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INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT PAPER

ON A

PROPOSED ADDITIONAL CREDIT

IN THE AMOUNT OF SDR 207.2 MILLION
(US\$275 MILLION EQUIVALENT)

TO THE

FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

FOR THE

SECOND URBAN WATER SUPPLY AND SANITATION PROJECT

March 8, 2024

Water Global Practice
Eastern and Southern Africa Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective {Feb 29, 2024})

Currency Unit = Ethiopian Birr

US\$ 1 = SDR 0.75

US\$ 1 = ETB 56.74

FISCAL YEAR

July 8 – July 7

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ABBREVIATIONS AND ACRONYMS

AAWSA	Addis Ababa Water and Sewerage Authority
AF	Additional Financing
AFD	French Development Agency (<i>Agence Française De Développement</i>)
AWP&B	Annual World Plan and Budget
DBO	Design-Build-Operate
DO	Development Objective
E&S	Environmental and Social
ESMF	Environmental and Social Management Framework
FM	Financial Management
FSTP	Fecal Sludge Treatment Plant
GAP	Gender Action Plan
GHG	Greenhouse Gas
GoE	Federal Democratic Republic of Ethiopia
GRS	Grievance Redress Service
IFR	Interim Financial Report
IP	Implementation Progress
IRR	Internal Rate of Return
ISR	Implementation Status and Results Report
M&E	Monitoring and Evaluation
MIS	Management Information System
MoF	Ministry of Finance
MoWE	Ministry of Water and Energy
NPV	Net Present Value
NRW	Non-Revenue Water
O&M	Operations and Management
PDO	Project Development Objective
RPF	Resettlement Policy Framework
SDGs	Sustainable Development Goals
STEP	Systematic Tracking of Exchanges in Procurement
SUWSSP	Second Urban Water Supply and Sanitation Project
WSS	Water Supply and Sanitation
WWTP	Wastewater Treatment Plant

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BASIC INFORMATION – PARENT (Second Ethiopia Urban Water Supply and Sanitation Project - P156433)

Country	Product Line	Team Leader(s)		
Ethiopia	IBRD/IDA	Iain Menzies		
Project ID	Financing Instrument	Resp CC	Req CC	Practice Area (Lead)
P156433	Investment Project Financing	SAEW2 (9523)	AECE3 (247)	Water

Implementing Agency: Addis Ababa Water and Sewerage Authority (AAWSA) Water Supply and Sanitation Infrastructural Develop, Ministry of Water and Energy

Is this a regionally tagged project?	
No	

Bank/IFC Collaboration
No

Approval Date	Closing Date	Expected Guarantee Expiration Date	Original Environmental Assessment Category	Current EA Category
31-Mar-2017	30-Jun-2024		Partial Assessment (B)	Partial Assessment (B)

Financing & Implementation Modalities

<input type="checkbox"/> Multiphase Programmatic Approach [MPA]	<input type="checkbox"/> Contingent Emergency Response Component (CERC)
<input type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Performance-Based Conditions (PBCs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a Non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input type="checkbox"/> Responding to Natural or Man-made disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	<input type="checkbox"/> Hands-on Expanded Implementation Support (HEIS)



Development Objective(s)

The objectives of the project are to increase access to water supply and sanitation services and to improve operational efficiency of water and sanitation utilities in Addis Ababa and select secondary cities.

Ratings (from Parent ISR)

	Implementation					Latest ISR
	21-Dec-2021	21-Jun-2022	07-Jan-2023	04-Aug-2023	13-Dec-2023	02-Feb-2024
Progress towards achievement of PDO	S	S	S	S	MU	MS
Overall Implementation Progress (IP)	MS	MS	MS	MS	MU	MS
Overall Safeguards Rating	MS	MS	MS	MS	MS	MS
Overall Risk	M	M	M	M	M	M
Financial Management	MS	MU	MU	MU	U	MS
Project Management	S	S	MS	MS	MU	MS
Procurement	MS	MS	MS	MS	MS	MS
Monitoring and Evaluation	S	S	S	S	MS	MS

BASIC INFORMATION – ADDITIONAL FINANCING (Additional Financing for the Second Urban Water Supply and Sanitation Project - P181545)

Project ID	Project Name	Additional Financing Type	Urgent Need or Capacity Constraints
P181545	Additional Financing for	Cost Overrun/Financing Gap	No



	the Second Urban Water Supply and Sanitation Project		
Financing instrument	Product line	Approval Date	
Investment Project Financing	IBRD/IDA	29-Mar-2024	
Projected Date of Full Disbursement	Bank/IFC Collaboration		
15-Oct-2027	No		
Is this a regionally tagged project?			
No			

Financing & Implementation Modalities

<input type="checkbox"/> Series of Projects (SOP)	<input checked="" type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Performance-Based Conditions (PBCs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a Non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input checked="" type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input type="checkbox"/> Responding to Natural or Man-made disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	<input type="checkbox"/> Hands-on Expanded Implementation Support (HEIS)
<input type="checkbox"/> Contingent Emergency Response Component (CERC)	

Disbursement Summary (from Parent ISR)

Source of Funds	Net Commitments	Total Disbursed	Remaining Balance	Disbursed
IBRD				%
IDA	445.00	253.92	191.98	57 %
Grants				%

PROJECT FINANCING DATA – ADDITIONAL FINANCING (Additional Financing for the Second Urban Water Supply and Sanitation Project - P181545)



FINANCING DATA (US\$, Millions)

SUMMARY (Total Financing)

	Current Financing	Proposed Additional Financing	Total Proposed Financing
Total Project Cost	523.13	275.00	798.13
Total Financing	523.13	275.00	798.13
of which IBRD/IDA	445.00	275.00	720.00
Financing Gap	0.00	0.00	0.00

DETAILS - Additional Financing

World Bank Group Financing

International Development Association (IDA)	275.00
IDA Credit	275.00

IDA Resources (in US\$, Millions)

	Credit Amount	Grant Amount	SML Amount	Guarantee Amount	Total Amount
Ethiopia	275.00	0.00	0.00	0.00	275.00
National Performance-Based Allocations (PBA)	275.00	0.00	0.00	0.00	275.00
Total	275.00	0.00	0.00	0.00	275.00

COMPLIANCE

Policy

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

[] Yes [] No

Does the project require any other Policy waiver(s)?

[] Yes [] No

**INSTITUTIONAL DATA****Practice Area (Lead)**

Water

Contributing Practice Areas**Climate Change and Disaster Screening**

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

PROJECT TEAM**Bank Staff**

Name	Role	Specialization	Unit
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Nishtha Mehta	Team Leader	WSS Specialist	SAEW2
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Wendwosen Feleke	Team Member	Operations Officer	SAEW2
Extended Team			
Name	Title	Organization	Location



I. BACKGROUND AND RATIONALE FOR ADDITIONAL FINANCING

A. Introduction

1. **This Project Paper seeks the approval of the Executive Directors to provide an additional International Development Association (IDA) credit in the amount of SDR 207.2 million (US\$275 million equivalent) to the Federal Democratic Republic of Ethiopia (GoE) for the Second Urban Water Supply and Sanitation Project (SUWSSP, P156433).** The additional financing (AF) will cover the cost overruns on sanitation investments. The AF responds to a request of the GoE to cover the financing gap within the existing scope of SUWSSP, particularly under Component 1 (sanitation and water supply services improvements in Addis Ababa) and Component 2 (sanitation and water supply services improvement in secondary cities). The financing gap occurred mainly due to the higher-than-estimated cost of investments because of the impacts of the COVID-19 pandemic on supply chains, import restrictions, foreign currency constraints, global inflation, shortages of construction materials, internal conflict, and national and regional state of emergencies in Ethiopia. The AF will support the completion of outstanding sanitation and water supply works and institutional development support activities. No new activities will be included in the AF.

