	Semi Annual	Official records, MIS	AAWSA/MoWIE/secondary cities utilities
Indicators for Operational Efficiency of Water and **Sewerage Utilities Subcomponents**						
6	Increased number of HH water connection	New piped household water connections resulting from the project'	Definition: This core indicator measures the number of household connections made as a result of interventions on new water supply development and operational efficiency (NRW savings). Calculation: ✓ New piped household water connections resulting from the project= count of number of HH water connections made as a result of improvement in WS under the project.	Semi Annual	Official records, MIS	AAWSA/MoWIE/secondary cities utilities

#	Project Outcomes	Project Result Indicators	Indicator definition	Frequency	Data Source/ Methodology	Responsibility for Data Collection
7	Improved NRW data management system	Number of participating utilities that have established/ using NRW data management system	Definition: This indicator counts the number of utilities that have established and put in practice a continuous and easy NRW data collection and record management system (Database). It will be used to see if utilities have increased their capacity in knowing and continuous updating and following their level of NRW. Calculation: ✓ Number of participating Cities that have established NRW data management system = count of participating Cities that introduce and use NRW data management system	Semi Annual	Official records/regular reports	MoWIE/AAWSA/secondary cities utilities
8	Improved commercial effectiveness of utilities	Collection Efficiency of participating utilities	Definition: A utility's collection efficiency is a measure that is used to determine the increase in commercial effectiveness of utilities as a result of the project intervention. It measures the extent to which billed amounts are collected and that arrears are minimized. Calculation: ✓ Collection efficiency of participating utilities= (amount of cash collected from residential and commercial customers/(billing to residential and commercial customer + arrears) Risks: ✓ There is a *possible problem of percentage aggregation* during the process of compiling the results of the secondary utilities. Reporting average of utility reported percentages will not give the true image. For this each utility should provide source information (cash collected from all types of customers and billed amounts to residential and commercial customers.	Semi Annual	Official records/regular reports	MoWIE/AAWSA/secondary cities utilities

#	Project Outcomes	Project Result Indicators	Indicator definition	Frequency	Data Source/ Methodology	Responsibility for Data Collection
9	Increased Strategic orientation of utilities	Number of participating utilities with updated business plan:	Definition: This indicator counts the number of utilities that have prepared/updated their business plan under the project. It will be used to see if utilities have started to be guided by a clear business plan. For the case of AA, the business plan is expected to be cascaded to all the branch offices (8). Calculation: ✓ Number of participating Cities with updated business plan = count of participating Cities that have updated /newly prepared their business plan	Semi Annual	Official records/regular reports	MoWIE/AAWSA/secondary cities utilities
Indicators for Institutional Strengthening and Project Management subcomponents						
10	Improved capacity of staff	Trained PMU staffs at federal, regional and town level under the project	Definition: The indicator measures the total staff days of training for project staff who have been provided with different kinds of capacity building activities. The indicator will be used to determine if technical and operational capacity of utility staff has increased as a result of the project. It is expected to be reported with ✓ Disaggregation at Federal level (Ministry of water, AAWSA) at regional and city level to understand the reach out of the capacity building activities at all levels. ✓ Gender desegregation to see implication on building the capacity of females is also the focus of the indicator and ✓ Disaggregation by training title to capture the areas of training and capacity building ✓ This disaggregation's are expected to be clearly indicated in the remark section of the RFW ✓ Calculation: ✓ Trained PMU staff under the project = Count of PMU staff participated on capacity building activities under the project resource in terms of staff days ✓ Female participants = Count of Female PMU staff participated on capacity building activities under the project resource in terms of staff days	Semi Annual	Official records, MIS	MoWIE/AAWSA/ secondary cities utilities

#	Project Outcomes	Project Result Indicators	Indicator definition	Frequency	Data Source/ Methodology	Responsibility for Data Collection
11		Number of participating utilities in Secondary Cities that have assigned a unit responsible for sanitation services:	Definition: This indicator measures the number of secondary utilities that have introduced and put in place a fully functional organizational structure to handle the responsibility of sanitation services. It will be used to show if utilities are institutionally strengthened enough to take care of the tasks associated with liquid waste management (from collection to treatment and disposal). It will also show if utilities are able to sustainably manage procured sanitation service equipment and constructed sanitation facilities. Calculation: ✓ Number of participating Cities that have assigned a unit responsible for sanitation services = count of participating utilities that introduce and put in place a functional sanitation service unit under the utility.	Semi Annual	Official records/regular reports	MoWIE/secondary cities utilities
12		Grievances registered related to delivery of project benefits that are actually addressed (percent)	Definition: Grievances will have to be systematically collected and registered by all contractors executing Project-financed works in the construction sites as part of the Project's social management scheme. The core indicator will measure the percentage of those grievances that will be actually addressed by the contractors.	At MTR and Project Completion Report	Beneficiary survey at MTR and PCR	MoWIE/AAWSA/ secondary cities utilities

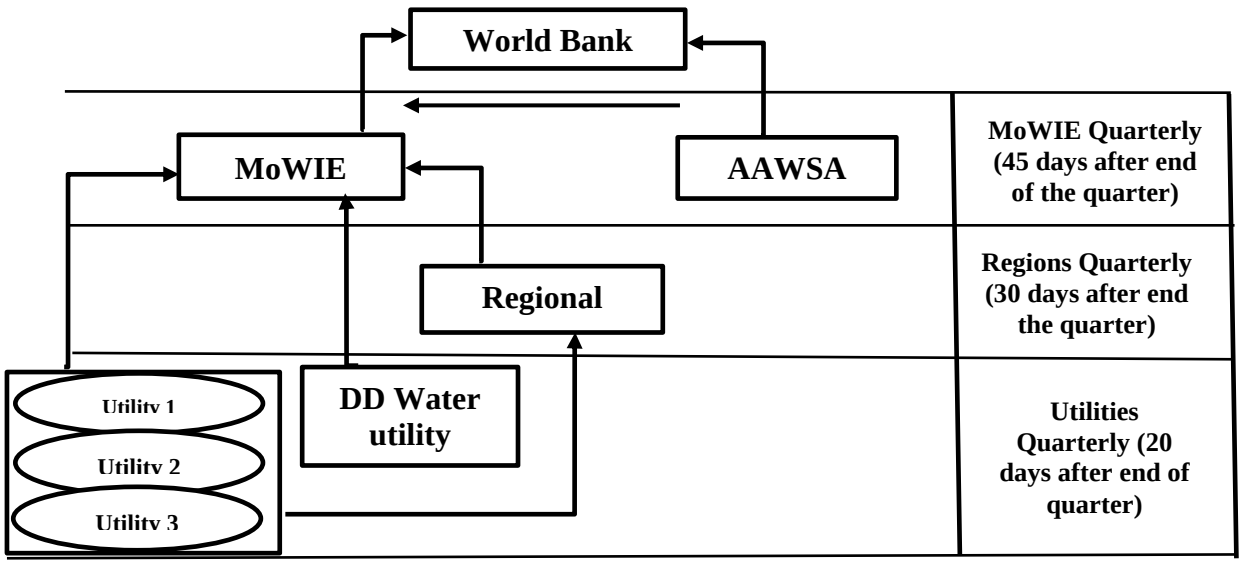
M&E IMPLEMENTATION ARRANGEMENTS:

1. **Timelines for reporting.** Lessons drawn from the ongoing UWSSP-1 show that the practice towards meeting the M&E requirements of that project were inadequate both on timeliness and completeness of regular reports. The key factors included: (a) the level of attention to and focus on M&E functions; (b) under-staffed institutional arrangements; (c) inadequate coordination among different M&E actors (Utility, RWB, MoWIE); (d) lack of clarity on M&E roles and responsibilities; and (e) an absence of enforcement and accountability mechanisms. MoWIE will develop and put in practice M&E focused on comprehensive guidelines and enforcement mechanisms for project monitoring (reporting flow, reporting schedules, reporting format, data collection and so on). The project's M&E tasks will fall within a clear structure with defined responsibility and accountability to each implementation and coordination body to improve ownership at all levels.

2. **Institutional issues.** MoWIE will undertake capacity assessments and will put the necessary M&E staff in place at all levels. The link between utilities and Regional Water Bureaus will also be strengthened, particularly in terms of provision of the required coordination and guidance to utilities. Regional Water Bureaus will be assisting MoWIE during the process of consolidation of utility reports and will provide the necessary feedback to utilities on a regular basis. There will be a need for AAWSA to establish a clear and defined reporting link between the project office, the operation unit and branch offices particularly for reporting of operational efficiency and key utility performance indicators of the project.

3. **Reporting arrangements.** All participating utilities are required to prepare their annual action plan and budget. MoWIE is expected to compile and submit the annual plan to the World Bank for review and approval prior to beginning of each fiscal year. Progress towards achievement of planned activities will be reported on regular basis. Responsibility for the regular reporting of performance and results will be placed on MoWIE, AAWSA PIU, regional water bureaus, and secondary cities utilities. Every three months MoWIE and the AAWSA Project Implementation Office (PIO) are required to submit progress reports to the World Bank within 45 days after the end of the quarter. MoWIE will be in charge of consolidation of regional and utility progress reports and will provide an electronic database for data entry, indicator calculations, and report generation. Secondary Cities Utilities are expected to produce and submit their quarterly reports within 20 days after the end of the quarter to Regional Water Bureaus, which will be responsible for compiling and submitting the report to MoWIE within 30 days after the end of the quarter. While reports produced on a quarterly basis will focus on performance monitoring, mid-year and annual reports will include progress on the project's key results indicators.

Figure 1-1: Reporting Arrangements



4. **Regular follow up and support arrangements:** Improved attention and focus on M&E from all implementing structures is required. In this regard, MoWIE will develop reporting guidelines with clearly defined roles, responsibilities and accountabilities of each M&E player at federal, regional and utility levels. MoWIE will also establish regular reporting for quality assessment and feedback to regional and utility level M&E units. Regular progress reporting will be checked with periodic IFRs, which will be used as enforcement instruments to ensure the required level of attention for reporting.

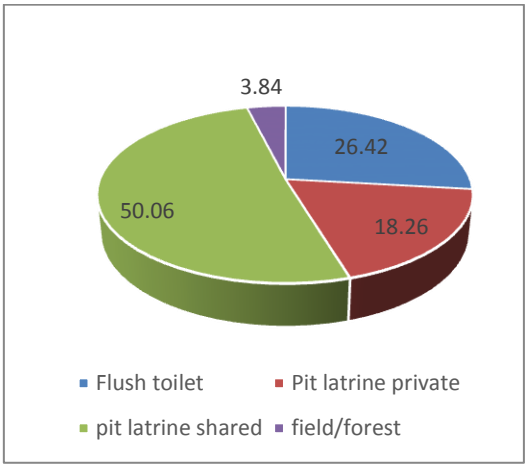
Annex 2: Detailed Project Description

Ethiopia: Second Ethiopia Urban Water Supply and Sanitation Project

1. The objective of the Urban WSS project is "to increase access to enhanced water supply and sanitation services in an operationally efficient manner in Addis Ababa and selected secondary cities". The project will cover Addis Ababa and 22 secondary cities. By the end of the project, increased access to WSS services will contribute to improved health and productivity of urban dwellers to enable them to play active roles in the country's economic growth. The institutional strengthening will secure more robust federal and regional level enabling frameworks and support, while the participating utilities will be more business oriented, with measurable business plans, adequate human and operating capacity and data systems to provide WSS services effectively, improve revenue collection, manage NRW, and improve operating coverage ratio to 1.29 for Addis Ababa and 1.34 for secondary cities, respectively.

2. Studies indicate that Addis Ababa and all the participating cities[13] are experiencing rapid urbanization, while the services delivery system for water and sanitation lags behind. Addis Ababa and the selected cities have invested in water supply over the last few years, and there have been some improvements in water supply services. The GoE has recognized the need to pay more attention and invest more in urban sanitation services, including supporting the relevant institutions through policy dialogue and support for planning and capacity building, in addition to investment.

Figure 2.1. Type of Toilet Facilities in Addis Ababa, 2011



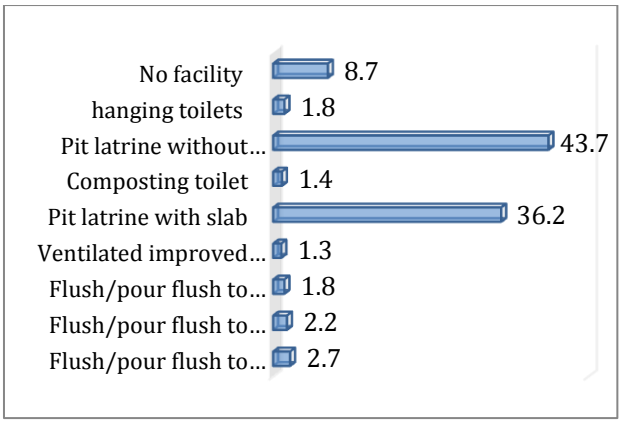
Source: CSA, Welfare Monitoring, 2011.

3. Currently, Addis Ababa is the only city in Ethiopia that provides a sewerage network at all, but only about 10 percent of the city's population has access to sewerage services, while the rest mostly use on-site sanitation. An estimated 3.8 percent do not have toilets at all, and form part of the substantial numbers that practice open defecation. As depicted in Figure 2.1, half of the residents use shared pit latrines while about 18.3 percent and 26.4 percent use private pit latrines or flush toilets, including pour flushing. Only about 8 percent of households have water taps inside their house, while about 10 percent collect from kiosks, and the remaining 80 percent collect their

[13] The selected cities can be clustered into four groups. The first group is regional capitals and the biggest cities with populations above 300,000 (Dire Dawa, Mekelle, Adama, Hawassa and Bahir), which are focus towns under GTP II. The second group is regional capitals for the smaller and emerging regions (Harari, Jijiga, Gambella, Asosa, and Semera Logiya). The third cluster comprises secondary towns, one from each of the big regions Jimma, Gonder, Sodo, and Adigrat. The fourth cluster is towns with populations between 100,000 and 200,000 and includes Bishoftu, Dessie, Shashamene, Nekemete, Assella, Arbaminch, Debrebirehan, and Degeh Bur.

water through yard taps (CSA 2011). Large upgrading programs in slum areas and new high rise developments with some improved latrine facilities are in progress, but open defecation, unsafe containment, and a lack of appropriate desludging services, transportation, and treatment of wastewater remain significant. Because most of the slum residents in Addis Ababa use on-site sanitation, AAWSA has introduced mobile public latrines that can be dismantled and reconstructed easily, and the strategy is increasingly to introduce site treatment facilities for community toilet facilities, wherever this is feasible.

Figure 2.2. Typology of Household Toilets 2014 (Demographic and Health Survey)



Source: WSP-WaSH assessment for ten cities.

4. Substantial investment and TA is needed to address the urban sanitation challenges in Addis Ababa and other urban centers, but the progress since the 1990s should be acknowledged, especially as open defecation has been reduced. The original MDG baseline estimated that 39 percent of urban residents had no access to any sanitation facility, while by 2015 the estimate had come down to 6 percent. However, the most recent Demographic and Health Survey's mini sample survey in selected cities estimated the share of households with flush and pour flush toilets at between six percent and seven percent only, and subsequent Water and Sanitation Program assessments in ten cities in 2015/16 indicated a similar trend. These estimates show the scale of the challenge generally, and underscore that sewerage is unlikely to be a realistic option for all in the immediate future, given that access to water supply is not universal or reliable (see Figure 2.1). Moreover, although reliable data for all cities are not available, it is clear that in most cases people do not receive anything close to continuous water supply.

5. Improving water supply undoubtedly requires investment in new and additional infrastructure, but to make this sustainable, even more critically demands institutional reform. This reform should make services more customer focused; reduce water losses and therefore the volumes of NRW; and modernize water meter reading, billing, and asset management. There is growing interest among water sector decision makers in engaging the private sector, but the scale and depth of institutional issues mean that public-private partnerships are unlikely to offer rapid and comprehensive solutions. A review and reforms of the enabling policy, legal, and bureaucratic environment will be needed, on the basis of which both the reform of public utilities, the engagement of the private sector, and the governance relationships of public institutions at all levels and service providers can be shifted.

6. To achieve the development objective, six broad principles will be adopted in the implementation of the project: (a) an integrated city-wide sanitation improvement approach that caters for diverse needs and that would offer a range of service options for different settlement types; (b) a stepped or phased enabling approach that will offer the opportunity for Cities to pursue infrastructure investment; (c) the development of a chain of services in every city to collect,

transport, treat, and dispose of liquid wastes safely; (d) the promotion of public awareness and enhanced social engagement; (e) improving the efficiency of utilities; and (f) encouraging and facilitating the involvement of the private sector.

7. This project is part of a broader effort of improving urban WaSH services under the OWNP with other development partners. The UWSSP-2 specifically will have three components: (a) Addis Ababa, (b) secondary Cities and (c) federal level support to project management and strategic sector studies. These will be further subdivided into three subcomponents focusing on improved sanitation services, operational efficiency, and project management. The project will directly and indirectly benefit 3.38 million people (50 percent of them women), of which 2.76 million will benefit from improved sanitation facilities and 623,400 from improved access to enhanced water supply services.