2. **The AF includes a restructuring to extend the closing date of the SUWSSP from June 30, 2024, to June 30, 2027.** COVID-19 and conflict-related travel restrictions limited international consultants' and contractors' ability to visit Ethiopia for around 30 months, severely delaying numerous scheme preparation activities. The extension would allow the GoE to achieve the PDO of the parent project. Full completion of project activities will also support the COVID-19 and post-conflict recovery activities, particularly for the vulnerable households in Addis Ababa and select secondary cities.

B. Original Financing, Objective Design and Performance

3. The SUWSSP was approved by the Board on March 31, 2017, for a total IDA financing of US\$445 million equivalent and became effective on August 6, 2017. The current closing date is June 30, 2024. The Project Development Objective (PDO) is to increase access to water supply and sanitation (WSS) services and to improve operational efficiency of water and sanitation utilities in Addis Ababa and select secondary cities. The project aims to directly benefit 3.12 million people with safely managed sanitation services and 623,000 people with improved water services.

4. **The SUWSSP was designed to support service providers in Addis Ababa and select secondary cities to move toward a longer-term goal of efficient, universal, and affordable service provision within a supporting policy and regulatory framework.** The urban share of Ethiopia's population increased from 8.5 percent in 1967 to 23 percent in 2023, with an annual average urbanization rate of about 4 percent since 1996. Ethiopia has made significant 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. However, sanitation access continues to lag behind. 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. Against the national MDG target



of 57 percent, Ethiopia achieved only 28 percent sanitation coverage. The country is also not on track to achieve the sustainable development goals (SDGs).

5. **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. The effect of all this is exposing urban residents to health hazards, as seen for example with a cholera outbreak in 2016.

6. **It is expected that by the end of the project period, Addis Ababa and the participating cities will have increased access to WSS services,** and the project 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. The project also supports the Government's effort to respond to the increasing urban demand through investments in sanitation and water infrastructure. Institutional strengthening activities are included to ensure that participating utilities become more business oriented. The SUWSSP consists of three components: sanitation and water supply services improvements in Addis Ababa, sanitation and water supply services improvement in secondary cities, and project management and institutional strengthening. The expected key results are to increase (a) the number of people in project areas provided with access to safely managed sanitation, (b) the number of people in urban areas with access to improved water sources under the project, (c) operation cost coverage ratio, (d) savings from non-revenue water (NRW) interventions under the project, and (e) the number of direct project beneficiaries.

7. **The project was impacted by the macroeconomic¹ shifts in Ethiopia.** Ethiopia had a GDP of US\$126 billion in 2022, and the economy has experienced strong, broad-based growth averaging 9.4 percent a year from 2010/11 to 2019/20, and still the fastest growing economy in the region, with 5.3 percent growth in 2023. Consistent high economic growth brought positive trends in poverty reduction. The population living below the national poverty line decreased from 30 percent in 2011 to 24 percent in 2016. Poverty reduction is more pronounced in urban areas. However, despite the rapid economic growth, it is still one of the poorest countries in the world, with a per capita income of US\$1,212. The COVID-19 pandemic and internal conflict slowed growth to 5.3 percent in 2022. Inflation has remained high despite slower monetary growth. Headline inflation rose to 28.7 percent, year on year driven by broad based food (30.6 percent) and non-food (26.1 percent) inflationary pressures. The sustained high inflation despite monetary tightening points to supply constraints including disruptions caused by intensifying conflicts in various parts of the country.² These factors impacted project implementation.

8. **The project remains a high priority for the GoE.** It aligns fully with the urban development agenda set forth by the Government, which regards to urban centers as key economic agents and identifies addressing infrastructure gaps as a major priority alongside job creation and housing. The GoE is also focused on expansion of sustainable potable water supply and improving urban sanitation. The project objectives and components are also consistent with Ethiopia's international commitments, including

¹ Ethiopia: Monthly Economic Update – January 202, World Bank.

² ibid



Sustainable Development Goal (SDG) 6 and SDG 11. The AF will allow additional time and financial resources to realize the PDO targets.

9. **To date, the project has undergone three Level-2 restructurings.** The first restructuring was approved on 22 December 2017, which transferred some contracts and activities from the First Ethiopia Urban Water Supply and Sanitation Project to the SUWSSP. The second restructuring was approved on May 29, 2020, to incorporate changes to the Project required by COVID-19. It included the revision of the PDO and revision of project activity descriptions to incorporate COVID-19 emergency response. The third restructuring was approved on March 17, 2021, to incorporate €15 million according to a grant Financing Agreement dated November 16, 2020, between the GoE and French Development Agency (*Agence Française De Développement*, AFD) under the AFD's Social Impact Reinforcement Project.

10. **The project has achieved noteworthy results in expanding WSS services to over 1.3 million people in Addis Ababa and secondary cities.** The PDO target is to provide 3.12 million people in urban areas with safely managed sanitation services and 623,000 people in urban areas with access to improved water sources. To date, 685,000 people (22 percent of target) have benefited from safely managed excreta, and 689,752 (110 percent of target) people now have access to improved water sources in urban areas. So far, all intermediate indicators have registered progress, including those measuring number of new piped water and sewer connections, reduction in NRW, and number of public toilets constructed.

11. **The project is performing well and is currently rated Moderately Satisfactory for both implementation progress (IP) and development objectives (DOs).** The project was briefly rated Moderately Unsatisfactory over the past 12 months to reflect significant implementation delays and FM issues. The implementation delays were due to COVID-19, national state of emergency-related travel restrictions, and widespread internal conflict. Following a crash program to accelerate implementation, 29 contracts with a value of US\$51 million were completed, and 81 contracts with a value of US\$224 million are expected to be completed before the current closing date of June 30, 2024. Moreover, 15 signed contracts with a value of about US\$300 million will be completed after the current closing date. Currently, 100 percent of project funds are fully committed. In October 2023, a time-bound project turnaround action plan was agreed with the Ministry of Water and Energy (MoWE) and Addis Ababa Water and Sewerage Authority (AAWSA), centered on key FM and procurement activities. Based on the satisfactory completion of the turnaround action plan and significant improvement in overall implementation, the DO, IP, and FM ratings were upgraded to Moderately Satisfactory on February 2, 2024. The project is compliant with legal covenants, including audit and FM reporting requirements. The project's overall risk rating is Moderate.

12. **Safeguards' performance is Moderately Satisfactory.** As per the Implementation Status and Results Report (ISR) of February 2024, the SUWSSP has an overall safeguards performance rating of Moderately Satisfactory. Historically, there have been significant gaps in the E&S risk management arrangement of the project. However, recent improvements have been made, with MoWE taking important measures to address these gaps, including addressing E&S staffing and performance reporting issues. Additionally, E&S risk management instruments have been prepared for subprojects, which are being implemented in Addis Ababa and other secondary cities. These E&S instruments have undergone review and clearance by the World Bank. Considering this, the E&S performance of the project is moderately satisfactory. The existing Environmental and Social Management Framework (ESMF) will be adopted for the AF. The key E&S risks have been identified, and proposed measures are feasibly



achievable with the already established implementation capacity. The AF will inherit the parent project's overall E&S risk, rated Substantial.

13. **Procurement and contract management performance is Moderately Satisfactory.** The project implementation teams have access to appropriate tools and knowledge that enable them to carry out their functions effectively. The procurement specialists/consultants recruited for the project are now assigned to work for the project full time. The procurement arrangements of MoWE, which were not originally set up to prioritize project procurement, have been strengthened. Most high-value contracts which will substantially contribute toward the disbursement and achievement of the PDO are either signed or ready to be signed in this fiscal year. The key risks have been identified, and proposed measures are under implementation. The procurement and contract management risk is rated as Substantial.

14. **FM performance is Moderately Satisfactory.** All FM arrangements for the parent project are in place and will be continued under the AF. A preliminary review of the FM performance has been conducted and the FM rating of the project is Moderately Satisfactory. Considerable positive progress in delivering key FM actions planned as part of the turnaround plan and Financing Agreement covenants have been noted. Risks have been identified, including delays in annual work plan and budget preparation and approval; low fund utilization capacity; high staff turnover and low technical capacity; weak advances monitoring and control; weak control over payments; low internal audit oversight support and weak capacity; delayed and poor quality interim financial reports (IFRs); and slow management action on audit recommendations. Risk mitigation measures include close monitoring support to the lower implementing entities to improve timeliness and quality of plan/budget, financial reporting, and internal control system including internal audit oversight. Training and resources for FM support will be critical. A detailed FM assessment was carried out, in accordance with IPF policies and procedures. The overall FM risk rating is Substantial.

C. Rationale for the Additional Financing

15. **The original PDO and project scope, as designed, remain highly relevant.** Addis Ababa still faces water security and sanitation challenges. The water supply system is under strain; NRW is still a pressing challenge for cost recovery and efficiency in service provision. The impact of water losses will become more acute over the coming years under the pressure of a rapidly increasing urban population and recurrent extreme weather events including droughts, heat waves and floods, which are expected to become more frequent and more intense in the future due to climate change. One study projects that Addis Ababa will experience increased flood risk while other areas of the country will see drought risk double.³ Ethiopia is highly vulnerable to climate change, particularly its water, agriculture, infrastructure, forestry, and public health sectors.⁴ Water scarcity and drought conditions are expected to increase food insecurity and may exacerbate conflicts over scarce resources and population movements. Heavy rains, flooding, and soil erosion put both urban and rural water and sanitation infrastructure at risk if located in flood or landslide prone areas, particularly for poor and vulnerable groups.⁵ The sanitation infrastructure

³ Feyissa G, Zeleke G, Bewket W, Gebremariam E (2018) *Downscaling of future temperature and precipitation extremes in Addis Ababa under climate change. Climate: 6(58).*

Orke YA and Li MH (2022) *Impact of climate change on hydrometeorology and droughts in the Bilate watershed, Ethiopia. Water: 14(729).*

⁴ Tegegne G, Melesse AM, Alamirew T (2021) *Projected changes in extreme precipitation indices from CORDEX simulations over Ethiopia, East Africa. Atmospheric Research: 247(105156).*

⁵ Adapted from *Climate Risk Profile: Ethiopia*. 2021. The World Bank Group.



is poorly developed due to the lack of investments and poor maintenance, resulting in environmental pollution, as most of the wastewater ends up in the environment without treatment. Most of the population residing in Addis Ababa lacks access to safe sanitation and wastewater management. Secondary cities have little or no formal fecal sludge management, leading to significant health and environmental risks. The capacity of utilities to operate and maintain sanitation infrastructure and deliver services is limited. Thus, the original PDO (increase access to water supply and sanitation services and to improve operational efficiency of water and sanitation utilities in Addis Ababa and select secondary cities) is still highly relevant in combating some of the most acute development challenges in Ethiopia, especially considering the country's high vulnerability to climate change impacts in both current and future scenarios. The project is also addressing climate change-exacerbated flood and drought risks, mainly by ensuring that the design of water and sanitation infrastructure and reuse options is climate resilient.

16. **The original project design thus also addresses climate change-exacerbated flood and drought risks**, mainly by ensuring that the design of water and sanitation infrastructure and reuse options is climate resilient. Climate risk screenings (also see ThinkHazard) show that the project area has high exposure to droughts, with the present ongoing drought being one of the most severe in the last forty years – after six rainy seasons with very low rainfall totals⁶. Flooding risk is also classified as high, with a significant impact on water infrastructure and residents, as infrastructure not sufficiently reinforced or placed outside flood or landslide prone areas can be damaged, leaving communities without a clean drinking water or sanitation source and dependent on stagnant, contaminated flood waters. For example, the 2022 flooding in western Ethiopia displaced over 185,000 people in addition to destruction of properties and contamination of water supply schemes⁷. Such contamination and pollution of water sources and (water supply and water treatment) infrastructure damage increases the risk of outbreaks of water-borne diseases which is exacerbated by increased flooding events. Thus, climate change-exacerbated droughts, floods and extreme heat pose a high level of inherent risk to project activities, and all inherent risks are addressed using climate-informed design and resilience principles. Project interventions support such designs, and, as a result, can contribute to managing the risks.

17. **However, the project has a financing gap of US\$275 million due to cost overruns.** The lowest bid price for the innovative design-build-operate (DBO) contract for two wastewater treatment plants (WWTPs) in Addis Ababa is 70 percent higher than the original engineering estimate (US\$143 million versus US\$86 million) due to inflation since the feasibility study was made. The cost overruns are attributed to the following factors: (a) significant price escalation in goods, works, and services contracts (especially for imported goods and foreign sourced activities) and (b) the impact of COVID-19 (supply chain interruptions) and widespread conflicts, including declarations of national and regional states of emergency (limiting contractor and consultant ability to work effectively in many parts of the country). Implementation delays were caused by COVID-19 and security/conflict travel restrictions, which precluded international consultants and contractors from visiting the country for 30 months. This impacted the preparation of city-wide inclusive sanitation studies and plans and associated design of fecal sludge treatment plants (FSTPs) and preparation and bidding of complex and innovative DBO and NRW performance-based contracts. Local capacity constraints in the private sector resulted in failed procurement of FSTP DBO contracts in five selected secondary towns, which led to subsequent rebidding.

⁶ OCHA, 2023, Ethiopia Situation Report (*here*)

⁷ OCHA, 2022, Ethiopia Gambella Region Flood Update (*here*)



18. **If all project activities are completed, the overall safely managed sanitation coverage of Addis Ababa will increase by about 25 percent.** With the available funding, the project will not be able to complete these activities, leaving about 500,000 Addis Ababa residents without access to safe sanitation. In addition, several activities under Component 2 also require AF to achieve planned results, including completion of 22 FSTPs for safe latrine waste management. Without the AF and extension of the closing date, the number of direct project beneficiaries would decrease by over 1.32 million or 39 percent of the PDO targets. The reduction in beneficiaries would be higher than the 20 percent revenue reduction estimated at the time of appraisal. The subsequent impact on the project outcomes would be significant—the net present value (NPV) would be reduced to zero, and the internal rate of return (IRR) would equal the discount rate. The project-supported institutional strengthening activities for AAWSA, MoWE and utilities in secondary cities will ensure sustainability of services. These activities include: 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; capacity building and training on billing and accounting and, improvement in the customer data base and citizen engagement, gender, and management for water boards; piloting of modern meter reading and collection technology and other efficiency interventions for possible scale-up.

19. **During the last project supervision mission (September 14 to November 7, 2023), the Ministry of Finance (MoF) expressed its intention of requesting AF from IDA for the project to ensure that it meets its objectives fully.** The mission explored options that would enable the project to achieve its objectives and/or the required adjustments. These options were informed by detailed project reviews (completion timelines and updating of scheme costs) and discussions with MoWE and the World Bank. The preferred option by the MoF involves an AF of US\$275 million to fully cover the financing gap and increasing the project implementation period by three years.

II. DESCRIPTION OF ADDITIONAL FINANCING

20. **Component 1: Sanitation and Water Supply Services Improvements in Addis Ababa (total revised cost US\$381 million, of which US\$148 million is AF).** This component includes US\$146 million for the Eastern Catchment DBO WWTP and US\$31 million for the Koye Fetche WWTP. This component focuses on investments in wastewater infrastructure for Addis Ababa. It also includes investments to increase the hydraulic capacity of the existing network and reduce losses. All key contracts under this component are either ready to be signed or under implementation, and all the project funds are committed. AAWSA has operationalized 90 vacuum trucks to collect an additional 1,200 m³ per day of fecal sludge. The Addis Ababa Sanitation Master Plan will be completed in 2024. The performance-based contracts for 5 percent NRW reduction are also under implementation (which would increase available water and reduce GHG emissions), albeit delayed due to slow progress in the importation of specialized equipment that requires clearances from various government agencies. The contracts for the eastern catchment's trunk, secondary, and tertiary sewer lines are signed and under implementation. The DBO contract for the two eastern catchment WWTPs, with an estimated value (bid price) of US\$146 million, was signed on January 30, 2024. The value of the contract exceeds the original planned value (US\$86 million) by 70 percent due to inflation and cost escalation. Only after these WWTPs have been constructed can the project target beneficiaries receive safely managed sanitation services. Thus, Component 1 contributes to drought prevention, reduced spread of water-borne diseases arising from contaminated water supply, wastewater reuse, and resource efficiency (irrigation, greenery, and electricity generation)



for both the infrastructure and beneficiaries with respect to climate change-exacerbated risks in Addis Ababa. The WWTPs in this component also provide substantial greenhouse gas (GHG) emissions reduction as detailed in paragraph 40. The projected cost overrun for Component 1 is US\$148 million and a three-year extension of the closing date is needed to complete all activities.