Component 1: Sanitation and water supply services improvements in Addis Ababa (US$260 million equivalent)

8. Addis Ababa is the largest city in Ethiopia, with a population of more than seven times that of the next biggest city, Dire Dawa (2016). The water and sewerage authority is currently running several projects, mainly aimed at augmenting water and sanitation services. The current per capita water supply is estimated to be above 80 lpcd and the aim is to reach 110 lpcd by 2020. The proportion of residents with access to conventional sewerage is about 10 percent, while the majority gets access through the on-site sanitation. This component will finance three subcomponents: (a) improved sanitation services; (b) operational efficiency; and (c) project management.

Subcomponent 1.1: Sanitation services improvement in Addis Ababa (US$224.6 million equivalent)

9. AAWSA proposed: (a) sanitation assessments, feasibility studies, and the design and construction of a WWTP for the eastern catchment, through a DBO approach; (b) sewerage networks for the eastern catchment area; (c) O&M of the WWTPS in Addis Ababa; (d) improvement of water and sanitation services in LIAs; and (e) the operational efficiency of water and sewerage services provision, including supporting them in developing integrated city sanitation plans. The assessment at the eastern catchment will look into household connectivity; the hydrology situation; and different technical, social, institutional, environmental, and operational issues. Introduction and testing of a DBO [14]arrangement will also be considered for the eastern catchment. The fecal sludge management improvement in LIAs will be approached within the wider area as part of an integrated approach. Across all this work, the improvement of access to services for low-income residents will be a primary focus, especially through the provision of communal and public latrines, appropriate desludging equipment, including safe transportation, treatment, and disposal options. The actual and potential roles of the private sector, especially SMEs will be specifically considered.

[14] The DBO procurement method streamlines the traditional DB delivery approach. The DBO procurement method grants a single contract agreement to a single private entity that is chosen to design, construct, and operate either a new facility or any major capital improvement to a facility while the municipality retains ownership. In a DB, the private entity may only focus on up-front cost savings and not consider the treatment plant's long-term efficiencies and cost-savings. In a DBO, however, the private entity must focus on the treatment plant's long-term goals because the company will ultimately be responsible for the cost-savings and efficiencies in operation. The DBO procurement approach has a number of advantages including reduced capital and maintenance costs, use of robust technology and equipment, more appropriate risk management, shortened delivery schedules, working within one contract rather than multiple contracts, performance guarantees, and significant end user savings. Among the challenges of DBO are client weak supervision capacity, making it more difficult to evaluate proposals if design options are left open to bidders. There is a danger that a bidder may price all upside into construction so that the bidder does not really care about long-term operations. The World Bank is currently preparing standard bidding documents for DBO which can be used for the project.

10. **Sanitation infrastructure.** Under the sanitation subcomponent, finance will be made available for a review of urban sanitation and detailed designs, construction of centralized and decentralized sewer systems, construction of appropriate wastewater treatment facilities, hygiene and sanitation promotion activities, and for the supply of equipment for urban sanitation. Already, identified interventions include the construction and management of public and communal latrines with income-generating services in public places and LIAs, the construction and management of fecal sludge treatment systems, and simplified decentralized sewerage systems, where appropriate and feasible.

11. **Construction of additional communal and public latrines to address the demand for improved sanitation services.** The project will dedicate resources to leverage additional funding and technical support toward the improvement of sanitation in slum areas by supporting AAWSA and other relevant stakeholders through construction of communal and public latrines and in the development of services management systems. Support for construction of communal and public latrines will be in line with the standards and guidelines adopted by the city administration. Management of public latrines will be contracted out to appropriately organized SMEs, while communal latrines management will remain the responsibility of groups of households, all receiving training on the management of clean, safe latrines. Implementation of communal latrines will be guided mainly by engaging households –both those who do not have latrines and those who want to improve safe containment and disposal. Where possible, public and communal latrines will be connected to decentralized or centralized sewer lines.

12. **Procurement of vacuum trucks.** AAWSA and private sector operators are currently extending desludging services to communities through deploying vacuum trucks. Currently, AAWSA has 104 vacuum trucks to provide services to the non-networked areas. Private operators have been extending services with 58 vacuum trucks to hotels and individuals paying for services. One of the major challenges facing AAWSA fleet management is that a significant number of their vacuum trucks are consistently non-functional. AAWSA estimates that an average of 38 percent of these trucks are out of operation at any given time. The project will support AAWSA in improving fleet management and procurement of additional vacuum trucks.

13. Under the Addis Ababa sanitation improvement subcomponent, a total of seven contracts with an estimated contract value of US$30 million are expected to be committed and about 40 percent of this commitment will be disbursed in the first 18 months. The activities include (a) feasibility studies and detailed designs and tender document preparation for the eastern catchment WWTP (DBO) and sewer network (DB); (b) ESIA for the eastern catchment WWT and sewer line; (c) development of an integrated sanitation plan; (d) O&M of existing WWTPs (Chefe, Koye feche, Kaliti and decentralized packages for WWTP); (e) construction of 200 communal and public toilets; and (f) procurement of different capacity vacuum trucks.

Subcomponent 1.2: Operational efficiency improvements in Addis Ababa (US$33.1 million equivalent)

14. This subcomponent will support AAWSA to improve WSS service levels by modernizing the operational and management systems. It will focus on NRW reduction and management, customer care, FM improvement, network management, and improvements in sewer connection and fleet management systems. The project will also support management contracts to fill the O&M capacity gaps and establish effective management systems, including performance based contracts for small-scale leak detection and repair. Critical areas will include business plans and performance agreements to focus on implementation of operational processes and performance improvement, and to be complemented with an investment and financing plan; HR improvements and change

management; a comprehensive SCADA system to secure supervisory control and data acquisition, able to analyze real time data, specific to each branch; and dedicated operator support to assist AAWSA in translating high-level plans into action, partnering with experienced operators.

15. Key areas for management improvements are described here:

(a) ***Business plan update***. The business plan is almost seven years old and needs to be revisited. A draft long term roadmap has been prepared, on the basis of which a five-year business plan, including separate business plans for each sub unit (production, branches, and so on), should be prepared. The business plan needs to focus on implementation of operational processes and performance improvement. It will be completed with an investment and financing plan (including funding through the municipality) for the coming years. The business plan should result in a performance agreement between the Board and General Manager which will be cascaded to several business units. In each unit there is a need to come down to individual performance of staff. To monitor the business plan, an MIS will be established as part of the M&E set up for the utility.

(b) ***HR improvements and change management.*** The success of the reform will depend on the skills of top and middle management. The aim is to enable long-serving, capable and charismatic managing-directors to play a pivotal role in utility reforms. They should be able to visualize end results, initiate concrete reform steps, lead by example, change staff mentality, promote young, promising staff to key positions (building a competent and responsive middle management), and institutionalize the reforms. An HR strategy will be needed with clear performance-based rewards, both positive such as salary, bonus, or career paths and punitive, within the labor laws, such as demotion.

(c) **Customer relations**. The current meter reading is labor intensive and prone to errors. New software, business processes, and checks and balances should be put in place, which with available technology would improve considerably. At the moment, 16 percent of meter readings show less than 1 m3/month which points to the need for closer and effective follow-up on customer meters with appropriate and timely corrections. This will not only increase revenue for the utility but will also help in addressing customer complaints in a more efficient way. One of the key issues to be addressed is the large customers, which would be a separate activity in each business unit. Under this sub-package, improving meter reading and billing for AAWSA, license maintenance for the billing system, asset management, and call center establishment will be supported to improve customer service and relations. It will be integrated with a restructuring of the branch organization to include direct reports to customers through a care taker approach.

(d) ***SCADA*** aims to improve production, bulk supply and performance in distribution, and energy and NRW management. The system should be comprehensive, as the existing partial components mean that there is no complete overview of supply and demand. The SCADA system will be implemented so that the system input volume for each branch can be determined, thereby ensuring separation between bulk supply and distribution. The system is designed in four phases, which allows for careful prioritization and implementation based on availability of resource.

(e) ***Performance-based NRW management (US$20 million equivalent).*** NRW is still high in AAWSA: approximately 39 percent according to the latest reports. This, together with meter and billing inefficiency, is detrimental to the financial position of the utility. Improvement of either will immediately result in improved financial performance. Private

sector involvement will expedite NRW reduction and set a benchmark for the remaining areas.

(f) ***Operator support (US$4.6 million equivalent)*** to translate high level plans into action at grass roots level. This requires training at that level and implementing change activities. One of the models considered and discussed is through performance linked operator support. This support will be through an experienced operator and hands on support. It will implement a range of standards that were developed by the head office but which are not used by the branches. It will cover a range of subjects, such as:

- WWTP (operational processes and maintenance)
- Bulk supply, water safety planning (flow and pressure management in the main network, hydraulic modelling, supply management)
- Branch management (NRW management, commercial management [large customers] and meter management); and
- Network management through a caretaker approach, such as through two demand management areas in each of the branches where skills and practical experience can be developed.

16. **Regarding project readiness, 30 percent** of the US$32.2 million expected to be committed under the Addis Ababa operational efficiency improvement subcomponent is projected to be disbursed during the first 18 months. Some of these major activities include (a) NRW management (PBC); (b) updating of AAWSA's business plan; (c) on-site support and disaster recovery site to billing and accounting system; and (d) supply and installation of bulk flow meters and first phase of the SCADA system.

Subcomponent 1.3: Project management and Institutional strengthening in Addis Ababa (US$2.3 million equivalent)

17. AAWSA has accumulated experience in implementing government and donor-funded projects. The current PIU is led by a deputy general manager, responsible for planning and implementing projects. However, the PIU is expected to be strengthened through logistical support and resources to effectively implement the project. This includes staff capacity building, study tours, procurement of office equipment, facilities and logistics, including transport facilities, as well as through short term individual consultants contracted for specific interventions, such as improvement of monitoring systems, specialized short-term studies on issues like community engagement, gender, and people with disabilities. Given the limited capacity and experience in provision and regulation of off-grid sanitation solutions, this subcomponent will also support extensive community consultation and TA for obtaining experience from other countries. Training, exposure visits, and supply of vehicles for AAWSA will also be part of the 18- month plan and will disburse nearly US$ 1 million.

Component 2: Sanitation and water supply services improvement in secondary cities: (US$241 million equivalent)

18. Under this component, 22 cities selected from all the regional states and the Dire Dawa city administration will be supported. Table 2.1 provides key data from the secondary cities to be considered under the project. None of them have a sewerage system, but all have urban health extension workers promoting improved hygiene and sanitation practices, including construction and use of improved latrines. However, progress on the ground is slow, and they face high risks of missing the targets set under the GTP II and the SDGs. This project will seek to support these cities and in such a way that it could be scaled up across Ethiopia to achieve the targets.

Table 2.1. Cities Key Sanitation Facilities Features and Access to Water Supply

No	City	Region	Population*	Poverty Rate (%)	Unemployment Rate (%)	Sanitation unit under the Utility	Technical and Support Staff on Sanitation	Sanitation Facilities			Water Supply Coverage (%)
								Vacuum Truck	Sludge Treatment Facility	Public Toilet	
1	Dire Dawa	Dire Dawa	293,000	35	23	Yes	18	4	pond	17	55.00
2	Mekelle	Tigray	358,529	10	19	No	No	17	drying bed	2	65.00
3	Adama	Oromia	355,475	16	23	No	No	16	drying bed	2	74.00
4	Bahir Dar	Amhara	313,997	15	15	No	No	5	No	2	67.00
5	Awassa	SNNPR	335,508	25	16	yes	7	2	drying bed	7	88.00
6	Jimma	Oromia	195,228	26	20	No	No	2	No	10	89.00
7	Gonder	Amhara	360,600	27	15	Yes	4	3	Waste stabilization pond	6	45.00
8	Sodo	SNNPR	161,450	26	20	No	No	1	No	2	85.00
9	Adigrat	Tigray	95,358	15	22	No	No	4	No	15	45.00
10	Harar	Harari	137,000	12	16	yes	1	2	No	1	67.00
11	Jigjiga	Somalie	169,390	15	15	No	No		No	4	na
12	Gamebella	Gambella	74,102	17	9	yes	3	1	No	-	66.70
13	Assosa	Benishangul Gumuz	52,575	19	15	No	No	No	No	4	75.00
14	Semera LogiYa	Afar	69,198	Na	na	No	No	1	No	-	55.00
15	Bishoftu	Oromia	161,354	22	17	No	No	1	No	4	62.80
16	Dessie	Amhara	209,226	20	23	No	14	4	No	20	100.00
17	Shashemene	Oromia	162,127	25	24	No	No	1	No	1	54.00
18	Nekemete	Oromia	121,385	25	19	No	No	3	No	4	90.00
19	Asella	Oromia	108,571	25	25	No	No	4	No	0	96.00
20	Arba Minch	SNNPR	159,019	26	19	No	No	3	No	10	92.00
21	Debrebirehan	Amhara	113,693	31	13	No	No	2	No	10	84.00
22	Dega Habour	Somali	40,386	na	na	na	na	na	na	na	na

Source: CSA: Population Projection of Ethiopia for All Regions at Woreda Level from 2014 to 2017, August 2013.

Subcomponent 2.1. Sanitation services improvement in secondary cities (US$196 million equivalent)

19. To improve sanitation services, the project will support: (a) assessment, feasibility studies and design of viable investment projects, both for networked and off-grid systems related to wastewater management, including detailed design of selected options; (b) sanitation infrastructure development, including construction of conventional sewer systems, where possible, and for the construction of decentralized WWTP with networks, as well as construction and rehabilitation of

other suitable low cost technologies; and (c) procurement of capital equipment (vacuum trucks and vehicles and other relevant items). To enhance community engagement and women's participation, the project will work closely with the Urban Health Extension Program, and learn from the SMEs that are managing public latrines for possible replication in the project.

20. The interventions in the selected cities should be incremental and open to mixed approaches, rather than single solutions. The starting point is to address the problem of open defecation, followed by improving and systematizing fecal sludge management, and ultimately to assist with investment in sewer systems where feasible. The incremental, mixed options approach provides a pragmatic instrument to pick interventions according to specific contexts and capacities, thereby helping cities practically evolve affordable and manageable sanitation systems. A key consideration will be whether such options fit in with city-wide integrated interventions that link sanitation with broader urban planning and governance, finances and service delivery programs. Separate feasibility studies and detailed designs will be developed for each city to determine the appropriate technological solutions for their specific contexts. The assessment will consider the entire value chain, that is, containment, emptying, conveyance, treatment and options for reuse and disposal, and the framework to identify roles and responsibilities. Different treatment options from natural to mechanical systems could be eligible for funding from the project. Objectively defined selection criteria will be applied and agreed upon upfront with city governments, utilities, and key stakeholders. Table 2.2 provides a range of possible options for different neighborhoods typical to all the cities included in the provisional list. The options will be discussed with all relevant stakeholders and will need to be endorsed by the city administration.

Table 2.2. Type of Possible Neighborhood with Possible Technology Options

Type of Neighborhood	**Recommended Technology**
Low-cost accommodation	
• Kebele and rented houses	• Pits (public and communal) that can be emptied • Septic tanks • Improved emptying services • Container-based systems • SME / community- managed public and communal latrines
• Compound housing	
• Informal dwellings	
Condominiums	Central or decentralized wastewater treatment
Conventional housing	Septic tank with soak away, sewerage if near by
High- density developments	
• High rise	Conventional or condominial sewerage
• City center areas	Centralized sewerage and treatment
Industrial developments	Customized systems

21. The procurement of appropriate sizes of vacuum trucks and vehicles and other capital equipment will need to cater both for trucks belonging to the public service providers as well as private operators where appropriate. The assessments and feasibility studies will provide options that would be most appropriate for respective locations, and set criteria for selection with the respective stakeholders and administrations for either private or public desludging service providers or a combination.

22. Project readiness for the investments in 22 secondary cities is evident; US$31 million is estimated to be disbursed in the first 18 months of project implementation. Under the sanitation improvement subcomponent, implementation will commence for the following activities: (a) feasibility studies and detailed design of Wastewater Management Systems for all secondary cities utilities; (b) development of an integrated city sanitation plan for all 22 cities; (c) design and

construction of 800 communal and public latrines; and (d) procurement of different capacity vacuum trucks with an estimated contract value of US$41.2 million is expected to be committed. Activities under Subcomponents 2 and 3 of the secondary cities component will include (a) development/updating of 22 secondary cities utility business plans; (b) a study for improving billing and accounting systems of these secondary cities utilities; (c) feasibility studies and detailed designs of water supply system for selected utilities; (d) selection and employment of PIU key staff; and (e) supply of field vehicles for utilities. For these activities, approximately US$12.7 million is expected to be committed, out of which about 43 percent should be disbursed within the first 18 months.

Subcomponent 2.2 Water supply and operational efficiency improvement in secondary cities (US$36.8 million equivalent)

23. This subcomponent will finance targeted interventions to modernize utility service provision and management. This will be achieved through reduction and management of NRW (commercial loss and physical leaks), improving staff productivity, asset management, customer care, FM, and billing and collection efficiency, as well as performance monitoring based on internationally recognized indicators. It will also set out to improve water quality management and support water conservation and source protection activities. Tailor-made training and other capacity-building packages will be organized to address identified gaps, based on robust, participatory capacity needs assessments of the utilities. The subcomponent on financing includes (a) procurement of bulk meters, flow meters, pressure reducing and control valves, pipes and fittings, maintenance equipment, computers, and other office equipment; (b) repair, replacement and rehabilitation of pumps, generators, valves, and so on; (c) water supply expansion to unserved areas; (d) TA and studies for assessment of NRW and, development of billing and accounting systems; (e) capacity building and training on billing and accounting, customer databases and citizen engagement and customer care and, gender and management training for water boards; (f) piloting of modern meter reading and collection technologies and other efficiency improving interventions for possible scale-up; (g) performance monitoring; and (h) public awareness creation to enhance demand for services.