21. **Component 2: Sanitation and Water Supply Services Improvement in Select Secondary Cities (total revised cost US\$408 million, of which US\$127 million is AF).** This component finances various investments to increase access to safely managed household and public sanitation services in 22 secondary towns. These investments include construction of FSTPs, construction of public and communal latrines, and NRW management and utility management information systems (MISs). This component increases resilience to climate change-exacerbated floods and droughts potentially through reduced pathogen count carried in floodwaters as there is less untreated fecal matter. It also reduces potential pathogen count from fecal matter that would otherwise be higher after evaporation during drought and heat spells, boosting public health. In addition, investments would support lowered unchecked discharge into rivers and the environment, as well as climate proof FSTPs and latrines. Moreover, reducing NRW losses by 5 percent will increase the volume of available water. The construction of public and communal latrines is progressing well in 22 towns. A total of 471 toilet facilities are operational and providing services for 65,869 users. The NRW reduction, MIS establishment, and water supply improvement works are all progressing well. Contracts have recently been signed for the construction of 13 FSTPs. For the other cities, contracts will be signed by June 30, 2024. The construction cost for all the FSTPs is estimated at US\$155 million. The construction of FSTPs is critical for achieving the outcome and PDO-level indicator targets (2.3 million beneficiaries) and supporting the GoE's social equity policy. The projected cost overrun for Component 2 is US\$127 million and a 30-month extension of the closing date is needed to complete all activities.

22. **Component 3: Project management and Institutional Strengthening (total cost US\$9 million, with no AF).** This component supports the project implementing agencies in strengthening their institutional capacity and ability to manage the project. Several plans and policies to strengthen overall project management have been developed. Significant improvement in AAWSA's capacity to manage the project has been noted. There will be no changes under this component. The project will continue to support AAWSA, MoWE and service providers in secondary cities in improving capacity and implementing project activities, including: (i) to develop NRW reduction strategies and business plans to minimize operational cost and enhance revenue collection; and (ii) to establish MIS and SCADA systems in AAWSA and MIS for all 22 secondary cities. On the sanitation side, capacity assessments for all service providers in secondary cities were completed and specific service delivery plans for fecal sludge management are under implementation.

23. **The costs by component for the original financing and for the proposed AF are presented in Table 1 below:**

**Table 1. Estimated Project Costs (US\$ million)**

No	Component & Subcomponent	Original Financing (million US\$)				Proposed Additional Financing (million US\$)				Total Project Cost (million US\$)			
		IDA Credit	Co-Financing	Counterpart Funding	Total	IDA Credit	Co-Financing	Counterpart Funding	Total	IDA Credit	Co-Financing	Counterpart Funding	Total
1	Component 1 (Addis Ababa)												
	Sanitation services improvement	164.60	-	60.00	224.60	148.00	-	-	148.00	312.60	-	60.00	372.60
	Operational Efficiency improvements	33.10			33.10				-	33.10			33.10
	Project management and Institutional Strengthening	2.30			2.30				-	2.30			2.30
	Sub Total	200.00	-	60.00	260.00	148.00	-	-	148.00	348.00	-	60.00	408.00
2	Component 2 (secondary cities)												
	Sanitation services improvement	191.00	18.14	-	209.14	127.00			127.00	318.00	18.14		336.14
	Operational Efficiency improvements	36.80			36.80				-	36.80			36.80
	Project management and Institutional Strengthening	8.20			8.20				-	8.20			8.20
	Sub Total	236.00	18.14	-	254.14	127.00	-	-	127.00	363.00	18.14	-	381.14
3	Component 3 (CB & Project management)	9.00	-	-	9.00	-	-	-	-	9.00	-	-	9.00
	Total	445.00	18.14	60.00	523.14	275.00	-	-	275.00	720.00	18.14	60.00	798.14



D. Other Proposed Changes

24. **The key changes under the AF are the following:** (a) changes to the project component costs associated with the provision of US\$275 million AF to address the cost overrun, (b) a closing date extension of the parent project by three years, from June 30, 2024, to June 30, 2027, and (c) revision of the Results Framework. The PDO and the project scope remain unchanged, retaining the existing three components and all original subcomponents. No changes are envisioned in the implementation arrangements or project management structure.

25. **Results Framework.** The target number of beneficiaries under the project remains the same. There are no changes in the PDO indicators. The following intermediate indicators have been introduced: (i) Volume of biogas captured and used for electricity generation (m³/month); and (ii) Women benefitting from actions that advance gender equality.

III. KEY RISKS

26. **The overall risk rating of the project is Moderate.**⁸ Political and governance risks, E&S, and fiduciary risks are rated Substantial. Macroeconomic, sector strategies and policy risks, and sustainability, the technical design of the project, and stakeholders' risks are evaluated as moderate. These ratings reflect the IP of the original financing, including risk mitigation measures and lessons learned throughout implementation. The GoE continues to demonstrate strong ownership and commitment toward the PDO and leadership on strengthening the institutional capacity of the implementation agencies.

27. **Political and governance risks are rated Substantial.** Even though the political situation has improved, and the national state of emergency has been lifted, there continues to be localized unrest, which can affect project implementation. To mitigate this risk, local capacity for project implementation is being expanded through targeted and extensive training exercises. 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. To mitigate this risk, the project includes a communication campaign to share information on tariff increases. Close coordination between AAWSA and MoWE on tariffs has also been developed to ensure political support.

28. **Fiduciary risks are rated Substantial.** Despite positive progress in project FM performance, there are key FM gaps and risks. These include delays in the Annual Work Plan and Budget (AWP&B), low budget utilization, capacity gaps in staff capacity, weak monitoring and control of advances, weak control over payments including in LC related payments control, weak asset management, weak internal audit capacity, delays and poor quality IFRs, entity financial statements and audit backlogs, and delay in resolving audit findings. Risk mitigation measures include maintaining adequate staffing with sufficient capacity, closer supervision and support, improving AWP&B preparation and approval, strengthening internal control over budget monitoring, payment processes, payable/advances monitoring, and

⁸ Risks were reevaluated with the Systematic Operations Risk-Rating Tool (SORT), based on the revised guiding principles for risk assessment. The World Bank's SORT measures development outcome risks, considering inherent risks to the PDO, mitigation measures and their reliability, and the residual risk after mitigation. The risk rating is based on the likelihood of the residual risk on the achievement of the PDO materializing. The revised SORT reflects the team's confidence level in the successful implementation of risk mitigation measures.



reporting systems, project asset management through close monitoring and support by the MoWE, allocating sufficient resources for internal audit, FM supervision, and capacity building trainings, monitoring the clearing of entity audit backlogs at utilities, and preparing and monitoring timely remedial action plans on audits. The World Bank will continue to provide implementation support through regular supervision missions, taskforce reviews, and IFRs/audits reporting.

29. **E&S risks are rated Substantial.** The project is exposed to environmental risks, including from wastewater treatment operations and inadequate operation of FSTPs. Working at water and sanitation facilities can involve various hazards, such as working near open water, in trenches, on slippery walkways, at height, around energized circuits, and with heavy equipment. The handling of liquid waste, especially, can generate different odors such as ammonia. However, most of these impacts will be short to medium term and can be mitigated through compliance with the Environmental Impact Assessment and Environmental and Social Management Plan. The overall negative social risks and impacts include, among others, physical and economic displacement, or loss of shelter; loss of income or means of livelihood due to land acquisition; health and safety of people near construction sites; and inadequate consultation and participation of communities during project design, implementation, and monitoring. To mitigate risks, the World Bank's safeguard policy on Involuntary Resettlement (OP/BP 4.12) is triggered and all relevant social safeguards instruments have been prepared and are under implementation. The project is, therefore, not expected to have large-scale, significant, and/or irreversible impacts.

IV. APPRAISAL SUMMARY

A. Economic and Financial Analysis

30. **The project economic analysis has been updated as part of the preparation of the AF using the same structure of costs and benefits as in the original economic analysis.** The project aims to address the emerging urban sanitation challenges resulting from rapid population growth in urban areas (Addis Ababa and 22 selected secondary cities). In addition, the project focuses on improving the customer and revenue base of water utilities through its interventions to reduce NRW, improve collection efficiency, and reduce operational expenses. The cost-benefit analysis conducted at appraisal for Components 1 and 2 showed that the project was financially feasible and economically viable both for Addis Ababa and secondary cities. In addition, the resilience of the project against potential cost increases was assessed through a sensitivity analysis, which estimated that the project will remain viable with up to 29 percent cost increase for Addis Ababa and 10–26 percent for secondary cities.

31. **The current economic analysis uses updated project costs and investment timetables based on the proposed closing date of June 30, 2027.** The analysis incorporates (a) the cost of all project components and (b) all measurable benefits including revenue generated from (i) additional water supply made available and additional wastewater disposal and treatment capacity created and (ii) revenue enhancement measures (tariff reform, NRW reduction, and increased collection efficiency)

32. **This financial and economic analysis covers Components 1 and 2,** which account for about 99 percent of the total project cost and 100 percent of the AF amount. The results of the analysis are summarized in the following paragraphs:



33. **Component 1: Sanitation and water supply services improvements in Addis Ababa.** The proposed AF is expected to increase the cost of Component 1 by US\$148 million (52 percent). Changes in exchange rate, inflation, tariff increase, cost escalation, implementation delay are considered in the re-estimation. The financial and economic return, as measured by NPV and IRR, and summarized in table 2, shows that Component 1 is still financially feasible and economically viable. The revenue to be generated from tariff increase and the number of beneficiaries already provided with access to safely managed excreta and improved water supply have partly contained the cost overrun. In addition, as indicated in the next paragraph there are several potential economic benefits that are not factored into the economic analysis that will maintain the economic viability of the component.

Table 2. Summary of Financial and Economic IRR and NPV for Component 1

No.	Scenario	Original Estimation		Original +AF	
		NPV US\$ (millions)	IRR (%)	NPV US\$ (millions)	IRR (%)
1	Financial Base Case	45.3	12.9	14.1	11.1
2	Economic Base Case	92.7	16.1	58.1	14.9

34. **Component 2: Sanitation and water supply services improvement in secondary cities.** The AF has increased the cost of Component 2 by US\$127 million (50 percent of the original cost estimate). The cost increase in Component 2 is significantly beyond the switching values estimated at appraisal to change NPV to negative and the IRR less than the discount rate. However, there are several potential economic benefits⁹ that are not factored into the economic analysis because of lack of quantifiable data and information. Time savings associated with better access to water and sanitation, gains in productivity due to less time being ill, economic gains associated with saved lives, and health sector and patient health expenditure saved due to reduced diarrheal diseases¹⁰ are among the health benefits¹¹ expected from the project. In addition, the project benefits women and children¹² who are disproportionately affected by lack of access to clean water and basic sanitation and are at higher risk of exposure to water- and sanitation-related diseases. The environment also benefits from reduced release of untreated wastewater. These are among the potential benefits that reinforce the economic viability of Component 2 and of the project. Further cost escalation has to be avoided in order to ensure economic viability.

35. **The shadow exchange rate sensitivity analysis was completed, and the project remains**

⁹ In 2013, Water and Sanitation Program/World Bank estimated that poor sanitation costs ETB 13.5 billion each year, equivalent to about ETB 170 per person per year or 2.1 percent of the national gross domestic product.

¹⁰ In Ethiopia, about 90 percent of diarrhea disease occurs due to poor sanitation, lack of access to clean water supply, and inadequate personal hygiene.

¹¹ The World Health Organization and United Nations Development Programme estimated that achieving the sanitation Millenium Development Goal target has a global return of US\$9.1 per US\$1 invested. Similarly, US\$1 invested on water will return US\$4.4. For universal coverage, these ratios increase to 11.2 for sanitation and 5.8 for water.

¹² The 2017 and 2018 health and health-related indicator for Ethiopia indicated that diarrhea is the second biggest killer of children under five, next to acute respiratory infection, and is responsible for 13 percent of deaths in children under five.



economically viable. To get a better understanding of the impact of the exchange rate distortions, sensitivity analysis was conducted for the local currency component of the project using alternative exchange rate of 1 US\$ = 90 ETB and 1 US\$= 117 ETB. The result shows that at both exchange rates the project is economically feasible (see Annex 1).

B. Technical

36. **The World Bank has reviewed and confirmed that all project investments reflect government priorities, are aligned with strategic sector principles, and address key technical issues.** All planned infrastructure solutions are considered technically sound, supported by engineering investigations and designs, and consider operational capacity constraints, life-cycle costs to promote sustainability, and climate considerations to ensure resilience. Cost estimates are based on recent bid prices, comparison with market rates from the studies done under the project, and unit rates from completed or ongoing project interventions. The engineering and technical models developed at appraisal were updated with the latest data and detailed engineering designs. No additional infrastructure works are envisaged under the AF.

37. **The sanitation interventions in the secondary towns have been identified through a series of city planning and engineering studies.** The service delivery options and approaches are outlined in city-wide inclusive sanitation plans. The design and choice of technologies have considered future climate change scenarios. Different on-site sanitation technologies are being promoted, building on the formative research and consultations with beneficiary communities.

38. **The proposed contract packaging approach addresses potential technical and procurement risks, and where possible, seeks to increase efficiency through economies of scale (by grouping similar investments into larger packages).** Moreover, the procurement packaging and implementation timeframes were reviewed from a technical perspective, and it was confirmed that the approach incorporates lessons learned through the experience and lessons of the original project and is considered realistically achievable within the project duration.

39. **GHG accounting.** A GHG accounting analysis was conducted for the two main WWTPs to be built under this project using the Water Global Practice's standard tool. The Eastern Catchment WWTPs to be constructed under Component 1 are expected to reduce emissions by 51 percent with respect to the baseline. Over their 20-year economic lifetime, their gross emissions are 136,841 tCO₂eq; net emissions are -144,378 tCO₂eq; and annual average net emissions are -7,219 tCO₂eq. The biogas produced during treatment will be captured and used for electricity generation. A portion of treated effluent (1,600 m³ per day) will undergo tertiary treatment and will be reused as service water and irrigation water. The remaining portion of the treated wastewater will also be used for irrigation and recharge of the underground water downstream of the treatment sites, which is the main water supply source for Addis Ababa City. For the Koye Fetcbe WWTP, to be built under Component 1, the total gross emissions are 68,685 tCO₂eq; total net emissions 42,205 tCO₂eq; and annual average net emissions are 2,110 tCO₂eq. Thus, WWTPs supported by the project lower overall GHG emissions by a combined value of 5,109 tCO₂eq per year, equivalent to 33 percent reduction relative to the baseline.

40. **The global benefit of reduced GHG emissions due to the project is estimated and the net shadow monetary value is added to the project incremental financial cash flows.** Based on these estimates, the



economic return from the project is recalculated. Taking into consideration the carbon shadow pricing, the NPV for Addis Ababa component (component 1) has increased by US\$7.74 million using the upper bound value and US\$3.89 million for the lower bound value.