Subcomponent 2.3. Project management and institutional development in secondary cities (US$8.2 million equivalent)

24. Funding will be provided to enhance the capacity of participating water board members and water utility staff to effectively manage WSS facilities. This will include capacity building support through staff training; exposure visits and study tours; and provision of equipment to strengthen the management capacity of boards and utilities, municipalities, and federal and regional institutions, as well as MoH and the urban health extension workers on urban sanitation. It will also assist the preparation of business plans. This subcomponent will build on experience in the region and ongoing studies in the country, and it will provide finance water utilities' performance improvement in key business areas, including:

(a) Support for establishment, strengthening and maintenance of strong data collection and performance based monitoring systems;
(b) Support studies related to institutional arrangements, human resources development, asset management, customer relations; and
(c) Emerging needs for applied research, technology choice, and wastewater reuse.

Component 3: Program management and institutional strengthening (federal and regional levels) (US$4 million equivalent)

25. MoWIE will be responsible for overall coordination, M&E of the project, facilitation of capacity building, and policy formulation. Funding will be available to help MoWIE manage the

project and strengthen institutional capacity. The resources that will be allocated to MoWIE will be used to build the capacity of the MoWIE's project staff through short training, study tours, cost of office equipment and vehicles. This component will also provide finance for studies for the improvement of the sector performance in selected key areas, including:

(a) Review and identification of possible options for public private partnerships and developing implementation roadmaps and piloting;
(b) Support for establishing /strengthening and maintaining strong data collection and monitoring systems and performance-based agreements/monitoring and benchmarking;
(c) Support for the establishment of performance-based HR management systems;
(d) Support for a comprehensive study toward establishment of independent bodies to regulate performance of urban WSS utilities; and
(e) Support to identify emerging needs for applied research, technology choice, waste reuse, and others.

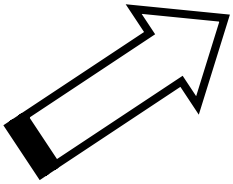
26. The project will channel resources through the WRDF for the cities that qualify for the credit. Government policy is aiming at gradually achieving full cost recovery for water supply. The WRDF will be responsible for coordinating and monitoring the on-lending part of the project.

27. **A phased approach to project implementation.** Project implementation arrangements will require utilities to acquire the capacity to plan, implement, and manage the WSS services to meet the eligibility criteria for accessing investment financing (see Figure 2.3). This involves intensive capacity building and TA that cascades from the federal level through to the regional governments, to the municipality and utility levels, to include:

(a) Use of international and national expert consultants at the ministry to review and develop guidelines, manuals, and training materials for urban sanitation management in general and for decentralized fecal sludge management in particular; provide training of trainers at the regional level; and

(b) Extending the services of the existing TSGs or engaging new ones to receive the training from international/national experts and serve as extended arms of the RWBs to provide training, TA, and implementation support to the utilities.

Figure 2.3. Stepped Approach to Urban WSS



STEP 2

Sanitation and Water Supply Services Expansion

Centralized and decentralized sanitation solutions; operational efficiency improvement interventions; NRW reduction and management; WS network expansion

STEP 1

Planning, capacity building, institutional set-up, and TA

Phase 1: TA; feasibility studies, sanitation plan and business plan, TA to water boards and utilities to build capacity of board members and operators; sanitation coordination body oriented

Main Criteria to Qualify for Step 2

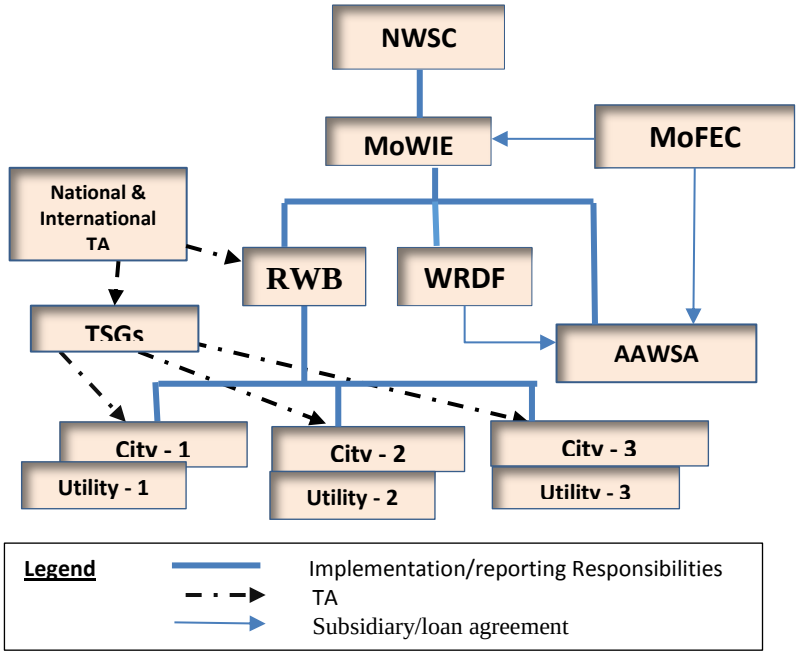
- Legal framework and enforcement mechanism established
- Waste water management / service provision responsibility assigned to the utilities
- Mechanism established for coordination between institutions and among various city-level interventions
- Citywide sanitation plan prepared
- TSGs engaged and provided training
- Stakeholder consulted and community orientation held
- Acceptable business plan and project proposal prepared (feasibility study, design, land allocated, safeguard action completed)
- Land allocated for proposed investment
- Board meeting held as scheduled
- Key staff (procurement, FM, safeguards and M&E specialists) assigned and taken basic training

Annex 3: Implementation Arrangements

Ethiopia: Second Ethiopia Urban Water Supply and Sanitation Project

1. Project implementation arrangements will largely follow the existing mechanisms for the ongoing UWSSP-1, with slight modifications to capture recent developments. A PIM will be developed to provide detailed implementation steps and procedures. The PIM will outline the institutional and implementation arrangements for the project and the rules of engagement for planning, appraisal, contracting, and implementation. Standard operating procedures, forms, bidding documents for works, and terms of reference for consultants are also being developed to streamline implementation; these will be incorporated into the implementation manuals.

Figure 3.1. Institutional Arrangements



2. The highest governing body of the project is the NWSC that comprises MoWIE, MoH, Ministry of Education and MoFEC, and is chaired by MoWIE. The NWSC leads the dialogue on the sector and service delivery standards, resources mobilization and financing, M&E, The Water and sanitation directorate and the program management unit (FPMU) within MoWIE will directly be responsible for the implementation of the project in the secondary cities outside Addis Ababa. The project office at the AAWSA will be responsible for all activities in Addis Ababa. The FPMU at MoWIE will be responsible for compiling reports both from the secondary cities and Addis Ababa and produce and report on the overall project progress.

3. The responsibility for the development and provision of urban WSS services is shared among the urban utilities and urban local governments. Generally, water utilities are responsible for provision of water and sewerage services while urban local governments are responsible for collecting and safely disposing of solid waste. Though the MoH has the overarching responsibility on hygiene and sanitation, provision of guidance on approach, oversight role and the relevant methodological tools, the Health departments in each project city are responsible for local hygiene promotion.

4. The following description indicates the key actors that will be involved in the implementation of the project, together with some of their generic tasks and mandates.

(a) MoFEC. Signs credit agreement with IDA and Subsidiary Agreements with Implementing Agencies;

(b) MOWIE

- Releases funds to RWB / Participating cities water utilities and AAWSA based on annual plans, appraised projects and interim replenishment requests.
- Implements federal components and capacity building of Regional and cities' staff.
- Project management, support to Regions, M&E.
- Reviews and reconciles periodic financial, procurement and physical accomplishment reports from Regions.
- Prepares consolidated FM Reports and forward to the MoFEC.

(c) National TA Consultants

- Provide technical and capacity-building support to MoWIE, WRDF, AAWSA, and RWBs.
- Prepare working manuals, provide training and provide hands on support.

(d) WRDF

- Manages the resources that will go to cities for the cost recovery aspect of centralized wastewater treatment (WWT). Respective cities that are going to have centralized WWT plants will prepare their project proposals and submit to WRDF for appraisal and financing. WRDF will finance such activities based on agreed terms and conditions for cost recovery.

(e) AAWSA

- Implements all activities for Addis Ababa, including capacity building, and report back on its performance to MoWIE.

(f) RWBs

- Through its Regional Project Management Unit (RPMU), coordinate Regional program; prepare and update annual activities; appraise city level activities
- Monitor implementation and provide technical support: procure, contract works, goods and service contracts including TSGs.
- Implement Regional and city level capacity building activities.
- Compile physical and procurement reports, consolidate and submit to MoWIE; conduct internal audits.

(g) TSGs

- A roving team to provide technical support, construction supervision and contract administration to RWBs and project cities.
- Provide capacity building support, training to RWBs and project cities.

(h) The City Administrations

- Facilitate coordination among institutions and stakeholders at city level.

- Responsible for establishing and strengthening the water board.
- Support implementation such as in making land available for construction of facilities, address right of way issues and relevant social safeguards.

(i) Secondary cities utilities:

- Implement activities in their respective cities.
- Upon completion, receive, operate and manage facilities, enter into contract with SMEs for some of the activities that will be outsourced.
- Periodically report physical and financial performance of the project.
- Liaise and closely work as well as report to the RWBs.

5. **Signing of the grant agreement is the responsibility of the MoFEC.** The MoFEC will delegate project implementation to MoWIE. MoWIE, reviews periodic budgets and plans, and will disburse to all implementing entities based on IFRs. The program management unit at MoWIE in liaison with RWBs, is expected to closely follow the implementation of project activities for all secondary cities. This includes, but not limited to, compiling budget and plan preparation, review of feasibility studies, capacity building and training for RWBs and project cities, compilation of performance reports and reporting to the World Bank. The WRDF will be responsible for the cost recovery aspect, particularly of WWTPs in Addis Ababa. Resources from MoWIE for this particular activity will be channeled through WRDF which in turn will pass it on based on agreed terms and conditions to AAWSA.

6. **AAWSA will be responsible for all project activities in Addis Ababa**. This includes preparation of studies and designs, bid documents, procurement, FM, ensuring compliance with safeguards, implementation, construction supervision, M&E. Secondary cities in close collaboration with RWBs, will be responsible for the closer follow up of activities in the respective cities, provide implementation support such as making land available for construction, managing right of way and associated issues, and eventually receiving, operating and managing the system.

7. **The existing project management unit in each RWB will be directly responsible for the implementation of the project in each region.** This includes, support in the preparation of studies and design documents, design reviews, managing all procurement activities (works, goods and services including the procurement of TSGs), training and capacity building of water boards and utilities, contract management, construction supervision, testing and commissioning.

8. **National TA Consultants and International experts are part of the TA needed at the national level,** to provide specific support in technical capacity building, training, preparation of working manuals, among other activities. They will be procured at the national level by MoWIE and AAWSA on a need basis and it can take the form of individual consultants or firms.

9. **TSGs** are consultant teams with different disciplines that rove around to provide support for project cities. Each RWB will procure and deploy TSGs and monitor their input. The contract management of the TSG contracts will be the responsibility of the RWBs.

Financial Management

10. An FM assessment was conducted in accordance with the FM Practices Manual for World Bank financed investment operations issued by the FM Sector Board on March 1, 2010, retrofitted on February 4, 2015 and supporting guidelines. The FM assessment considers the degree to which: (a) the budgeted expenditures are realistic, prepared with due regard to relevant policies, and executed in an orderly and predictable manner; (b) reasonable records are maintained and financial

reports produced and disseminated for decision making, management, and reporting; (c) adequate funds are available to finance the project; (d) there are reasonable controls over project funds; and (e) independent and competent audit arrangements are in place. The assessment also included the identification of key perceived FM risks that may affect program implementation and proceeded to develop mitigation measures against such risks. In conducting the assessment, lessons were learnt from current UWSSP-1, where MoWIE, AAWSA and the five secondary cities utilities are implementing the project and the team reflected on the existing information drawn from various FM supervision reports, audit reports, and financial report reviews. In addition to this, visits were conducted to assess the current situation at MoWIE, AAWSA and sample new City Water Utilities that are expected to benefit from the project. These are of Adama, Gambella, Debrebirehan, Wolaita Sodo and Shashemene.

Country Context on Public Financial Management

11. The 2014 Public Expenditure and Financial Accountability assessment has been completed for the federal government as well as for Tigray, Amhara, Southern Nations, Nationalities, and Peoples' Region, Oromia, and Somali Regions and Addis Ababa city administration. Improvements were noted in most of the federal government ratings although the rating differs among regions. Generally, the budget credibility of the country remained well supported with the continuing robust budget execution and internal control systems. Since the 2010 assessment, budget transparency and comprehensiveness and arrears management has also strengthened. The tax audit function is gradually increasing focus on risk assessment but capacity constraints still remain. Budget execution systems appear to continue to work well. Robust internal control systems remain. Procurement systems are strengthened since the 2010 assessment although the publication of procurement information has not progressed as much. Furthermore, the effectiveness of scrutiny has strengthened to an extent given that the Macro Economic and Fiscal Framework is being reviewed by the relevant legislation unit and a strengthened procedure for review of the draft budget is in place. The close follow up by legislative bodies on audit reports has improved implementation and monitoring of audit recommendations.

12. Although improvements are noted, the strengthening of the internal audit function has proceeded at a slower pace than expected. The assessment revealed that high staff turnover and capacity constraints remain in procurement and internal audit capacity. In addition, timeliness of the preparation of statements and coverage has progressed although regional reports are submitted to the federal level with delay. The assessment also indicated that the external audit has progressed overall but capacity constraints still remain.

FM Institutional Arrangements

13. The program FM arrangements will be coordinated and managed by MoWIE through the FPMU. The finance unit of the Ministry/ Project Management Unit (FPMU), apart from assuming overall FM responsibility for project funds, will at least ensure that: (a) the project FM activities are carried out efficiently and in accordance with acceptable accounting standards; (b) the project financial affairs and administration are carried out as per the Financing Agreement and FM manual; (c) qualified accountants are recruited/ assigned to handle the project funds; (d) adequate internal controls are in place and internal auditors provide regular support to the project; (e) the project financial transactions are audited by independent external auditors in accordance with international standards on auditing; (f) funds are transferred in a timely manner to AAWSA RWBs and regional level implementing utilities and payments made on behalf of these utilities are made on time; (g) acceptable financial reports are collected and consolidated and delivered on time to the World Bank; and (h) budgets are prepared in a timely manner, approved and disseminated to users; and so on.

Budgeting

14. **Budget preparation**. The program will apply the government's budget system, recorded in the government's budget manual.[15] In addition, the project will develop FM Manuals that document key budget preparation and controlling procedures. The AAWSA, RWBs and utilities (in consultation or liaison with RWBs) will prepare annual work plans and budgets for activities that will be undertaken during a financial year and submit for review and approval to MoWIE. The FPMU at MoWIE will prepare consolidated annual work plan and budget for the Project by including its own part and submit it to the World Bank for 'no objection'. All implementing entities will be notified of the approved budget before the beginning of a fiscal year. At the utility level (for AAWSA and others), the project budget will form part of the concerned city water utility which will be approved by the respective governing body. The project budget preparation should be prudent, realistic and made with professional estimates to avoid unrealistic budgets, which could lead to wrong conclusions about the project performance. The project budget will be proclaimed at the federal level under MoWIE.

15. Budget control: MoWIE, AAWSA and most of the city utilities visited have budget unit/officers that continually ensure availability of budget before any payment is made from their own sources. Experiences of the previous phase of UWSSP-1 indicate reasonable budget control at reporting level. Quarterly reports submitted to the World Bank included variance analysis along with explanation for variances though it may not be comprehensive. Budget control under UWSSP-2 should be strengthened where the project budgets will continue to be monitored at least quarterly against actual performance using IFRs. Reasons for deviations from plans/budgets will be explained in the IFR. In addition, each project implementing entity will maintain budget-tracking record/system (preferably integrated in the accounting system) and assign relevant manpower to ensure availability of budget before processing payments. To strengthen overall monitoring and implementation support for utilities, the RWBs will play an active role in monitoring budget utilizations, in following up of deviations, in supporting participating utilities (when gaps are observed), and so on which will be outlined in the FM manual.