C. Financial Management

41. **An FM assessment was conducted in accordance with the latest World Bank Policies and Directives and FM manual for IPF Operations.** The conclusion of the assessment is that the project's financial management arrangements continue to meet the World Bank's minimum requirements under Bank Policy and Bank Directive on IPF and FM Manual. The AF FM risk is rated as Substantial and mitigation measures were identified and agreed. The parent project FM ISR rating is Moderately Satisfactory (MS). Though significant progress has been noted, there are still critical FM issues that require close attention and action. MoWE has prepared a turnaround plan to address FM issues and it is under implementation. A joint World Bank/Government taskforce has been established and regularly meets to track implementation of FM issues/actions and provide implementation support. This will continue during implementation of the AF. The project FM arrangements, the overall fiduciary roles and responsibilities of MoWE, and those of other implementing entities will all continue to be the same and applicable for the AF. The Project will continue to prepare a consolidated annual work plan and budget (AWP&B) and obtain a no-objection from the World Bank. The project will continue to follow the government's "channel 2" fund flow mechanism, whereby the fund will be transferred to MoWE. A new segregated Designated Account will be opened for the AF at the National Bank of Ethiopia (NBE) managed by MoWE. Funds from the designated USD account will continue to be further transferred into local currency (Birr) account held by MoWE (common for both Parent and AF). From the Birr account, MoWE will continue to transfer the funds to the existing separate local-currency bank accounts at all implementing entities. The project will continue to use report-based disbursement using a six-month forecast for the AF. Disbursement methods prescribed in the DFIL for the AF will apply. The project will continue to submit quarterly interim unaudited financial reports (IFRs) within 45 days of the end of each reporting quarter including the parent and AF activities. The project will continue to have its accounts/financial statements of the Project (which will include both the parent and AF) audited on an annual basis by an independent external auditor acceptable to the World Bank and submit the annual external auditor's report within six months of the fiscal year end.

D. Procurement

42. **The implementing entities' capacity to perform procurement has been demonstrated to be adequate and acceptable to the World Bank.** The purpose of the AF is to cover the financing gap for all initiated and signed contracts. No new activity/Procurement Plan is envisaged under the AF. Hence, similar to the parent project, procurement and contract management under the AF shall be carried out in accordance with the World Bank Procurement Guidelines: 'Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers,' dated January 2011 (revised July 2014); Consultants Guidelines: 'Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants 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,' dated October 15, 2006 (revised in July 1, 2016) (Anti-Corruption Guidelines); and other provisions stipulated in the Financing Agreements. The Procurement Plan of the parent project



shall be updated as needed. The implementing agencies will continue using Systematic Tracking of Exchanges in Procurement (STEP). High-value and/or complex procurements and contracts identified in the Procurement Plan will be given maximum attention by both the implementing agencies and the World Bank.

43. **The same implementing agencies as the parent project will continue to manage procurement under the AF.** The procurement capacity of the implementing agencies has improved. At the federal level, procurement staffing, completeness and timeliness of the Procurement Plan, initiation of planned activities, timely submission of the independent procurement audit report, endorsing of contracts, quality of the bidding documents and evaluation reports, and regular joint review of large-value contracts have all improved. However, there are some risks requiring further attention, including the following: (a) the current security situation in some project implementation areas may affect qualified suppliers', consultants', and contractors' appetite to bid; (b) inadequate capacity of procurement staff and associated delays in timely initiation, evaluation, and award of bids; (c) the need for further improvement in regularly updating STEP; (d) inadequate procurement planning including delays in initiating planned activities; € inadequate contract management capacity; and (f) the need for further improvement in the quality of bidding documents/Request For Proposals and evaluation reports. The recommended mitigation measures are: (a) providing implementing agencies with continuous capacity-building interventions on procurement and contract management, (b) establishing business standards to monitor delays and quality issues and take remedial measures for improvement, (c) ensuring that MoWE's senior management regularly monitors and follows up on the implementation of contracts, (d) updating STEP promptly and in real time, a€(e) continuing the practice of the borrower appointing an independent procurement auditor to carry out an annual audit of procurement activities.

E. Environment and Social

Environment

44. **As the nature of the activities remains the same, no changes to the project safeguard category are expected, and no additional safeguard policies are triggered.** The project remains Category B and triggers the same environmental safeguards as the parent project: Environmental Assessment (OP/BP 4.01), Physical Cultural Resources (OP/BP 4.11), Safety of Dams (OP/BP 4.37), and Projects on International Waterways (OP/BP 7.30). In compliance with these, an ESMF has been prepared and is used as a guide in precluding and managing any potential E&S risks. Site-specific E&S safeguards instruments have been prepared for each subproject based on the requirements of the ESMF.

45. **The overall environmental impact of the project investments will be largely positive.** These include: (a) improved water management and efficiency, (b) protection of groundwater and surface water by promoting safe sanitation facilities, (c) sustainable O&M of improved infrastructure, and (d) improved urban environment due to safely managed sanitation waste. While the overall environmental impacts of the project will be positive, some adverse impacts may be generated. The bulk of the impacts will occur during the construction phase, and some will be related to wastewater and fecal sludge disposal. However, most of these impacts will be short to medium term, localized, and temporary and can be mitigated through compliance with the Environmental Impact Assessment and Environmental and Social Management Plan.



Social

46. **No adjustment to the existing safeguards arrangements will be required under the AF.** The AF is being proposed to address financing gaps and does not envisage additional investments nor scale-up of the existing activities beyond the scope of the parent project. 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. There are likely to be some adverse social impacts associated with the anticipated physical works, such as construction of WWTPs, reservoirs, public and communal toilets, sewers, and in some cases access roads under the proposed project. Acquiring private or communal land may be needed. To mitigate or minimize impacts related to subprojects that involve land acquisition, particularly of privately owned land that might affect resident households, shop owners, and informal traders who operate near the proposed construction sites, the World Bank's safeguard policy on Involuntary Resettlement (OP/BP 4.12) is triggered and relevant social safeguard instruments have been prepared. The project is, therefore, not expected to have large-scale, significant, and/or irreversible impacts.

47. **The social performance is Moderately Satisfactory.** The implementing agencies are adequately staffed, and regular capacity building is provided to the relevant staff. An RPF and ESMF were developed under the parent project. To date, the project has consistently applied impact avoidance measures under OP/BP 4.12 through technical design and the use of existing alignment. A project-level grievance redress mechanism is currently in place, supported by regular supervision by the project implementing entities. Community-level engagement and consultations have been performed as part of project implementation. The borrower will continue to implement the existing ESMF and RPF.

48. **Gender.** The project narrows a critical gender gap by providing access to drinking water and safely managed sanitation freeing up time for productive use and care activities. In addition, the project will continue to address the gap in female representation in decision-making positions within water and sanitation utilities. At present, the project has increased the proportion of management positions held by women from 15 percent to 20.6 percent in AAWSA and secondary city utilities combined, but still needs to make further progress to reach its end-target of 22.5 percent¹³ (with lower average levels in secondary city utilities of 14.2 percent). As such, under the additional financing, it will continue to address this gap and will conduct additional Equal Aqua diagnostics to fine tune activities to accelerate progress, including ramping up targeted technical training for women to enhance their viability for leadership positions. The project also targets women and vulnerable groups (e.g. youth and persons with disabilities) for employment opportunities linked to managing public sanitation facilities. The AF will continue supporting the gender activities of the parent project.¹⁴

49. **Citizen engagement.** The parent project included a focus on citizen engagement and provided multiple opportunities to hear views from the community during design and implementation. The project has also established gender and disability disaggregated data collection on grievance redress and includes

¹³ Equal Aqua HR Survey May 2022

¹⁴ Gender activities under the parent project include regularly monitoring the Gender Action Plan (GAP) 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 where possible, (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 representation.



targets on resolution of grievances. The project includes behavior change campaigns and community engagement to ensure people connect to the new sewer networks and fecal sludge management services. The project will further strengthen the system in place during the proposed time extension.