Accounting

16. **Policies and procedures.** The Government's accounting policies and procedures[16] will be largely used for the accounting of the project and most of the utilities visited also have their own Accounting manuals though most of these are not updated to meet the current needs. Updating of their FM manuals is in progress at AAWSA and its project office, AAWSA-PO and it is expected to clarify policy and procedural issues including relations between the project office and headquarters on FM matters (for example on accounting policy, on inventory recording). This is encouraging and other utilities should consider updating their manuals as well. On the other hand, Gambella and Semera city utilities do not have such FM procedural manuals at all. These and other city utilities that do not have FM manuals should develop manuals to govern their FM activities. Having up-to-date FM manuals will assist sustainability of sound FM arrangements. The project, however, will develop its own specific FM manual by effectiveness as part of the PIM. It will summarize specific

[15] The Ethiopian budget system is complex, reflecting the fiscal decentralization structure. Budget is processed at federal, regional, zonal (in some regions), Woreda and municipality levels. The budget preparation procedure and steps are recorded in the government's budget manual. The budgets are reviewed at first by the MoFEC then by the Council of Ministers. The final recommended draft budget is sent to parliament around early June and expected to be cleared at the latest by the end of the fiscal year.

[16] The Ethiopian Government follows a double entry bookkeeping system and modified cash basis of accounting. This is documented in the Government's Accounting Manual. This has been implemented at the federal level and in many regions. The Government's Accounting Manual provides detailed information on the major accounting procedures.

requirements relating to the Project that reflect the FM arrangements. The manual will mainly focus on the areas of budgeting, accounting, chart of accounts, internal controls, funds flow, auditing and transaction coding and reporting aspects FM role and responsibilities of implementing entities (like MoWIE, RWBs, participating utilities), and so on. MoWIE will obtain the World Bank's 'no objection' on this manual before using it in the project.

17. **Accounting system.** Currently, different accounting systems are applied within and across project implementing entities. MoWIE uses IBEX for its treasury transactions, Wolaita Sodo has applied integrated web-based information system, and Adama city water utility runs WSIS (Water Supply Information System) while AAWSA is working with AGRESSO though it is not yet live. On the other hand, at the AAWSA Project office, Peachtree accounting software is used to capture and report on the financial transactions of the current UWSSP-1 but there are ongoing efforts to test AGRESSO on UWSSP-1 transactions at AAWSA-PO to facilitate consolidation; reports are however, not yet reviewed and validated. The need to move to better accounting software is clear but the current systems should not be dropped until any new system is well tested and proved suitable for reporting on project implementation transactions. There are also utilities using manual accounting. Integrated information system is under implementation at city water utility of Shashemene to replace the manual accounting (maintained on Excel Spreadsheet) while Semera, Debrebirehan and Gambella still use manual single entry accounting or incomplete versions of double entry which requires serious attention and remedy. The situation at Gambella is worse with incomplete or no books of prime entry and ledger accounts. Such utilities should move to apply complete double entry accounting using suitable computerized accounting software. Project management should also consider achieving uniformity of accounting system applied by the project, including the design. Any design needs to be configured to facilitate report generation at least on project category, major component, subcomponent and government account codes. MoWIE will ensure that acceptable accounting systems are in place before releasing fund to regions and benefiting city water utilities.

18. **Chart of accounts.** The chart of accounts for the project will be developed using the government's chart of accounts to capture properly the components, subcomponents and categories of the project expenditures. This chart of accounts shall form part of the FM Manual that will be prepared for the project.

19. **Accounting centers.** As noted above, the project financial arrangements will be led by MoWIE through the FPMU established at the Ministry. The FPMU will however, work with MoWIE and other city utilities to manage the FM aspects. Therefore, the accounting centers for project funds are: (a) MoWIE; (b) AAWSA; (c) RWBs and (d) the other project benefiting city utilities at the regions. All these institutions will maintain acceptable accounting books and records and prepare financial reports in line with the system outlined in the FM Manual. Each implementing agency is responsible for maintaining the project's records and documents of the project transactions, which will be made available to the World Bank's regular supervision missions and to the external auditors. Detailed procedures for maintaining and retaining documents and records will be discussed in the FM Manual. Some of the accounting centers (MoWIE, AAWSA, five secondary cities utilities) are still implementing under the UWSSP-1 that will end on December 31, 2017. It needs to be noted that these accounting centers are required to maintain separate accounting documents and records for previous and this new program (UWSSP-2). Special emphasis will be placed on the new benefiting city utilities to build their capacities including their FM capacity through the project interventions. In addition, for these new entities, capacity assessment will be conducted and significant gaps identified will be addressed on an ongoing basis by the Ministry. The results of the assessment will be communicated to the World Bank and will be followed up by MoWIE on a regular basis. Basic accounting and internal control systems, including staffing will need to be in place particularly in these new city utilities before releasing resources to them.

20. **FM Staffing**: In the medium term, the FPMU at the MoWIE will assess, consult and decide on the exact project FM staffing requirements for the project at its office, AAWSA, RWBs and for the other benefiting city utilities after conducting capacity assessment. The FPMU will consult the World Bank on capacity assessment to be conducted and FM staffing decisions for the medium term. However, as per the current FM assessment conducted it is envisaged that the proposed project will increase the workload and may require additional staffing. FPMU will have added workload on FM; the FPMU will recruit two additional accountants. For RWBs, one accountant per region will be either assigned or recruited as appropriate to help in managing resources sent to the Bureaus and to support and monitor the utilities in the respective region. AAWSA has adequate capacity to manage WB financed project but the workload will increase. The AAWSA Project office is reviewing its structure and upon completion, the need for staffing will be explored. Existing city utilities under the UWSSP-1 have adequate FM staff handling the project and they will continue to handle this project as well. If there is staffing need it will be explored during implementation. On the other hand, it was observed that there is a staffing need in the secondary cities utilities and there should be recruitment into these new entities.

21. **Capacity building/training.** Focused and continued FM training is essential for the success of the project given that it operates in a decentralized environment. Thus MoWIE will include FM annual training as part of the annual work plan and budget to train new and existing staff to build capacity and to address turnover challenges. Other components also include institutional strengthening interventions to improve operational efficiency, including FM.

Internal Control and Internal Auditing

22. **Internal control** comprises the whole system of control, financial or otherwise, established by management in order to: (a) carry out the project activities in an orderly and efficient manner; (b) ensure adherence to policies and procedures; (c) ensure maintenance of complete and accurate accounting records; and (d) safeguard the assets of the project. Regular government systems and procedures will be followed, including those relating to authorization, recording and custody controls. The project's internal controls, including processes for recording and safeguarding of assets, will also be documented in the FM Manual to be developed for the project. There are internal control weaknesses noted during the assessment of utilities particularly the new ones. These include fixed asset and stock control weaknesses in most places; cash and World Bank management weaknesses, including failure to prepare World Bank reconciliations at all and for some, not on time, cash counts are not regularly conducted, failures to deposit cash and on time, and so on.; in some utilities duties are not well segregated. MoWIE will assess these new benefiting entities and develop action plans to address gaps in internal controls.

23. **Parallel implementation of the ongoing UWSSP-1 and UWSSP-2.** Due to extension of the closing date of the ongoing UWSSP-1 up to December 31, 2017, it is likely that the two projects will run in parallel for at least four months but only for five utilities. The risk of double dipping in the five utilities of UWSSP-1 with UWSSP 2 over overlapping period is low. This is because the overlapping period is short and that different/distinct activities are being financed by the two operations. But to avoid this risk of duplication of activities, monitoring systems will be in place.

24. **Internal audit.** Most of the visited entities have internal audit units but they are largely ineffective. During implementation of UWSSP-1 as well as during visits to some cities, it was noted that the internal audit units at all levels have not been providing the expected internal audit reviews on the project funds. This is mainly due to limitation of staff, capacity gaps or in some cases absence of an internal audit unit. Internal audit units of project implementing entities should be established or strengthened to provide the required audit on the project implementation transactions. Their governance structure could also be revised so that they report directly to the water boards. All participating entities internal auditors are expected to conduct post audit of this project. In the

meantime, the project will finance the recruitment of one internal auditor at MoWIE to support the project audit and close the gap in the internal audit function.

Financial Reporting

25. **Internal Reporting requirements:** The World Bank has observed that varying financial reporting arrangements are in place. There are reporting to the management, MoFEC, BoFEC, and water boards. These will continue but there should be consistency in reporting and reporting regimes should be streamlined in content as well as quality. Some utilities prepare incomplete reports and some are moderate. In most places, account closing and entity annual financial statement preparation is delayed and/or incomplete, resulting in backlogs in account closing and preparation of annual financial statements. MoWIE will work with the RWBs and utilities to prepare an action plan or road map to address these challenges and to streamline reporting requirements.

26. **Project reporting to the World Bank.** MoWIE collects quarterly financial reports from RWBs, city utilities including AAWSA and consolidates/prepares quarterly consolidated unaudited IFRs. The IFR will be submitted to the World Bank within 45 days of the end of the quarter. The format and the content, consistent with the World Bank's standards, will be agreed with MoWIE. RWBs will monitor and support participating utilities financial reports to ensure that it is up to standards and that is submitted on time. At a minimum, the report will include: a statement of sources and uses of funds and opening and closing balances for the quarter and cumulatively; a statement of uses of funds that shows actual expenditures appropriately classified by main project activities (categories, components, and subcomponents), including comparison with budgets for the quarter and cumulatively; a statement on movements (inflows and outflows) of the project Designated Account, including opening and closing balances; a statement of expenditure forecast for the next two quarters together with the cash requirements; notes and explanations; and other supporting schedules and documents.

27. Experience from the UWSSP-1 has shown some concerns relating to timing and quality of IFRs. Particular improvements are required in areas of budget variance analysis and taking appropriate action on long overdue advances and payables. Duties of each implementing entity in preparing regular financial reports as well as formats, calendars, among others, will be described in the FM manual.

28. In compliance with the government's financial rules and regulations as well as IDA requirements, MoWIE will produce annual financial statements similar to the contents of the quarterly IFRs. The annual financial statement will be similar to the IFRs, with some modifications to be indicated in the audit TOR. These financial statements will be submitted for audit within three months after the end of each year.

External Auditing

29. MoWIE will be responsible for having the annual financial statements of the project audited. The annual project audit report (includes the audited financial statements, the auditor's opinion, and notes to the statements as well as the Management Letter) will be submitted to IDA within 6 months from the end of the fiscal year. The annual financial statements will be prepared in accordance with the standards indicated in the audit ToR has been agreed during negotiation. The audit will be carried out by the Office of the Federal Auditor General (OFAG), or a qualified auditor acceptable to IDA. In accordance with the World Bank's Access to Information policy, the World Bank requires that the Borrower discloses the audited financial statements in a manner acceptable to the World Bank. Therefore, MoWIE will disclose the reports (for example on the Ministry's website). Following the World Bank's formal receipt of these statements from the Borrower, the World Bank makes them available to the public in accordance with the World Bank policy on Access to Information.

30. **AAWSA entity financial statement and audit.** AAWSA has a backlog of 6 years of preparation and audit of the entity financial statements Ethiopian Fiscal Year (EFY) 2003 - 2008). As noted above, AGRESSO software has been implemented but it is at testing stage. Thus all transactions will have to be entered in the system after testing is finalized. There are efforts in progress to record the backlog transactions by outsourcing it to consulting firms. Financial statements will have to be prepared and audits will have to be conducted. To formally document the status and the way forward, AAWSA is preparing a formal document indicating the status of this reform and the way forward, including action plans/road maps to update on the reform process and most importantly, to resolve the back log audits. The World Bank will continue to closely follow up on the reform in general but on the audit backlogs in particular. Furthermore, the Ministry, in liaison with the utilities will follow up by preparing regular status update on the backlog audits and will submit it to the World Bank along with the quarterly IFRs (as part of the notes to the IFR). Implementing the action plans is of paramount importance to ensure credibility of commitment by the Utility and to bring about resolution to the issues. The World Bank in consultation with stakeholders may revisit the FM arrangements, including fund flows, preferably at midterm, upon resolving these issues/gaps and risks thereof.

31. **Financial statement and entity audit of other city utilities**. Backlog of audit has also been observed at a number of other city water utilities. Preparation of financial statements has been finalized to the end of the EFY 2008 and formal external audit on the accounts of the Adama city water utility has commenced starting EFY 2004. We have been informed that the Office of the Regional Auditor General (ORAG) of Oromia has finalized the audit of accounts of the utility for EFYs 2004, 2005, 2006 and 2007 but audit reports are not yet issued. Books of accounts for EFY 2008 are under audit. Presence of similar audit backlogs have been noted at the city utilities of Gambella (EFY 2005-2008), Shashemene (Inception-2008), Wolayita Sodo (EFY 2005–2008) and Debrebirehan (EFY 2003– 2008). It is critical that all utilities, clear their backlogs of entity audits. MoWIE will work with the utilities to prepare an action plan or road map to clear audit backlogs. Clearing of backlogs as per the agreed timeline can be considered as one requirement for release of project resources. It is also important to follow up on any findings that may be reported by preparing concrete action plans and by regularly following up with the Utility on implementation of the action plans. MoWIE prepares status updates on the backlog audits and on any findings to the World Bank along with the quarterly IFRs (as part of the notes to the IFR). The audit reports will be shared with the World Bank during supervision missions.

FM-Related Costs

32. Project work plans and budget include the costs of: (a) Project dedicated accountants in the project; (b) audit costs; (c) related logistics and supervision costs (for example, transportation, per diem and accommodation while travelling); and (d) providing FM Related trainings, among others.

FM Risk Assessment, Strengths and Weaknesses, Lessons Learned, and Action Plan

33. **Risk assessment.** The residual FM risk of the project is *substantial*. Mitigation measures (action plan) are proposed as shown below for follow up during project implementation.

34. **Strengths and weaknesses**. The project will inherit the various strengths of the country's public financial management system. Several aspects of the public financial management system function well, such as the budget process, classification system, internal control system and compliance with financial regulations. MoWIE, AAWSA and the five secondary cities utilities have extensive experience in managing World Bank-financed projects. Furthermore, staffing is relatively stable at Federal level but varies at regional level where there are some challenges. Project specific financial statements are audited and audit reports are delivered on time, clean (unmodified/unqualified) audit opinions are issued, and actions are taken on audit findings. The main weaknesses in FM arrangements continue to be delay in entity audit at AAWSA and other

utilities, including Adama, Shashemene, Gambella, Wolayita Sodo and Debrebirehan city water utilities. Other challenges observed are shortage of qualified accountants and auditors, the limited focus of internal audit and weak internal audit oversight on projects and challenges in maintaining consistency of proclaimed and working budgets. Limited experience of newly benefiting city utilities in implementing World Bank-financed projects is also another challenge. Particular issues requiring attention at AAWSA include entity audit delay, delay in clearing suspense balances, delay in implementing new automation, AGRESSO, and presence of significant advance and payable balances.

35. **Lesson from UWSSP-1**. The major gap consistently noticed in the current project being implemented (UWSSP-1) mainly relate to the lack of internal audit oversight, issues at AAWSA (which include delay in clearing suspense balance, delay in implementing AGRESSO and overdue entity audit) and presence of significant advance and payable balances.

FM Action Plan

36. Factoring in the above strengths and weaknesses, the inherent and control risk of the project is rated Substantial. The following actions (Table 3.1) are agreed to mitigate the identified risks.

Table 3.1: FM Action Plan

	Action	Date Due By	Responsible Body
1	Capacity assessment and staffing: a. MoWIE conducts FM capacity assessment on benefiting new city water utilities to identify limitations or risks and the mitigation measures. This will be shared and agreed with the World Bank. b. Basic FM arrangements need to be in place before funds release to the new city utilities. These are: (i) setting up of separate and complete sets of accounts preferably computerized with complete ledgers; (ii) opening separate World Bank accounts for the project; (iii) recruiting a qualified accountant capable of producing the required financial deliverables at the utilities; and (iv) providing basic induction FM training to the accountant recruited for the new utilities. c. Recruit two FM staff (accountants) at MoWIE. For RWBs, one accountant per region will be assigned or recruited as appropriate.	(a) and (b) Ongoing but before funds release to the new utilities (c) Within two months of effectiveness	MoWIE
2	FM manual and training: Prepare the FM manual for the project with the required detail for FM arrangements as part of the PIM by project effectiveness and deliver regular training on an ongoing basis	According to dates stated	MoWIE
3	Risk of double-dipping: Risk mitigation will be in place which includes preparing a separate plan and independent activities; maintaining separate World Bank accounts, ledgers and financial records, document, records and vouchers; rubber stamping all project transaction documents with different marks for existing and the new UWSSP-2. However, it is unlikely that it will materialize given short overlapping periods.	During implementation	MoWIE

	Action	Date Due By	Responsible Body
4	Budget Prepare a project annual work plan and budgets on time; secure the World Bank's 'no objection'; have it approved and proclaimed in line with the GoE's budget protocol and calendar; institute a system of monitoring, controlling budgets and providing regular variance analysis reports with explanations.	Early preparation and proclaiming will be annually following the government budget calendar and control is during implementation	All project implementing entities
5	Accounting system Separate and suitable accounting system/software (the existing Peachtree is also acceptable) is in place to capture and report on project transactions.	Six months after effectiveness (in line with acceptance of the FM manual)	All project implementing entities
6	Long outstanding balances a. For the existing project (UWSSP-1), suspense, advance, and letter of credit/project balances: AAWSA, MoWIE and the existing five secondary cities will clear long outstanding balances before closing date. b. For this project (UWSSP -2), maintain robust systems to control on advance and settlements to be documented in the FM manual.	a) Before closing date b) During project implementation	a) MoWIE, AAWSA, and the five secondary cities b) All the project implementing entities
7	Internal control a. Implementing entities will strictly apply the control procedures noted on the FM manual. b. MoWIE is expected to assess these new benefiting entities and develop an action plan to address gaps in internal controls; MoWIE will regularly support and supervise the utilities and provide feedback.	During project implementation;	a) All the project implementing entities b) MoWIE
8	Internal audit a. Strengthen internal audit units and increase their engagement in providing the required service; b. Participating entities internal auditors will audit the transactions of this project ; audit recommendations will be implemented and report of auditor should be shared with the World Bank; c. Recruit one internal auditor at the federal level for the project.	a) During implementation b) During implementation - once per year c) Within 6 months of effectiveness	a) All the project implementing entities b) All the project implementing entities c) MoWIE
9	Reporting a. Utilities and RWBs will submit acceptable quality financial report on time to MoWIE. MoWIE to undertake robust reviews and checks on the reports submitted from regions and utilities; the RWBs will provide assistance to utilities and monitor the reporting timeliness and quality from utilities. b. IFRs will be submitted to the World Bank within 45 days from end of the quarter at required quality; c. Utilities should streamline internal reports for quality and content to help users.	a) Ongoing during implementation b) Ongoing during implementation c) Ongoing	a) AAWSA and other city utilities b) MoWIE c) All the project implementing entities led by

	Action	Date Due By	Responsible Body
			MoWIE
10	External audit of project financial statements a. Finalize audit ToR and recruit auditor at an early stage of the project; b. Project financial statements will be prepared in time. c. Submit annual audited financial statements, audit report, and management letter; d. MoWIE will submit the Government's response to the findings in the annual audit report to World Bank and an action plan for any follow-up actions, including the status thereon; e. Prepare status report of action taken on audit findings; f. Disclose audit reports to the public in accordance with the World Bank policy on Access to Information.	a) ToR-agreed during Negotiation. Recruit auditor within 6 months after effectiveness b) Three months after end of the year c) Within 6 months after end of year; d) Within two months of submission of audit report to the World Bank; e) Three months after receipt of the audit report f) Annually	a. MoWIE b. MoWIE (liaising with AAWSA and other city utilities) c. MoWIE d. MoWIE (liaising with AAWSA and other city utilities) e. MoWIE (liaising with AAWSA and other city utilities) f. MoWIE
11	Entity financial statement and audit backlog a. AAWSA and all secondary cities water utilities will prepare formal documents of status and way forward, including action plans acceptable to the World Bank to resolve the financial statement and audit backlog issue and take action according to the plan; b. Report on progress of clearing the backlog along with quarterly IFRs as part of the IFR notes.	During implementation	All other participating utilities with audit backlog

FM Covenants and Other Agreements

37. **FM-related covenants** recommended by FM team include:

(a) Maintenance of a satisfactory FM system for the project;

(b) Submission of IFRs for the project for each fiscal quarter within 45 days of the end of the quarter by MoWIE;

(c) Submission of annual audited financial statements and Audit Reports within six months of the end of each fiscal year;

(d) To be included in the Financing agreement as "Other undertaking": Clearing backlog audits- AAWSA and participating secondary cities water utilities with backlog audits will prepare formal documents acceptable to IDA detailing current status and action plan to clear audit backlogs; These entities will implement as per action plans agreed and MoWIE

will follow up on the progress of implementing action plans and report to the World Bank along with the quarterly IFRs;

38. **Effectiveness conditions.** Submission of an acceptable FM manual as part of the PIM.

39. **Disbursement conditions.** None to be included in the Financing Agreement. However, for the new benefiting utilities, MoWIE will conduct a capacity assessment on FM to identify limitations or risk and the mitigation measures. Basic FM arrangements need to be in place before transferring any money to the utilities. These are: (a) setting up of separate and complete sets of accounts preferably computerized with complete ledgers; (b) separate bank accounts have been opened for the project; (c) qualified accountant capable of producing the required financial deliverables is recruited at the utilities; and (d) basic induction FM training has been provided to the accountant recruited for the new utilities.

FM Supervision Plan

40. The FM risk for the project is rated Substantial. The project will be supervised twice per year. After each supervision, risks will be measured and recalibrated accordingly. Supervision will be carried out in coordination with other development partners if any and it will include on-site visits, review of IFRs, audit reports, and follow up on actions.

Funds Flow and Disbursement Arrangements

41. Funds will flow into the project and within the project among various institutions as depicted in Figure 3.2. IDA funds will be deposited into a separate designated account to be opened and managed by MoWIE at the National Bank of Ethiopia (NBE). The authorized ceiling of the Designated Account will be two quarters forecasted expenditure based on the approved annual work plan and budget. Funds from the separate designated US$ account will be further transferred into a Birr account to be held by MoWIE. From the local-currency account, MoWIE will transfer funds to separate local-currency bank accounts to be opened by the AAWSA, RWBs and the other benefiting city utilities. Cash forecasts for the project will be prepared at MoWIE based on approved annual work plans and budget for the project.

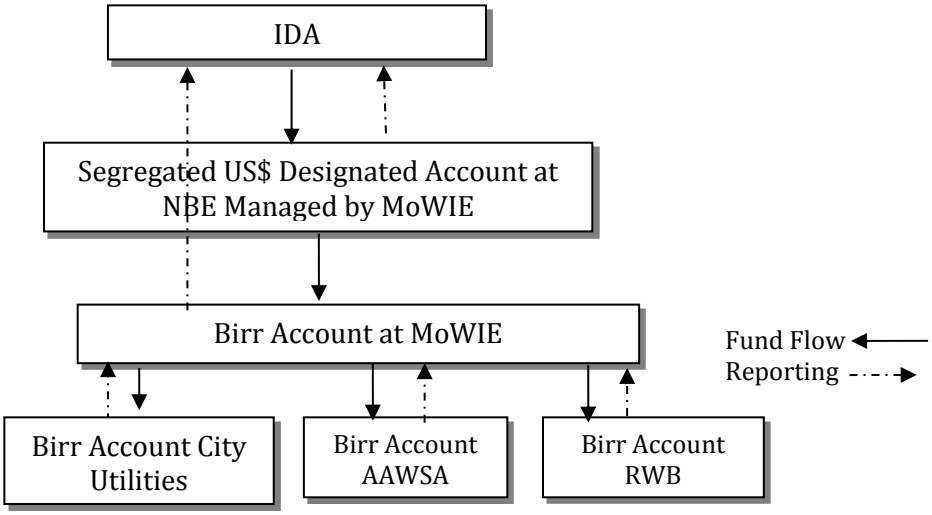
42. **Bank accounts.** MoWIE, AAWSA and the five secondary cities utilities that are implementing the UWSSP-1 will not use the existing bank accounts for funds under (UWSSP-2). Each implementing entity benefiting from the new project will open separate bank accounts for the project to ensure that expenditures of the project are reported in their appropriate location. It is important to ensure that the separate bank accounts are used only for the project funds and project monies should not be used for other purposes. Intra project borrowings are not allowed. The fund flow to each implementing entity will be made according to its respective annual work plan and budget. Any implementing entity that does not report in a timely manner on how the advance is expended will not receive additional funds until the initial advance is reasonably settled. The FM Manual will indicate in detail the fund flow arrangement to each implementing entity, including the accounting and internal control required around the project earmarked fund.

43. **MoWIE and the new cities water utilities.** The project will include new city water utilities. While the cities are identified, the scope of activities to be implemented by each cities will depend on a feasibility and detailed design study. The project will follow government's stepped approach to ensure that participating utilities meet the required technical and institutional capacity prior to receiving investment packages. Other criteria to be met in order to receive investment support is FM capacity. Therefore, MoWIE is to conduct "satisfactory" FM capacity assessment to identify limitations or risks and the mitigation measures. This will be shared and agreed with the World Bank.

Basic FM arrangements need to be in place before fund release happens. Before transferring any money to the utilities, MoWIE will ensure that separate bank accounts have been opened for the project and there are adequate FM systems in place and qualified FM staff capable of producing the required financial deliverables.

The fund flow arrangements for the project is summarized in Figure 3.2.

Figure 3.2 Fund Flow and Reporting Arrangements



Note: [a] RWBs will monitor and support participating utilities financial reports to ensure that it is up to standards and that is submitted on time. The reporting arrangements will further be elaborated in the PIM.

NBE = National Bank of Ethiopia

44. **Disbursement mechanisms and methods**: Designated Account, Direct Payment, Reimbursement and Special Commitment are available for MoWIE to draw down resources from the World Bank to the Project using withdrawal applications through online platform. The project may follow one or a combination of these disbursement methods. For the Advance to the Designated Account and Reimbursement methods, the project will use report based disbursement method using quarterly IFRs that includes cash forecast statements showing two quarters net forecast.

45. **Counterpart contribution.** Government will contribute US$60 million to cover part of the project cost for the eastern catchment sewer line construction.

Procurement

46. **General Procurement environment**. For Federal budgetary bodies, public procurement is regulated by the Public Procurement and Property Administration Proclamation No. 649/2009. The Proclamation establishes the Federal Public Procurement and Property Administration Agency which is responsible for regulation and monitoring of Federal public procurement activities. The nine Regional States and two City Administrations do have their own procurement proclamations and directives which are drafted using the Federal procurement proclamation as prototype.

47. **The Ethiopia 2010 Country Procurement Assessment Review (CPAR**) **identified weaknesses in the country's procurement system and recommended actions** to address these areas. The government has implemented many of the CPAR recommendations, but challenges remain in the areas of coordination of procurement reforms, shortage of qualified procurement staff, high level of procurement staff turnover, lack of proper institutional structures for procurement management, weak institutional capacity, inordinate process delays, absence of systematic procurement performance M&E, and lack of organized efforts in capacity building in the area of procurement. Many of the weaknesses identified in the 2010 CPAR are prevalent in the Federal implementing agencies as well as the regional city administrations which implement the Urban Water and Sanitation Project.

48. **Applicable Procurement Guidelines**. Procurement for the UWSSP-2, under the IDA credit shall 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" dated January 2011 revised July 2014; and "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits by World Bank Borrowers" dated January 2011 revised July 2014, "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants, (the Anti-Corruption Guidelines)" dated October 15, 2006 and revised in January, 2011 and the provisions stipulated in the Legal Agreement.

49. Particular Methods of Procurement of Goods, Works, and Non-Consulting Services

I. **ICB.** Except as otherwise provided in paragraph 2 below, goods, works and non-consulting services shall be procured under contracts awarded on the basis of ICB.

II. **Other Methods of Procurement of Goods and Non-Consulting Services.** The following methods, other than ICB, may be used for procurement of goods and non-consulting services for those contracts specified in the Procurement Plan:

(a) National Competitive Bidding (NCB), subject to the following additional provisions:

(i) The Recipient's standard bidding documents for procurement of goods and works acceptable to the Association shall be used. At the request of the Recipient, the introduction of requirements for bidders to sign an Anti-Bribery pledge and/or statement of undertaking to observe Ethiopian Law against fraud and corruption and other forms that ought to be completed and signed by him/her may be included in bidding documents if the arrangements governing such undertakings are acceptable to the Association.

(ii) If pre-qualification is used, the Association's standard prequalification document shall be used.

(iii) No margin of preference shall be granted in bid evaluation on the basis of bidder's nationality, origin of goods or services, and/or preferential programs such as but not limited to SMEs.

(iv) Mandatory registration in a supplier list shall not be used to assess bidders' qualifications. A foreign bidder shall not be required to register as a condition for submitting its bid and if recommended for contract award shall be given a reasonable opportunity to register with the reasonable cooperation of the Recipient, prior to contract signing. Invitations to bids shall be advertised in at least one newspaper of national circulation or the official gazette, or on a widely used website or electronic portal with free national and international access.

(v) Bidders shall be given a minimum of thirty (30) days to submit bids from the date of availability of the bidding documents.

(vi) All bidding for goods and works shall be carried out through a one-envelope procedure.

(vii) Evaluation of bids shall be made in strict adherence to the evaluation criteria specified in the bidding documents. Evaluation criteria other than price shall be quantified in monetary terms. Merit points shall not be used, and no minimum point or percentage value shall be assigned to the significance of price, in bid evaluation.

(viii) The results of evaluation and award of contract shall be made public. All bids shall not be rejected and the procurement process shall not be cancelled, a failure of bidding declared, new bids shall not be solicited, nor shall negotiated procurement in case of a failure of bidding be resorted to without the Association's prior written concurrence. Negotiations shall not be allowed except in the case of a lowest evaluated responsive bid which exceeds the Recipient's

updated cost estimate by a substantial margin, to try to obtain a satisfactory contract through a reduction in the scope of works/supply and reallocation of risk which can be reflected in a reduction in contract price.

(ix) In accordance with Paragraph 1.16(e) of the Procurement Guidelines, each bidding document and contract financed out of the proceeds of the Financing shall provide that: (a) the bidders , suppliers, contractors and subcontractors, agents, personnel, consultants, service providers, or suppliers shall permit the Association, at its request, to inspect all accounts, records and comments relating to the bid submission and performance of the contract, and to have them audited by auditors appointed by the Association; and (b) any act intended to materially impede the exercise of the Association's audit and inspection rights constitutes an obstructive practice as defined in the paragraph 1.16(a)(v) of the Procurement Guidelines.

(b) Limited International Bidding;

(c) Performance-based Procurement

(d) Shopping; and

(e) Direct Contracting.

50. **Particular Methods of Procurement of Consultants' Services**

i. **Quality- and Cost-based Selection.** Except as otherwise provided in paragraph 2 below, consultants' services shall be procured under contracts awarded on the basis of Quality and Cost-based Selection.

ii. **Other Methods of Procurement of Consultants' Services**. The following methods, other than Quality and Cost-based Selection, may be used for procurement of consultants' services for those contracts which are specified in the Procurement Plan:

Procurement Methods
Quality-Based Selection
Selection under a Fixed Budget
Least Cost Selection
Selection based on Consultants' Qualifications
Single-source Selection of consulting firms
Selection of Individual Consultants (As per the procedures set forth in paragraphs 5.2 and 5.3 of the Consultant Guidelines)
Single-source procedures for the Selection of Individual Consultants

51. **The World Bank's Standard Bidding Documents (SBDs) will be used for procurement of works and goods under ICB;** and the Standard Request for Proposals will be used for consultants' contracts. In addition, the implementing agency will use Standard Bid Evaluation Form for procurement of goods and works for ICB contracts, and Sample Form of Evaluation Report for Selection of Consultants. National Standard Bidding Documents acceptable to the World Bank may be used for procurement of goods, works and non-consulting services under NCB procedures subject to the exceptions indicated above. Alternatively, the World Bank's SBDs would be used for NCB with appropriate modifications.

52. **The World Bank has reviewed the SBDs issued by the Federal Public Procurement and Property Administration Agency and has found them acceptable with some modifications**. NCB shall follow the Open and Competitive Bidding procedures set forth in the Ethiopian Federal

Government and Procurement and Property Administration Proclamation No. 649/2009 and Federal Public Procurement Directive issued by the Ministry of Finance and Economic Development dated June 10, 2010, provided that such procedure shall be subject to the provisions of Section I and Paragraphs 3.3 and 3.4 of the "Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers" (January 2011) revised July 2014 (the "Procurement Guidelines") and incorporate the additional provisions specified to be used for NCB procedure.

53. **Scope of procurement.** The implementation of the UWSSP-2 entails procurement of goods, works and services of various types. The items to be procured under the project are expected to include works contracts such as WWTPs of different sizes, decentralized treatment plants, sludge drying beds, trunk and secondary sewer lines, liquid waste transfer stations, public and communal toilets, drilling of bore holes, water supply distribution network construction, construction of office blocks and, workshops. The procurement of goods and equipment shall include vacuum trucks, field vehicles, office equipment and furniture, leak detection equipment, water supply pipes and fittings, waste water pipes and fittings and supply and installation of SCADA system. Consultancy services in terms of assessment and situation analysis, feasibility studies and designs, construction supervision, TAs, and performance-based contract NRW management in Addis Ababa. The employment of project staff, and financial and procurement auditors, are expected to be included under the procurable services. The procurable items under the project shall be clarified further when the planned activities have been further detailed.

54. **Training and workshops**. The project will fund training activities including capacity building. The training plan of the project shall be approved by the World Bank. The training plans would include details on: (a) type of training to be provided; (b) number of beneficiaries to be trained, duration of training, and estimated cost; (c) institutions selected based on their expertise; and (d) expected learning outcomes. Workshop plans shall be prior reviewed by the World Bank as part of the annual work-plans of the project.

55. **Operating costs**. Incremental operating costs include expenditures for maintaining equipment and vehicles; fuel; office supplies; utilities; consumables; workshop venues and materials; and per diems, travel costs, and accommodation for staff when travelling on duty during implementation of this project, but excluding salaries of civil/public servants. These will be procured using the Borrower's administrative procedures, acceptable to the World Bank. Operating expenditures are neither subject to the Procurement and Consultant Guidelines nor prior or post reviews. Operating expenditures are verified by TTLs and FM Specialists.

56. **Record keeping**. The FPMU of the UWSSP-2 as well as all implementing agencies of the project in the beneficiary regions and cities shall be responsible for record keeping and filing of procurement records for easy retrieval of procurement information during post procurement reviews and procurement audits. Each contract shall have its own file and should contain all documents on the procurement process in accordance with the requirements of the World Bank and as described in the national and regional Procurement Proclamations.

57. **Margin of preference for goods and works**. In accordance with paragraphs 2.55 and 2.56 of the Procurement Guidelines, the Borrower may grant a margin of preference of 15 percent in the evaluation of bids under ICB procedures to bids offering certain goods produced in the country of the Borrower, when compared to bids offering such goods produced elsewhere. Similarly, the Borrower may grant a margin of preference of 7.5 percent in the evaluation of bids under ICB procedures to local contractors when compared to foreign contractors.

58. **Implementing agencies.** Procurement under the project will be implemented by MoWIE, AAWSA, secondary cities utilities and RWBs based on their respective components. The FPMU, which is the structure to oversee the implementation of UWSSP-2, will, (a) monitor, supervise and coordinate all procurement activities; (b) consolidate the procurement plan of the project after receiving procurement plans of the implementing agencies. The consolidated procurement plan will show which implementing agency will carry out which procurement item(s). Furthermore, MoWIE shall be responsible for reviewing the submissions of the secondary cities utilities and RWBs, and communicating with the World Bank on requests for prior reviews. Responsibilities of MoWIE will also include procurement of major common user items, and strategic goods and equipment, and placing of adverts for ICB contracts on UNDB online on behalf of secondary cities utilities and RWBs. When agreed with the World Bank in procurement plans, RWBs may be assigned/delegated to carry out certain procurement for the secondary cities within their jurisdictions. Furthermore, RWBs will support, monitor, supervise, and coordinate the procurement activities of the secondary cities.

59. **Assessment of the agency's capacity to implement procurement.** In order to better understand the procurement environment under which the UWSSP-2 is operating, a procurement capacity assessment was carried out. The procurement capacity assessment was carried out on MoWIE, Regional and utility level institutions in Addis Ababa, Adama, Bishoftu, Arbaminch, Sodo, Semera, Asosa, Gambela, Jijiga, Hawassa, and Adigrat. The procurement capacity assessment was carried out using P-RAMS questionnaire which considers 11 risk factors associated with procurement of each institution assessed. Previous capacity assessments carried out in MoWIE, as well as findings of procurement post reviews were also used as an input to this procurement capacity assessment. As a result of the assessment, the risks and mitigation measures were identified.

60. **The specific procurement risks related to the UWSSP-2 are** (a) although all the Utilities assessed do have reasonably acceptable procurement legal framework and systems, the practical implementation of the rules and policies is assessed to be very irregular and therefore may pose high risk to the planned operation under the project; (b) lack of coordination, monitoring, and support from MoWIE; (c) although there are procurement staff, there is lack of procurement proficient staff especially in the secondary cities utilities; (d) weak systems of procurement oversight and complaints handling mechanisms; (e) lack of capacity in contracts management. Moreover, the assessment has indicated that there are significant challenges in the areas of procurement planning, procurement record keeping, use of SBDs/SRFPs in bids and selection of consultants, insufficient time allowed for the preparation and submission of bids/proposals, and challenges in bid evaluation and contract management; and (f) use of merit point systems in evaluation of bids against the specified criteria in the BDs/RFPs, and so on.

61. **In view of such capacity gaps, the risk to the procurement operations of the project is rated HIGH.** In order to overcome the challenges, mitigation measures are recommended. The recommendations include: (a) prepare procurement manual as part of the PIM for the project and disseminate to all implementing agencies; (b) at MoWIE, two procurement proficient individual consultants shall be employed to execute the procurement activities carried out at MoWIE level and to monitor and supervise procurement activities at each level and to provide the necessary hand-holding support and training to regional and utility procurement staff of the project; (c) assign at least one procurement specialist for existing and new secondary cities utilities; (d) MoWIE to appoint independent procurement auditor for the project and ensure the conduct of procurement audit annually; (e) provisions for procurement and contract management training to be offered to procurement staff, general managers, process owners of Finance and Procurement, internal auditors, project accountants and other stakeholders and implementing agencies at Utility, Regional and Federal level; (f) develop a system that allows easy location and retrieve relevant procurement records; (g) the project should provide the necessary resources such as photocopiers, shelves and

filing cabinets, lockers, and so on to the procurement staff to enable them maintain complete procurement records in safe and secure places; (h) responsible staff in UWSSP-2 implementing agencies should be provided with training on STEP; (i) use of World Bank procurement planning formats for procurement planning; and (j) deploy qualified contract management staff.

62. The implementation plan for mitigation measures is provided in Table 3.2.

Table 3.2 Procurement Action Plan

No.	Action	Responsibility	Date/Timing
1	Prepare procurement manual as part of the PIM	MoWIE	Before effectiveness
2	Deploy two procurement proficient individual consultants	MoWIE	Within three months after effectiveness
3	Assign one procurement specialist at AAWSA and at each Secondary City Utility;	AAWSA/secondary cities utilities	Within three months after effectiveness
4	Appoint independent procurement auditor for the project	MoWIE	Starting from the end of the first financial year after effectiveness
5	Provide procurement and contract management training to procurement staff, general managers, process owners of finance and procurement, internal auditors, project accountants and other stakeholder implementing	MoWIE/World Bank	During project launch
6	Establish a system that allows easy location and retrieval of relevant procurement records	MoWIE/AAWSA/RWBs/secondary cities utilities	Within six months after effectiveness
7	Equip the procurement units/staff with the necessary resources such as photocopiers, shelves and filing cabinets, lockers and so on, to enable them maintain complete procurement records in safe and secure places	MoWIE/AAWSA/RWBs/Secondary cities utilities	Within six months after effectiveness
8	Responsible staff in UWSSP-2 implementing agencies should be provided with training on STEP	World Bank/MoWIE/AAWSA	Before effectiveness
9	Deploy at least two qualified contract management staff for MoWIE, and one each for AAWSA and the secondary city utilities.	MoWIE/AAWSA/secondary cities utilities	Before contracting for investment projects

63. **Procurement oversight and supervision plan.** The World Bank will provide oversight over procurement activities through "Prior" and "Post Review". Prior reviews will be based on the risk level assessed by the World Bank during appraisal and updated annually. Post reviews will be carried out on MoWIE, AAWSA, RWBs and all water utilities in the 22 secondary cities. Based on the initial risk rating, which is HIGH, the Borrower shall seek World Bank prior review for equivalent value of contracts as detailed in Table 3.3. The risk rating will be updated from time to time to reflect changes in capacity of the implementing agencies.

64. **All contracts at or above the mandatory procurement prior review thresholds** are subject to international advertising and the use of the World Bank's SBDs (or other documents agreed with the World Bank).

(a) Shopping (requests for written quotation) is allowed where works of contract value is less than US$200,000 and Goods and Non-Consulting Services of contract value is less than US$100,000.

(b) Shortlists may be made up entirely of national consultants for engineering and works supervision of contract value less than US$300,000 and all other consultancy assignments of contract value less than US$200,000.

Table 3-3 Prior Review Thresholds (≥ US$ millions)

Type of Procurement	High Risk
Works	5
Goods, information technology and non-consulting services	1.5
Consultants: firms	0.5
Consultants: Individuals	0.2

Note: In addition to the above, for post review consultancy services, the ToRs shall be cleared by the World Bank.

65. **Procurement Plan.** The Borrower has prepared an 18 months Procurement Plan dated February, 24, 2017, which was agreed by the World Bank. The agreed Procurement Plan is available at the FPMU and provides the basis for the procurement methods. It will also be available in the project's database and in the World Bank's external website. The Procurement Plan will be updated in agreement with the project team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

66. **STEP.** The project will implement STEP, a World Bank planning and tracking system, which would provide data on procurement activities, and establish benchmarks. The details of the procurement activities, presently prepared in the procurement plan would be transferred in the STEP system. Initial training on the operation of the STEP system has been provided to officers of MoWIE and AAWSA.

67. **Effectiveness condition.** A revised procurement manual as part of PIM shall be prepared and submitted to World Bank and approved prior to effectiveness.

68. **Legal covenant**. Government shall select and appoint a procurement auditor, acceptable to IDA, to carry out annual independent procurement audits of the UWSSP-2 and shall submit the report to IDA annually, six months after the end of the fiscal year for its consideration. In the event that the operation period of the WWTP for the eastern catchment (to be implemented through DBO procurement strategy) extends beyond the credit closing date, the Borrower shall undertake to continue financing the operation.

Safeguards

Managing Social Risks and Impacts

69. **To prevent and manage any potential social safeguards risks arising from the project's investments, OP4.12 is triggered and RPF has been prepared** to address any issues which might arise from potential land acquisition and or restriction of access under the project. Further, the project will conduct an ESIA if need arises to explore the potential impact of the different processes involved in delivering the project and any potential negative social consequences. The recommendations of the ESIA will be implemented in accordance with the safeguard framework tools.

Table 3.4. Environmental and Social Safeguards Reports

No	Document	Date of Disclosure in World Bank External Website	Date of Disclosure in-country
1	Resettlement Policy Framework	December 13, 2016	December 8, 2016
2	Environmental and Social Management Framework	February 16, 2017	February 14, 2017
3	ESIA	Based on screening result	

Social (including Safeguards)

70. **The project will be implemented in** Addis Ababa and secondary cities, with associated social development challenges of rapid population growth, shortage of decent housing, lack of basic infrastructure and public facilities such as water, sewerage and drainage, and increasing inequality. The project aims to resolve the critical challenges that most of the participating cities face, through providing access to potable water supply and range of sanitation services. With the exception of few start up activities in Addis Ababa, the remaining participating cities did not have any improved sanitation services. Taking this into consideration, the project will intervene in the areas of institutional capacity building and construction of various WSS facilities that fit the level of the participating cities and address the needs of the poor.

71. **Scope of impacts.** The likely adverse social impacts are associated with land acquisition related to the physical works such as construction of WWTPs, reservoirs, public and communal toilets, pipelines, and access roads under the proposed project. However, the project is not expected to have large scale, significant and/or irreversible impacts. In addition the mitigation measures will be implemented in accordance with the social and environmental safeguard instruments of the project. In the LIAs with limited space, the project will invest in affordable and safely positioned public pay and use toilets and showers managed by women and youth-led CBOs.

72. **The overall capacity and staffing.** At Federal level there is an independent safeguards unit consisting of safeguards experts (two environmental and two Social) dedicated for the ongoing UWSSP and OWNP-CWA. This unit is expected to handle all safeguard issues of the proposed project. In addition, safeguards experts will be assigned at Utility level. Similarly, AAWSA Project Office has deployed six safeguards experts (three for social and three for environment), responsible both for the ongoing World Bank-financed project and other government projects. However, currently the project office is executing about 53 projects, which will stretch the existing capacity. Thus, additional safeguards experts will be recruited as required.

73. **Further training and capacity building** is required to ensure proper implementation of Environmental and Social safeguards instruments in compliance with the World Bank's safeguard policies. Accordingly, adequate budget is allocated under the project for continuous training to further improve the quality of screening, reporting, monitoring and documentation of safeguards activities.

74. **Grievance Redress Mechanism (GRM).** The RPF will provide for the establishment of a GRM for people to report any complaints or concerns in case they feel unfairly treated or affected by the implementation of any of the activities of the project. The grievance committees will be set up at various levels of participating secondary cities, including Addis Ababa to address such complaints, including logging, tracking, and resolving grievances promptly. Citizens will have an opportunity to

record complaints about the construction of WSS facilities with regard to its quality, accessibility and appropriateness, resettlement, and any other perceived abuses of the project.

Mainstreaming Gender

75. **Gender and citizen engagement**. Various studies show that a lack of access to WaSH affects women and girls disproportionally due both to biological and cultural factors. Studies conducted in Ethiopia indicated that male-headed households were more likely to have piped water on premises (60 percent) than female-headed households (48 percent).[17] Countries with high maternal mortality rates are those where the burden of infectious diseases remains high, and health information and primary healthcare are difficult to access. Women and girls execute most of the unpaid labor associated with WaSH in households and communities. This means that they have limited time to invest on their education, economic activities and leisure. Moreover, they are forced to work longer hours. A lack of economic independence compromises their empowerment and perpetuates gender inequality. These studies also found that women are most affected by lack of sanitation and water supply. Women are the ones who bear the burden of fetching water for up to 5 hours a day. It is vital to focus on reaching the most marginalized populations, providing adequate, affordable and accessible WASH services, and challenging discriminatory legal frameworks, policies, practices and beliefs that prevent some people from using facilities**.**

76. **The World Bank has been the major financier of urban WSS sector projects in Ethiopia**. As a result of these interventions a number of progressive improvements have been recorded in the participating cities that benefited communities in general, and women and vulnerable people in particular. For example, due to the ongoing UWSSP-1, LIAs are accessing communal taps and public toilets specific to their needs. However, the involvement of women in project implementation is not at the required level, and this needs improvement in this new project.

77. **Identifying and addressing gaps in gender equality and serving people with disabilities that will influence sector policies and the design, planning, and provision of infrastructure and services is critica**l. Attention has to be paid to the needs of the city residents, with special attention for the vulnerable people, and disaggregated by gender since women face different constraints. This requires that any proposed interventions should be targeted not just to improve the physical infrastructure but also to improve its accessibility, gender and disabled people sensitivity as well as affordability for these segments of the society. To do this, the needs of people in these groups, based on their wealth status, gender, vulnerability with regard to WSS must be examined to ensure that all segments of the society can afford, access and use these services. The lack of women's involvement in decision-making in WASH interventions has led to a lack of sustainability of many, or most, interventions. The World Bank's *Mainstreaming Gender in Water Operations Toolkit* outlines three ways to building a strategy for improving female participation: (a) Define project indicators for gender-sensitive participation; (b) Monitor the quality of female participation; and (c) Foster collective identity to encourage female participation and empowerment.

78. **Unless the above issues are properly addressed in designing operations, gender-based inequalities and exclusion of the poor in water supply, sanitation and hygiene will slow economic growth and poverty reduction**. Not addressing the needs of all segments of the society especially the vulnerable group can have a negative impact on economic and social development. Especially, since heavy demands on women's time in search of WSS services limit their ability to increase

[17] Marieke Adank, John Butterworth, Sam Godfrey and Michael Abera, "Looking beyond headline indicators: water and sanitation services in small towns in Ethiopia", Journal of Water, Sanitation, and Hygiene for Development, 2016.

productivity and incomes, isolating them and perpetuating a cycle of poverty. As responsibility for fetching water and keeping up sanitation and hygiene in the family typically lies on women and girls, women face limits to access the labor market and other economic opportunities, and spend much time on household chores.

79. **The provision of improved and reliable water supply and a menu of sanitation packages that includes appropriate options to the needs of vulnerable people will significantly benefit women**. As part of project preparation, in addition to the discussions with the Women Affairs Directorate under MoWIE and participating city stakeholders, the client conducted community consultations, and identified key gender mainstreaming and citizen engagement issues in the WSS sector. The consultation recommends the need to prepare a Gender Action Plan (GAP) that will focus on: (a) ensuring women's equitable participation in project related public consultations; (b) incorporating gender and disabled-responsive design features in WSS infrastructure and services; (c) promoting increased employment opportunities for women and youth; (d) providing especial attention to tariffs and ability to pay for, and connect to the range of sanitation solutions; and (e) strengthening the implementing agencies' institutional capacities for gender mainstreaming. Besides, the project will improve their access to employment opportunities during construction of WSS schemes and also in O&M. Public toilets constructed as part of the project will also provide employment opportunities for youth and women.

80. **Promoting social inclusion and gender equality in the water and sanitation sector are stated objectives of the GoE, evident in key sector policies, strategies and training manuals**. The Water Resources Management Policy (1999), Water Sector Strategy (2001), the Universal Access Plans for each WaSH sub-sector (2011), and the more recent OWNP, 2013 emphasize the inclusion of women and men in all phases of sector development. The urban water supply Universal Access Plan states that at least 50 percent of the stakeholders mobilized will be women, and another stipulates that women need to be members of water boards and hold positions in the utilities to ensure participation in the decision-making process. With regard to sanitation, the National Hygiene and Sanitation Strategic Action Plan recommends 'full participation, particularly of women in policy formulation; planning; implementation; M&E; regulation; and resource mobilization.'

81. **To provide equitable benefits and opportunities, the project will support active participation of women in the PIUs and in the project Steering Committees from federal to city level**. There will also be TA for the Women Affairs Directorate under MoWIE and participating cities to: (a) monitor the implementation of gender mainstreaming guidelines; (b) conduct a study on the different constraints men and women and vulnerable people face in the WSS sector; and (c) propose actions that need to be put in place such as gender training of staff, contractors, and consultants to ensure an understanding of women's and vulnerable people's issues. Gender-disaggregated information will be collected as part of the routine tracking and monitoring system of the project. Based on the findings of discussions and consultations the following proposed activities and areas for action are listed in the draft GAP in Table 3.5.

Table 3.5. Project Gender Action Plan

Project Components	Targeted Gender Related Activities	Responsibility:
Urban Sanitation	• Increase women's participation in planning, implementation and evaluation of the UWSSP-2; • Create employment opportunities; establish women's groups in cooperatives who will manage and administer the public pay and use toilets and showers and to benefit from the economic opportunities in the urban water and sanitation value chain; • Ensure the existence of joint property titles for spouse and husband during resettlement compensation settlement; • Deposit women's cash compensation in individual World Bank accounts in their names during resettlement planning; • Provide livelihood training to women's groups organized in SMEs with special attention to female headed households; • Invest in affordable and safely positioned public pay and use toilets and showers in the LIAs with limited space; • Reduce risk of sexual harassment and other potential social problems during construction, and on public latrine sites • Encourage women employment as experts and in managerial positions.	MoWIE Leads: PIU at federal, regional and cities, all participating cities water utilities, Women Affairs Directorate from federal to cities, consultants, Contractors.
Institutional Strengthening and Project Management	• Provision of gender awareness raising in capacity building training for staff; • Facilitate gender sensitization for contractors, consultants, SME organizers, and motivate them to recruit women; • Conduct sex disaggregated data collection and analysis to identify problems related to gender and take overarching mitigation measures; • Assist in incorporating gender dimensions in M&E systems and procedural manuals; • Explore innovative ICT mechanisms[18] to channel the voices of women and men during project implementation and longer term service delivery; • Monitor and evaluate numbers of women and men engaged in setting the objectives and making choices around technology, women and men benefitting from water and sanitation projects,[19]	MoWIE Leads: PIU at federal, regional and cities, all participating cities water utilities, Women Affairs Directorate from federal to cities, consultants, contractors.

Environment (including Safeguards)

82. **Consistent with OP 4.01, the Borrower has prepared an ESMF** because the exact locations and potential negative localized environmental and social impacts of the future investments could not be identified prior to appraisal. The ESMF includes: Environmental Guidelines for Contractors, to be attached to the bidding documents to ensure that the construction and rehabilitation activities are carried out in an environmentally and socially sustainable manner. The ESMF was prepared in consultation with AAWSA in Addis Ababa, with the water boards of the 22 secondary cities that could potentially benefit from the project, with the Environmental and Climate Change Directorate (federal level) and the World Bank Country Office. Staff involved in the operation of water systems in all the visited cities have also been interviewed. The ESMF was disclosed on February 14, 2017 at MoWIE website http:// www.mowie.gov.et/home in Ethiopia and at the World Bank's external website on February 16, 2017 (See Table 3.4).

[18] See a short video clip on Maji voice, an ICT enabled citizen feedback system on Nairobi Water Company's Youtube channel https://www.youtube.com/watch?v=jmGkcte7TWE.

[19] This is a recommended indicator in the Gender Mainstreaming Field Manual for Water Supply and Sanitation Projects (2005), 11 and 59. See Annex 1 for additional indicators.

83. **MoWIE will be responsible for carrying out training of local project implementers in environmental and social screening,** the initial reviews of the screening results and ESIA reports, and reviewing and updating provisions of the Environmental Guidelines for Contractors in light of actual developments under subprojects. The safeguards specialists from MoWIE will assist city administration staff, the utility staff in the regions and AAWSA staff in Addis Ababa in the environmental and social screening activities, oversee the implementation of the ESMP, and arrange for appropriate environmental training. The respective Regional l Environmental and Forest Protection Authorities (REFPAs) will monitor the implementation of the ESMF.

84. **OP 4.11. This policy has been triggered due to the possibility of chance finds during construction and rehabilitation activities.** Any potential chance finds will be identified and dealt with in the context of the ESMF, Appendix VI.

85. **OP 4.12. Consistent with OP 4.12, the Borrower has prepared a RPF**. The RPF identifies the future investments that are likely to entail land acquisition such as WWTPs, drying beds, oxidation ponds, public and communal toilets, main sewer trunk lines, and other related facilities. The RPF outlines the resettlement and compensation principles, for example: (a) the general framework within which any impact of the project on land and/or people (land acquisition, resettlement, and livelihood restoration of affected people) will be addressed; (b) the minimization of displacement through design procedures; (c) the establishment of a cut-off-date and eligibility criteria for each sub-project; (d) livelihood restoration; (e) compensation; and (f) consultation and grievance mechanisms as well as the processes, entitlements and other provisions related to M&E.

86. Projects on International Waterways (OP/BP 7.50). OP 7.50 is triggered because project interventions are expected to be spread across three river basins in Ethiopia which are classified as international waterways for purposes of OP 7.50. They include Blue Nile and Wabisheble Rivers and Rift Valley lakes. Riparian countries of international waterways expected to be impacted by this project include, Egypt, Kenya, Somali, and Sudan. It is not anticipated that the project will cause appreciable harm to any of the riparian through water deprivation, pollution or otherwise. Neither is it anticipated that the implementation of project activities will adversely change the overall quantity or quality of water flowing to or from any of the riparian countries of the concerned international waterways. Nevertheless, the World Bank notified the riparian Governments on behalf of the government of Ethiopia pursuant to paragraph 4 of OP 7.50. While none of the riparian countries objected to the project, the Governments of Kenya and Somalia requested additional data and information and proposed to further work with the Government of Ethiopia on the shared surface and ground water sources. The World Bank forwarded their requests to the Government of Ethiopia and provided additional information and clarification to the government of Somalia.

Annex 4: Implementation Support Plan

Ethiopia: Second Ethiopia Urban Water Supply and Sanitation Project

Strategy and Approach for Implementation Support

1. In the design of the Implementation Support Plan (ISP), consideration has been given to the risks identified in the Systematic Operations Risk Rating Tool (SORT) and the particular characteristics of the sector environment in Ethiopia, including: limited capacity of implementing agencies in FM, procurement, contract administration and safeguard, particularly at the decentralized level and very high staff turnover.

2. Additionally, the Implementation Support Plan reflects the similarity of project activities and implementation modalities under the ongoing project UWSSP-2 – P156433 that is to close on Dec. 30, 2017, mainly: (a) urban WSS; and (b) program management. The experience gained in administering the ongoing multi-donor financed WaSH program (OWNP-CWA) at different levels in each of the nine regions and more than 382 districts and 144 small and medium towns was taken into consideration in preparing the ISP.

3. Therefore the approach to implementation support will include the following:

(a) A strong team for support missions to ensure that all technical areas are professionally catered for to provide the required advice to implementing agencies at all levels. While the GoE and its implementing agencies remain responsible for project implementation, responsibility for resolving challenges constraining achievement of the PDO will be shared by all stakeholders, including the GoE and the World Bank. The World Bank will need to conduct two or three implementation support missions per year.

(b) The World Bank team has been coordinating and consulting across Global Practices (GPs), including Urban and Social, Transport, Environment, and Health during project preparation. It will continue this multi-sectoral collaboration in the implementation support phase, including formalizing cross-GP support commitments.

(c) In addition to the implementation support missions, a MTR will be carried out within 36 months of project implementation to assess and respond to implementation challenges.

(d) Missions and reviews will be complemented by assessments that could include the following areas: FM, procurement, M&E, safeguards and technical.

Implementation Support Plan

4. A core technical team will be established in the country to provide hands-on support to implementing agencies and to liaise with development partners. Moreover, the World Bank's implementation support team will leverage the presence in the Country Office and region of technical, procurement, FM, social, environmental and M&E specialists, all of whom have had significant experience in providing support to a programmatic approach. Specifically, the following technical support and due diligence will be required by the project (Table 4.1 and 4.2):

Table 4.1. Focus of Implementation Support

Time	Focus	Skills Needed	Resource Estimate
First twelve months	***Urban Sanitation Subcomponents*** Prepare/update urban sanitation study and design documents, sanitation situation assessments plan, Identify priority activities, prepare action plans and procurement plans, prepare and process procurement activities (Works, goods and service contracts), Administer contracts and settle and report establishing fiduciary systems (World Bank accounts, reporting, accounting, monitoring, auditing) ***Operational efficiency of Water and Sewerage utilities Subcomponents*** Prepare/update studies and design documents on NRW reduction, leak detection, Preparation of business plans, preparation of ToRs and engagement of consultants to provide support for cities to strengthen the capacity of participating water boards ***Component 3: Project management and institutional strengthening and*** Prepare capacity-building activities for the implementing agencies at the national, regional and city level, strengthen the project management unit in each implementing agency, support results monitoring.	Core technical expertise on: WWTPs, centralized and decentralized Fecal Sludge management systems, Operational efficiency for water, Hygiene and sanitation, contract management and administration.	US$350,000
Ongoing	• Project management • Fiduciary (including project and entity audits) • Safeguards • M&E	Core technical expertise on WSS, program planning and management, contract management and administration, FM, procurement and environmental and social safeguards.	US$2,000,000 at US$400,000 per year for five years

Table 4.2. Skills Mix Required

Skills Needed	**Staff Weeks**	**Comments**	**Number of Trips**
Task Team Leader		TTL based in Dar-es-Salaam	2-3 full implementation support missions annually, along with needs-based backstopping Support in specific areas.
Co - Task Team Leader		TTL based in the country	
A senior Water and Sanitation specialist		Based in the country	
An Operations Officer		Based in the country	
Senior Social Development Specialist		Based in the country	
Procurement Specialist		Based in the country	
FM Specialist		Based in the country	
Environmental Safeguards Specialist		Based in the country	
M&E Specialist		Based in the country	

Annex 5: Economic and Financial Analysis

Ethiopia: Second Ethiopia Urban Water Supply and Sanitation Project

BACKGROUND AND METHODOLOGY

1. **The objective of the project** is "to increase access to enhanced water supply and sanitation services in an operationally efficient manner in Addis Ababa and selected secondary cities". At an estimated cost of US$505 million, the project finances three components: Component 1: Sanitation and water supply services improvements in Addis Ababa (US$260 million); Component 2: Sanitation and water supply service improvement in secondary cities (US$241 million); and Component 3: Project management and institutional strengthening (federal and regional levels US$ 4 million). Both components 1 and 2 have sanitation improvement, operational efficiency, and Program management and institutional development subcomponents.

2. The project is expected to improve the customer and revenue base of AAWSA and participating secondary cities through increased wastewater emptying, conveyance, disposal and treatment capacity, as well as interventions to reduce NRW and operational expense, and improve collection efficiency. At the end of the project utilities financial status is expected to improve and enable them to use at least 25 percent of their operational revenue for replacement and expansion of their service and gradually move toward full cost recovery.

3. **This financial and economic analysis covers Components 1 and 2,** which accounts for about 99 percent of the total project cost. The major purpose of the financial and economic analysis is to evaluate the efficiency of the proposed project from a commercial standpoint (financial analysis) and from a broader economy wide consideration (Economic Analysis).

4. **A Cost-benefit framework is used to assess the financial and economic viability of the project** and the sensitivity to key variables. "With" and "without" project scenarios are defined in order to identify the incremental costs and benefits of the project. The "without" project scenario estimates the future costs and benefits without the proposed project intervention, while the "with "scenario estimates the future costs and benefits of the proposed intervention. In establishing the "without" project scenario, the costs and benefits of ongoing water and sewerage projects currently under construction and expected to be completed within the project period are considered. A discounted cash flow method is adopted, where net incremental benefits (net cash flows) are obtained by subtracting cost streams from benefit streams year by year and then discounted. Using the assumptions indicated in Table 5.1, NPV and IRR are estimated to determine financial returns and the economic viability of the project.

Table 5.1 Basic Assumptions

No	Assumptions	Value
1	Discount Rate	10%
2	Years in Analysis	30 years
3	Base Year	2018
4	Annual Inflation Rate	11%
5	Currency used	US$

5. **Data source.** Various data sources are used, including utilities' business plans, financial reports, existing tariffs and NRW studies; Central Statistics Agency's survey reports (Demographic and Health Survey (2014), Welfare Monitoring Survey (2011), Facility Survey Atlas and Atlas for Selected Welfare Indicators (2011), Ethiopia population projection 2014-2017 (August 2013), Urban employment and unemployment survey (2015), and from the MoH National Health Account, Health and Health Related indicators), and the WHO Ethiopia fact sheet, country health statistics and the global costing studies for WSS services.

6. **Limitations.** The analysis and assumptions face the following limitations: (a) in the absence of reliable local data, global and regional costing values are used; (b) the analysis for secondary cities is based on three representative sample cities and potential technological options selected through least cost methods rather than the actual intervention; (c) the analysis is not disaggregated by subcomponents and does not show returns by subcomponent; and (d) due to lack of reliable baseline data and information on major variables various potential economic benefits are not included in the analysis.

ADDIS ABABA

FINANCIAL ANALYSIS

7. The project is expected to provide improved WSS services to 648,350 residents of Addis Ababa through 17,000 new water connections and 67,000 sewer connections. The Addis Ababa component will finance the following subcomponents.

(a) **Sanitation services improvement in Addis Ababa (US$224.6 million)** will finance: (a) Design and construction of Addis Ababa's eastern catchment sewerage system (with 80,000 m^3/day)[20]; (b) Improve O&M of existing WWTPs; (c) construction of 200 communal and public latrines in LIAs; and (d) procurement of 90 vacuum trucks for improving the desludging capacity of AAWSA. An indicative cost estimated by the feasibility study (2011) and actual contract value of the ongoing Kality Waste treatment plant and trunk line as well as Chafe WWTP are used to estimate the costs for this component.

(b) **Operational Efficiency improvements in Addis Ababa (US$33.1 million)** will finance procurements of goods, works and services related to interventions to reduce NRW, improve operational efficiency, customer handling and management and modernization of AAWSA.

(c) **Project management and Institutional Strengthening in Addis Ababa (US$2.3 million)** will finance cost of staff, training associated to either implementation or operation of the project, exposure visits, procurement of office equipment, vehicles and miscellaneous expenses required for effective implementation and project management.

8. **Costs.** The Addis Ababa component of the project is estimated to cost US$ 260 million, which is expected to be disbursed over a period of six years (FY 2017- 2023) and it is assumed that the WWTP and sewer lines will have an economic life of 30 years with zero residual value at the end. The investment costs are estimated based on values of ongoing and recently completed contracts (Kality WWTP and trunk line, Chefe WWTP, communal and public latrines, vacuum trucks) and feasibility studies conducted in 2011 as well as expert judgement and experience. Operational costs are estimated based on the average actual expenditures made by AAWSA for the previous five years disaggregated by major expenditure components (salaries, chemicals, electricity, fuel and lubricants, maintenance and repair, and others).

9. **Revenue**. Revenue covered in the financial analysis includes; (a) revenue from sales of additional water(6.68 million m^3/year) made available by the project resulting from reduction in NRW from its current level of 37 percent to 31.5 percent; (b) revenue from additional wastewater disposal and treatment capacity created by the project through construction of an additional 80,000 m^3 per day wastewater treatment capacity and sewer line; (c) connection fees from an additional 17,000 water and 67,000 sewer connections resulting from the project; and (d) increase in collection efficiency from the current level of 87 percent to 95 percent at the end of the project through improved meter reading and billing systems.

[20] The eastern catchment covers about 32 percent of total population in Addis Ababa.

10. The revenues are estimated based on the current tariff with an assumption that tariffs will be periodically revised upwards as per AAWSA's business plan and the national guidelines for urban water utilities tariff setting (MoWIE March, 2013). Table 5.2 shows the current tariff for Addis Ababa and AAWSA's proposed revision by tariff blocks. It is assumed that the draft proposal submitted by AAWSA will be approved and effective in 2018. While there was no established tariff structure for sewerage services, as shown in Table 5.2 the current draft proposal suggested a flat per m^3 tariff rate for domestic, commercial and industrial connections.

Table 5.2 AAWSA's Current Tariff and Suggested Revisions[21]

No.	Tariff Block	Tariff in 2016 ETB	Suggested Increase for 2018 ETB
1	**Water Tariff**		
	Block 1- from 0 m^3 to 7.99 m^3/Month	1.75	3.05
	Block 2- from 8 m^3 to 20.99 m^3/Month	3.80	4.58
	Block 3- from 21 m^3 to 40.99 m^3/Month	4.75	6.11
	Block 4- from 41 m^3 to 100.99 m^3/Month	5.95	7.63
	Block 5- from 101 m^3 to 300.99 m^3/Month	7.45	9.16
	Block 6- from 301 m^3 to 500.99 m^3/Month	9.30	10.69
	Block 7- above 501 m^3/Month	11.60	12.21
2	Tariff for Sewer Users		
	Domestic		2.15
	Non Domestic		4.30
	Industries		6.45
3	Emptying Service - Vacuum Truck		
	For Domestic use	176.00	748
	For Non-Domestic use	500.00	898

11. The financial return of the Addis Ababa component of the project as measured by NPV and IRR is summarized in Table 5.3. The results of the financial analysis show that the Addis Ababa component is financially and economically viable. Timely start up and implementation of the project and realization of revenue enhancement interventions, including improving collection efficiency, reduction of NRW, achieving connection targets and effecting periodic tariff revisions will ensure the expected financial returns of the project.

Table 5.3. Summary of Financial and Economic IRR and NPV for the Addis Ababa Component

No.	Scenario	NPV US$ (millions)	IRR (%)
1	**Financial Base Case**	US$45.3	12.9
2	**Economic Base Case**	**US$92.7**	**16.1**

12. **Fiscal impact and cash flow.** The project will have a fiscal impact both on AAWSA and the Addis Ababa city administration. The city administration is expected to cover US$60 million as counterpart funding. However, the project is financing part of the GTP II sewerage system improvement targets for Addis Ababa, which is estimated to cost US$1.09 billion. For the city

[21] The suggested tariff increases consider the average annual inflation rate, cross subsidies across consumers and affordability to the poor and the gradual realization of the cost recovery policy of the government. The tariff blocks are the same both for domestic and non-domestic connections. However, the application is progressive for domestic consumption while it is regressive for non-domestic consumption.

administration, which is expected to largely finance GTP II targets[22] , contributing US$60 million to match US$200 million will be a fiscal relief than a burden.

13. **AAWSA** has to repay the US$170 million allocated from IDA for the construction of a trunk line and sewer treatment plant for the eastern catchment. The loan will be channeled through WRDF at an annual interest rate of 3 percent, five years grace period and to be paid in 25 years. Based on financial data obtained from AAWSA (Table 5.4) the current operational cost coverage ratio of the utility is 1.04; for the past six years this ratio stood on average at 1.1. This indicates that AAWSA is fully financing its operational expenses from its revenues, but with inadequate surplus to cover the increasing demand resulting from the rapidly growing population of Addis Ababa. So far, the city administration is providing annual subsidies for the utility to fill service coverage gaps in WSS services. Under the project the operational coverage ratio is targeted to increase to 1.29. The projected net cash flow for the analysis period, shows that AAWSA will generate sufficient cash to cover all cash requirements, including depreciation as well as commitments for debt service requirements for existing and the current loans. If the suggested tariff revision is implemented in 2018, AAWSA will raise over ETB 500 million additional revenue per annum. Completion of the ongoing projects in South Ayat and other project areas will inject 218,000 m^3 per day water into the system, boosting AAWSA's revenue base.

Table 5.4. Operational Revenue and Cost for AAWSA (2011-2016) in (ETB millions)

Cost and Revenue Items	2011	2012	2013	2014	2015	2016
Operating Cost	**280.2**	**332.5**	**519.9**	**544.8**	**560.9**	**665**
Salaries and related benefits	106	130.4	138.1	213.8	202.4	240
Electricity	31.3	42.3	53.1	40.6	52.5	62.2
Chemical	45.3	7.3	64.2	84.5	72.1	85.5
Repair and maintenance	18.6	20.8	68.9	35.5	45.2	53.6
Fuel and lubricants	23.6	26.5	25.2	34.8	36.5	43.3
Other operating expenses	55.5	105.4	170.5	135.7	152.1	180.4
Revenue	**294.9**	**386.7**	**489.9**	**699.0**	**640.4**	**689.2**
Operating Cost coverage ratio	**1.05**	**1.16**	**0.94**	**1.28**	**1.14**	**1.04**

Source: AAWSA

14. In addition to the risk associated to the tariff, limited implementation capacity in cities, the involvement of various stakeholders and lack of proper coordination mechanisms may hamper implementation progress. Limited public awareness on the benefits of improved sanitation and the poor management practices in the past may result in Not In MY Backyard 'NIMBY' attitude for location of public and communal latrines. Furthermore, the level of household incomes and cost of connections combined with limited understanding on the long-term benefits of improved sanitation will negatively influence the demand for sewer connections. These risks could result in delays in implementation, cost overruns, underutilization of facilities and reduction in project benefits.

15. The project's resilience against these risks is assessed by estimating the switching values on the cost and benefits of the project. Table 5.5 shows that for Financial NPV to drop to zero or financial IRR to be equal to the discount rate, either the investment cost has to increase by about 29 percent or the benefit has to reduce by about 20 percent. A five-year delay in tariff revision will result in negative NPV and IRR below the discount rate. A combination of cost increases and revenue reductions will have strong impacts on returns of the project. The NPV will be negative and IRR will be less than the discount rate if investment

[22] AAWSA's estimated capital budget requirement to fulfil GTP II targets in Water supply and sewerage projects (2015/16-2020/21) is estimated at ETB 55.9 billion (US$2.5 billion) of which ETB 24.3 billion (US$ 1.08 billion) is allocated for various sewerage projects and largely to be financed by subsidies from the Addis Ababa city administration.

costs increase by more than 10 percent, combined with revenue reduction of more than 10 percent.

Table 5.5 Risks and Switching Value Analysis for the Addis Ababa Component

Scenario	Potential Risk	Impacts	Change required from base case for NPV to be zero and IRR = discount rate
1	Limited implementation capacity, involvement of multiple stakeholders and weak coordination resulting in increased cost	Cost Over Run	29.3% increase in cost
2	Limited awareness by beneficiaries, low demand for sewer connections, underutilization of sanitation facilities	Revenue decline over the life of the analysis	19.4% decline in revenue
3	Political and governance risk	Delay in tariff revision	5 years delay
4	Combined risks in 1 and 2	Increased cost with reduction in revenue	10% cost increase and 10% revenue reduction

ECONOMIC ANALYSIS

16. The economic analysis reports the project's expected rate of return and its NPV in economic terms. The flow of financial costs and benefits are converted into economic values by excluding transfers. Sales tax and financial costs (interest expense on loans) are excluded from cost streams, while subsidies from the city administration are excluded from the revenue stream. The project is found to be economically viable with an estimated value of US$92.7 million Economic NPV and 16 percent Economic IRR. However, there are several potential economic benefits that are not factored into this economic analysis because of lack of reliable data and information.

17. Access to improved WSS services is expected to have significant health benefits as measured by the reduction in incidence rates (number of cases reduced per year) and mortality rates (number of deaths avoided per year) of Diarrheal diseases.[23] The health benefits stem from savings to households from reduced use of medical care; income from productive activities to households through the reduction of adult sick days and reduction of child care days; income from productive activities to households through the reduction of child care days; and added output over a lifetime through reduced mortality.

18. According to a WHO report, a recent outbreak of Acute Watery Diarrhea (AWD) in Addis Ababa between June 8 and June 26, was primarily caused by poor water supply, sanitation and hygiene, including water consumption from unprotected sources, water shortages due to interruption in supply, leakage and rusted pipes and pipes crossing sewer lines, effluents discharging into rivers and ditches, open defecation, poor solid waste collection and disposal. This project is intended to address these issues.

19. There are other potential economic, social and environmental benefits, including promoting women empowerment and girls' education; appreciation of asset values and business value-added for firms; pollution control and facilitating tourism; and capacity

[23] Improved sanitation with formal excreta management is estimated to reduce diarrheal disease (and consequent diseases) compared to unimproved coverage (100 percent coverage) by 69 percent, while Improved on-site sanitation, no formal excreta management (100 percent coverage) will reduce diarrheal diseases by 28 percent (Wolf, Prüss-Üstun et al. 2014)

improvement in the public and private sectors. Therefore, the economic analysis can be considered as conservative, and it can reasonably be assumed that the actual benefits would be much higher than the estimated figure if these benefits were included.

Secondary Cities

20. A total of US$241 million is allocated for the secondary cities component of the project. The funds are earmarked for the 22 secondary cities on a per capita basis. For the cost benefit analysis of the secondary cities component Gondar, Bishoftu and Debrebirehan are selected to represent large, medium and small cities respectively[24].The specific project interventions for each secondary city will be determined based on detailed designs and feasibility studies to be conducted for each city. For purposes of this analysis, a combination of technological options is considered technically feasible and appropriate, depending on specific local conditions (availability of water supply, types of household sanitation facilities, settlement patterns, among others).

(a) **Centralized Sewer System.** This option collects domestic and non-domestic wastewater through a centralized network of underground pipes to a centralized treatment plant in an off-site location outside the settlement without requiring on-site pre-treatment or storage of the wastewater. This technological option is appropriate for large cities with reliable supply and consumption of piped water in the house and with flush toilet facilities. It is also feasible for business areas along main streets with hotels, government institutions and other businesses in large cities.

(b) **Decentralized Sewer System.** This technology is an option where wastewater is collected, treated and disposed/reused at or near the point of generation. The decentralized sewer system is considered to be relevant for new development areas and institutions that have large population density, vertical developments, with predominantly flash toilet facilities, such as condominiums, universities, and new housing development areas.

(c) **Fecal Sludge Management.** This sanitation option includes construction of communal and public latrines for the poorest segments of the population, improving the existing wastewater collection systems from latrines and septic tanks through procurement of additional sludge collection vacuum trucks with different capacities, and improving the fecal sludge treatment system.

21. **An Excel-based model was developed to make preliminary cost estimates** for a mix of the technological options, which is used to iteratively select the feasible combinations within the available budget. Capital and O&M costs were collected wherever possible from present and past procurement documents. The costs are converted into current prices (2016), using GDP deflators (World Bank data base), and unit costs (per kilometer length or per m^3 volume per day capacity or per capita costs of coverage) are calculated to estimate total capital and O&M cost. CSA's official population projections are used for analysis and projected to the analysis period, using historical average growth rates. Coverage data from utilities is used to

[24] **Gondar** is one of the largest cities in the country with a population of 341,991 in 2016. The water supply coverage of the city was 74 per cent (Utility report, 2016). There were 26,172 customers by the end of 2008 EFY. In 2015 the utility's operation cost coverage ratio was 1:24. **Bishoftu** is a medium town with a population of 153,847. The water supply coverage of the city is 63 percent. There are 27,000 customers of which 95 percent are residential whereas the rest are non-residential. **Debrebirehan** is a town with a population of 107,827 and the water supply coverage is 84 percent. There are a total of 15,359 water connections of which 13,603 are residential customers. The operation cost coverage ratio of the utility is 1:54.

capture the share of the population served with decentralized and on-site solutions as well as populations without access to wastewater services.

22. The Cost Benefit Analysis depends on several assumptions about current data and information gaps. The following assumptions, based on expert estimates, are used to approximate cost calculations to the real scenario to the extent possible.

(a) The volume of wastewater to be managed is calculated using a fixed proportion of water supplied in a city. For centralized network and decentralized solutions, the proportion is assumed to be 80 percent. For on-site containment and transport using vacuum trucks, it is assumed to be 10 percent;

(b) The current engagement of the private sector in emptying fecal sludge is assumed to continue and strengthened, covering about 50 percent of wastewater to be managed through on-site sanitation solutions;

(c) Costs for feasibility studies and detailed design is assumed to be a maximum of 15 percent of total infrastructure and capital cost;

(d) Vacuum truck turnover is assumed at 6 times per day and the average capacity of a septic tank at 6 m3. Vacuum trucks with a small, medium and large capacity (5 m3, 8 m3 and 16 m3) are considered.

23. Revenues included in the financial Analysis are: (a) revenue from sales of additional water made available by the project resulting from reduction in NRW; (b) sales of sanitation services from the additional wastewater emptying, transportation, disposal and treatment capacity created by the project; and (c) connection fees from additional water and sewer connections resulting from the project. The revenues are estimated based on the current tariff in each city with an assumption that tariff will be periodically revised upwards based on the national tariff setting guidelines and business plans of the respective utilities.

24. In addition, considering that sewerage network systems are technically feasible only if there is enough wastewater to run through the system, the proportion of households to be served by centralized and decentralized sewer systems is related to the proportion of households that own flush toilets. Accordingly, it is assumed that 70 percent of the beneficiaries in Gondar will be served by fecal sludge management, while the remaining 30 percent will be served by decentralized and centralized sewerage system. Similarly, for Bishoftu and Debrebirehan the proportion between decentralized sewerage network and fecal sludge management is assumed to be 20 percent and 80 percent, respectively.

Cost-Benefit Analysis

25. For the cost benefit analysis, the methodology from the CBA for the Addis Ababa component was modified to fit the specific context of each of the other cities. The financial and economic return as measured by NPV and IRR is summarized in Table 5.6. The results show that the project is both financially and economically viable with positive NPV, and financial and economic IRR greater than the discount rates used.

Table: 5.6 Summary of financial Returns, for Secondary Cities

No.	Scenarios	NPV in US$ millions	IRR (%)
1	**Base Case Financial**		
	Gondar	2.87	15.2
	Bishoftu	2.95	33.94
	Debrebirehan	2.35	18.9
2	Base case Economic		
	Gondar	21.49	30.10
	Bishoftu	9.85	59.75
	Debrebirehan	13.33	39.25

26. The project's resilience against potential risks that affect the costs and benefits is assessed by estimating the switching values on the cost and benefits of the project. Table 5.7 shows that more than 10 percent increase in costs for Debrebirehan and more than 14 percent decline in revenues for Bishoftu will result in negative NPV and financial IRR less than the cut-off rate (10 percent discount rate). The combination of cost increase and revenue reduction has stronger impact on the returns of the project as the NPV will be negative if investment cost increase by more than 10 percent combined with a revenue reduction of more than 7 percent for Gondar and 8 percent for Bishoftu. This analysis signals that if the project is to be financially viable, in addition to the proper implementation of the risk mitigation measures, the GoE and the World Bank have to ensure timely start up and smooth implementation of the project as well as the subsequent suggested tariff revisions.

Table: 5.7 Potential Risks and Switching Values for Secondary Cities

Scenario	Description	Risk from Risk Section	Change required from base case for NPV to be zero and IRR = Discount Rate
1	Cost Over Run	Limited implementation capacity, involvement of multiple stakeholders and weak coordination resulting in increased costs	26.8 percent increase in costs for Gondar, 19.5 percent for Bishoftu and 10 percent increase for Debrebirehan
2	Revenue decline over the life of the analysis	Limited awareness of beneficiaries, low demand for sewer connections, underutilization of sanitation facilities	20 percent decline in revenue for Debrebirehan, Gondar and Bishoftu
3	Increased cost with reduction in revenue	Combined risks in 1 and 2	7 percent for Gondar, 8 percent for Bishoftu and 13 percent for Debrebirehan

27. As per the actual revenue data collected, utilities in the secondary cities are fully covering their operational expenses with an average operational coverage ratio of 1.09. As a result, the surplus generated from operational activities remained very low, which has greatly constrained service provision due to inefficient operations and limited investments in system expansion and maintenance. The project is expected to improve the customer and revenue base of water utilities through increased wastewater collection, conveyance, disposal and treatment capacity as well as improved operational efficiency. As a result, the project targeted to increase the average operating cost coverage ratio from its current level of 1.09 to 1.34 at the end of the project. In the financial analysis the cash inflow and cash outflow were projected for the period of the analysis. The net cash flow shows that the project generates sufficient cash to cover all cash requirements in all the cities selected for the analysis.

Affordability Analysis

28. Simple affordability analysis was conducted to ensure that suggested tariff revisions are affordable to poor households. The monthly income of a daily laborer is used as a proxy to a minimum monthly disposable income for a poor household. Assuming a household subsistence consumption of 6 cubic meters per month (or about 40 liters per capita per day), and average frequency of emptying household septic tanks once in three years, a monthly utility bill is calculated for poor households in the selected cities and compared with their disposable income. As shown in Table 5.8 the percentage of disposable income spent on WSS services (affordability index) varies among cities, ranging from 1.7 percent in Addis Ababa to 5

percent in Gondar. However, the indices are within the range of 3 to 5 percent of the affordability benchmarks considered by international organizations.

Table 5.8. Affordability Analysis

No.	Descriptions	Unit	Amount	Remarks
1	Daily laborer			
1.1	Minimum monthly income for a daily laborer	ETB	1050	A daily laborer in most secondary cities earn an average of ETB 50 per day; at 21 working days the laborer earns ETB 1050 per month
1.2	Minimum expenditure on water @ 5 percent of income	ETB	52.5	
1.3	Minimum per capita consumption	lpcd	40	
1.4	Average family size	Number	5	
1.5	Average monthly household water consumption	m3	6	
1.6	Affordable Tariff/m^3	ETB	8.75	
1.7	Affordable monthly payment for 6 m^3	ETB	52.50	
2	Monthly water supply expense for 6 m^3/month			
2.1	Addis Ababa	ETB/m^3	10.50	The current tariff up to 8 m^3 is ETB 1.75 hence 5% increase every 5 years starting 2018 is suggested for the first two blocks
2.2	Gondar	ETB/m^3	31.00	No increase suggested in the first 2 blocks
2.3	Bishoftu	ETB/m^3	26.15	No increase suggested in the first 2 blocks
2.4	Debrebirehan	ETB/m^3	25.92	No increase suggested in the first 2 blocks
3	Monthly fecal sludge management fee			
3.1	Addis Ababa	ETB/month	4.89	Empting frequency is assumed to be once in three years. Tariff for an empting service per trip of vacuum truck varies from ETB 176 in Addis Ababa to ETB 750 in Gondar
3.2	Gondar	ETB/month	20.83	
3.3	Bishoftu	ETB/month	12.50	
3.4	Debrebirehan	ETB/month	12.50	
4	Affordability index			
4.1	Addis Ababa	percent	1.47	
4.2	Gondar	percent	4.94	
4.3	Bishoftu	percent	3.68	
4.4	Debrebirehan	percent	3.66	

29. The connection fee to a sewer could range from ETB 6000 to ETB 8000 depending on the specific conditions[25] Paying connection fee in one go could be difficult for many households. A possible solution could be to allow households to amortize the cost over several years, or to lower the fee by shifting part of the capital cost to the rate base of the consumption charge. In LIAs, community groups may be given responsibility for providing connections through community labor.

[25] In Vietnam the connection cost to separate sewers varied from US$14 for the connection box to US$480 where floors needed to be dug up to redirect plumbing and where septic tanks needed to be sealed. In Indonesia the cost varied from US$190-$950 depending on the extent of tertiary sewers required, size of property and extent of household or road rehabilitation needed. (WB GWASE Upgrading Onsite Sanitation and Connecting to Sewers in Southeast Asia Insights from Indonesia and Vietnam, 5 April 2015).

Annex 6: Location Map

Ethiopia: Second Ethiopia Urban Water Supply and Sanitation Project