V. WORLD BANK GRIEVANCE REDRESS

50. ***Grievance Redress.*** Communities and individuals who believe that they are adversely affected by a project supported by the World Bank may submit complaints to existing project-level grievance mechanisms or the 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 Bank's independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of Bank non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints through dispute resolution. Complaints may be submitted to the AM at any time after concerns have been brought directly to the attention of Bank Management and after Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the Bank's Accountability Mechanism, please visit <https://accountability.worldbank.org>



VI. SUMMARY TABLE OF CHANGES

	Changed	Not Changed
Results Framework	✓	
Components and Cost	✓	
Loan Closing Date(s)	✓	
Implementing Agency		✓
Project's Development Objectives		✓
Cancellations Proposed		✓
Reallocation between Disbursement Categories		✓
Disbursements Arrangements		✓
Safeguard Policies Triggered		✓
EA category		✓
Legal Covenants		✓
Institutional Arrangements		✓
Financial Management		✓
Procurement		✓
Other Change(s)		✓

VII. DETAILED CHANGE(S)

COMPONENTS

Current Component Name	Current Cost (US\$, millions)	Action	Proposed Component Name	Proposed Cost (US\$, millions)
Component 1: Sanitation and water supply services improvements in Addis Ababa	260.00	Revised	Component 1: Sanitation and water supply services improvements in Addis Ababa	408.00
Component 2: Sanitation and water supply services improvement in select	254.13	Revised	Component 2: Sanitation and water supply services	381.13



secondary cities			improvement in select secondary cities	
Component 3: Project management and institutional strengthening	9.00		Component 3: Project management and institutional strengthening	9.00
TOTAL	523.13			798.13

LOAN CLOSING DATE(S)

Ln/Cr/Tf	Status	Original Closing	Current Closing(s)	Proposed Closing	Proposed Deadline for Withdrawal Applications
COFN-C1860	Effective	30-Jun-2024	30-Jun-2024	30-Jun-2027	30-Oct-2027
IDA-60070	Effective	07-Jul-2023	30-Jun-2024	30-Jun-2027	30-Oct-2027
IDA-60080	Effective	07-Jul-2023	30-Jun-2024	30-Jun-2027	30-Oct-2027

Expected Disbursements (in US\$)

Fiscal Year	Annual	Cumulative
2017	0.00	0.00
2018	8,156,500.00	8,156,500.00
2019	14,568,400.00	22,724,900.00
2020	21,340,550.00	44,065,450.00
2021	26,500,375.00	70,565,825.00
2022	32,616,375.00	103,182,200.00
2023	38,656,200.00	141,838,400.00
2024	35,728,825.00	177,567,225.00
2025	35,517,900.00	213,085,125.00
2026	28,100,325.00	241,185,450.00
2027	24,795,100.00	265,980,550.00
2028	9,019,450.00	275,000,000.00



SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Latest ISR Rating	Current Rating
Political and Governance	● Substantial	● Substantial
Macroeconomic	● Moderate	● Moderate
Sector Strategies and Policies	● Moderate	● Moderate
Technical Design of Project or Program	● Moderate	● Moderate
Institutional Capacity for Implementation and Sustainability	● Moderate	● Moderate
Fiduciary	● Substantial	● Substantial
Environment and Social	● Substantial	● Substantial
Stakeholders	● Moderate	● Moderate
Other	● Substantial	● Substantial
Overall	● Moderate	● Moderate

LEGAL COVENANTS – Additional Financing for the Second Urban Water Supply and Sanitation Project (P181545)

Sections and Description

No information available

Conditions



VIII. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Ethiopia

Additional Financing for the Second Urban Water Supply and Sanitation Project

Project Development Objective(s)

The objectives of the project are to increase access to water supply and sanitation services and to improve operational efficiency of water and sanitation utilities in Addis Ababa and select secondary cities.

Project Development Objective Indicators by Objectives/ Outcomes

Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
Increase access to water supply and sanitation services in Addis Ababa and select secondary cities									
People in urban areas whose excreta are safely managed under the project (Number)		0.00	0.00	0.00	127,000.00	949,700.00	2,101,000.00	3,119,000.00	3,119,000.00
Addis Ababa (Number)		0.00	0.00	0.00	17,000.00	49,000.00	280,000.00	511,900.00	511,900.00
Secondary cities (Number)		0.00	0.00	0.00	110,000.00	900,700.00	1,821,000.00	2,607,100.00	2,607,100.00
Number of people in urban areas provided with access to Improved Water Sources under the project (Number)		0.00	0.00	0.00	0.00	187,000.00	405,000.00	623,000.00	623,000.00
Addis Ababa (Number)		0.00	0.00	0.00	0.00	46,000.00	100,000.00	154,000.00	154,000.00



Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
Secondary Cities (Number)		0.00	0.00	0.00	0.00	141,000.00	305,000.00	469,000.00	469,000.00
Direct project beneficiaries (Number)		0.00	0.00	0.00	110,000.00	1,187,900.00	2,633,800.00	3,720,000.00	3,720,000.00
Female beneficiaries (Percentage)		0.00	0.00	0.00	50.00	50.00	50.00	50.00	50.00
Improve WSS services operational efficiency in Addis Ababa and select secondary cities									
Operation cost coverage ratio (Percentage)		1.04	1.04	1.04	1.04	1.11	1.20	1.29	1.29
Addis Ababa (Percentage)		1.04	1.04	1.04	1.04	1.11	1.20	1.29	1.29
Secondary cities (Percentage)		1.09	1.09	1.09	1.09	1.16	1.25	1.34	1.34

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
Component 1: Sanitation and water supply services improvements in Addis Ababa									
New Sewer Connections constructed under the project (Number)		0.00	0.00	0.00	0.00	0.00	37,500.00	55,000.00	57,600.00
Residential (Number)		0.00	0.00	0.00	0.00	0.00	36,000.00	52,340.00	52,340.00
commercial (Number)		0.00	0.00	0.00	0.00	0.00	1,500.00	5,260.00	5,260.00



Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
Volume of wastewater/sludge safely collected, transported, treated and disposed under the project (per day) (Cubic Meter(m3))		0.00	0.00	0.00	7,000.00	130,000.00	180,000.00	229,000.00	229,000.00
Addis Ababa (Cubic Meter(m3))		0.00	0.00	0.00	50,000.00	60,000.00	70,000.00	86,000.00	86,000.00
Secondary Cities (Cubic Meter(m3))		0.00	0.00	0.00	7,000.00	50,000.00	100,000.00	143,000.00	143,000.00
Participating cities that have prepared and implemented an integrated urban sanitation management plan under the project. (Number)		0.00	6.00	15.00	23.00	23.00	23.00	23.00	23.00
Addis Ababa (Number)		0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Secondary Cities (Number)		0.00	5.00	14.00	22.00	22.00	22.00	22.00	22.00
People trained to improve hygiene behavior/sanitation practices under the project (Number)		0.00	13,000.00	26,000.00	58,000.00	128,000.00	203,000.00	234,000.00	234,000.00
People trained to improve hygiene behavior/sanitation practices - female (Number)		0.00	6,500.00	13,000.00	29,000.00	64,000.00	101,500.00	117,000.00	117,000.00



Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
Number of public and communal latrines constructed under the project and providing service (Number)		0.00	0.00	150.00	400.00	650.00	1,000.00	1,350.00	1,350.00
Addis Ababa (Number)		0.00	0.00	50.00	100.00	150.00	200.00	200.00	200.00
Secondary cities (Number)		0.00	0.00	100.00	300.00	500.00	800.00	1,150.00	1,150.00
Proportion of targeted public facilities provided with water supply and sanitation services under the Project to respond to emergency situations (Percentage)		0.00							25.00
Volume of biogas captured and used for electricity generation (Cubic Meter(m3))		0.00							4,500.00
Action: This indicator is New	Rationale: <i>This is the climate indicator added under the additional financing. The measure for the indicator is m3/day</i>								
Women benefitting from actions that advance gender equality (Number)		0.00							117,125.00
Action: This indicator is New	Rationale: <i>This indicator measures the number of people benefiting from actions that intentionally seek to advance gender equality. This includes the number of females specifically targeted for training on hygiene behavior/sanitation practices (117,000) plus actions to advance economic opportunities for women and improve</i>								



Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
<i>representation in decision-making positions in utilities as noted under the definition</i>									
Water supply and operational efficiency improvement in Addis Ababa and select Secondary cities									
New piped household water connections that are resulting from the project intervention (Number)		0.00	0.00	0.00	0.00	37,000.00	48,000.00	61,000.00	61,000.00
Addis Ababa (Number)		0.00	0.00	0.00	0.00	10,000.00	13,000.00	17,000.00	17,000.00
Secondary Cities (Number)		0.00	0.00	0.00	0.00	27,000.00	35,000.00	44,000.00	44,000.00
Participating utilities that have established/ are using NRW data management system (Number)		0.00	0.00	0.00	14.00	23.00	23.00	23.00	23.00
Addis Ababa (Number)		0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00
Secondary Cities (Number)		0.00	0.00	0.00	13.00	22.00	22.00	22.00	22.00
Collection Efficiency of participating utilities (Percentage)		81.00	81.00	84.00	87.00	88.00	91.00	95.00	95.00
Addis Ababa (Percentage)		87.00	87.00	87.00	89.00	91.00	93.00	95.00	95.00
Secondary Cities (Percentage)		81.00	81.00	84.00	87.00	88.00	91.00	95.00	95.00
Number of participating		0.00	0.00	23.00	23.00	23.00	23.00		23.00



Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
utilities with updated business plan (Number)									
Addis Ababa (Number)		0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Secondary Cities (Number)		0.00	0.00	22.00	22.00	22.00	22.00	22.00	22.00
Savings from NRW interventions under the project (Percentage)		39.00							34.00
Addis Ababa (Percentage)		39.00							34.00
Secondary Cities (Percentage)		38.00							33.00
Project management & institutional strengthening									
Proportion of Project utilities producing Project progress report (physical and financial) including progress on GAP as per the reporting format on a quarterly basis (Percentage)		0.00							90.00
Number of participating utilities in secondary cities that have assigned a unit responsible for sanitation services (Number)		0.00	11.00	22.00	22.00	22.00	22.00	22.00	22.00
Grievances registered related to delivery of		0.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00



Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
project benefits that are actually addressed (%) (Percentage)									
of which submitted by women (Percentage)		0.00							85.00
Share of newly assigned decision-making positions filled by women in Project participating utilities (Percentage)		15.00							22.50
Addis Ababa (Percentage)		17.00							25.00
Secondary Cities (Percentage)		13.00							20.00

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
People in urban areas whose excreta are safely managed under the project	This indicator measures the cumulative number of people benefited from safely managed sanitation services as a result of the Project interventions. It measures people using an improved sanitation facility at the household level that	MoWIE/AA WSA/ Secondary city Utilities/ consultants	regular utility progress reports	Calculation: Number of people whose excreta are safely managed under the Project = number of people with improved sanitation facility at HH level provided with safely managed sanitation	Annual



	<p>is not shared with other households and where excreta is safely disposed of in situ or treated off site, including a handwashing facility with soap and water in the household. Improved sanitation facilities include flush or pour flush toilets to sewerage systems, septic tanks or pit latrines, improved pit latrines (pit latrines with a slab or ventilated pit latrines) and composting toilets. To ensure public health beyond the household level, this indicator incorporates the safe management of fecal waste along the entire sanitation chain This includes safe containment, transport, access to wastewater conveyance, safe treatment and disposal services as a result of the Project. For the case of Sewerage network, the number of actual connections will be the base for calculating</p>			<p>services transported through a network to a safely managed treatment plant (centralized/ decentralized) + number of people with improved sanitation facility at HH level provided with safely managed sanitation services transported through Vacuum Truck to a safely managed treatment plant (centralized/ decentralized where;</p> <ul style="list-style-type: none">• people provided with safely managed sanitation services transported through a network to a safely managed treatment plant (centralized/ decentralized) = Number of HH with improved sanitation	
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	<p>beneficiaries. Where ever possible the actual number of beneficiaries from safely managed fecal sludge management systems will be captured. However, in the absence of data this could be estimated by converting the amount of Fecal sludge going in to a safely managed treatment plant to an estimated population.</p>			<p>facility at the household level that is not shared with other households connected to piped sewer network going to a treatment plant that is safely treated and disposed x average number of household size and number of people provided with safely managed sanitation services transported through a VT to a safely managed treatment plant (centralized/ decentralized) = Volume of sludge collected through VT and going to a safely managed TP (l) / standard daily precipitate water consumption(/)/standard proportion of per capita sludge production</p>	
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				estimated against water consumption (80%)	
Addis Ababa	<p>Definition: This indicator measures the cumulative number of people in Addis Ababa benefited from safely managed sanitation services as a result of the Project interventions. It measures people using an improved sanitation facility at the household level that is not shared with other households and where excreta is safely disposed of in situ or treated off site, including a handwashing facility with soap and water in the household. Improved sanitation facilities include flush or pour flush toilets to sewerage systems, septic tanks or pit latrines, improved pit latrines (pit latrines with a slab or ventilated pit latrines) and composting toilets. To ensure public health beyond the household level, this indicator incorporates the safe</p>			<p>Calculation: Number of people in Addis Ababa whose excreta are safely managed under the Project = number of people with improved sanitation facility at HH level provided with safely managed sanitation services transported through a network to a safely managed treatment plant (centralized/ decentralized) + number of people with improved sanitation facility at HH level provided with safely managed sanitation services transported through Vacuum Truck to a safely managed treatment plant (centralized/ decentralized where;</p> <ul style="list-style-type: none">• people provided with safely managed sanitation services	



	<p>management of fecal waste along the entire sanitation chain This includes safe containment, transport, access to wastewater conveyance, safe treatment and disposal services as a result of the Project. For the case of Sewerage network, the number of actual connections will be the base for calculating beneficiaries. Where ever possible the actual number of beneficiaries from safely managed fecal sludge management systems will be captured. However, in the absence of data this could be estimated by converting the amount of Fecal sludge going in to a safely managed treatment plant to an estimated population.</p>		<p>transported through a network to a safely managed treatment plant (centralized/ decentralized) =</p> <p>Number of HH with improved sanitation facility at the household level that is not shared with other households connected to piped sewer network going to a treatment plant that is safely treated and disposed x average number of household size and • number of people provided with safely managed sanitation services</p> <p>transported through a VT to a safely managed treatment plant (centralized/ decentralized) = Volume of sludge collected through VT and going to a safely managed TP (l) / standard daily precipitate water consumption(/)/standard proportion of per</p>	
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				capita sludge production estimated against water consumption (80%)	
Secondary cities		MoWIE/AA WSA/ Secondary city Utilities/ consultants	Household surveys/ regular utility reports		Annual
Number of people in urban areas provided 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, inter alia, water provided through tanker truck, or vendor, unprotected well, unprotected spring, surface	MoWIE/AA WSA / secondary utilities	Regular utility progress reports		Annual



	<p>water (river, pond, dam, lake, stream, irrigation channel), or bottled water. The definition of what is considered an 'improved water source' follows the UNICEF-WHO Joint Monitoring Program definition. Note that "Improved Water Sources" does not refer to the question of new versus rehabilitated water sources, but is the standard definition used to track progress on the Millennium Development Goals. Guidance on people with access: The data on the number of people provided with access can be estimated by TTLs by multiplying i) the actual number of piped connections with an estimate of the number of people per household connection; and/or ii) the actual number of community water points with an estimate of the number of people per</p>				
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	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.				
Addis Ababa		MoWIE/AA WSA/ Secondary city Utilities/ consultants	Household surveys/ regular utility reports		Annual
Secondary Cities	Beneficiaries in Addis Ababa				
Direct project beneficiaries	Direct beneficiaries are people or groups who directly derive benefits from an intervention (i.e., children who benefit from an immunization program; families that have a new piped water connection). Please note that this indicator requires	MOWIE/AA WSA and utilities of the secondary cities	Regular Utility Reports		Annual



	supplemental information. Supplemental Value: Female beneficiaries (percentage). Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct project beneficiaries are female. This indicator is calculated as a percentage.				
Female beneficiaries	Based on the assessment and definition of direct project beneficiaries, specify what percentage of the beneficiaries are female.				
Operation cost coverage ratio	Definition: A utility's operating cost coverage ratio measures the extent to which utility's revenue covers the basic operation and maintenance costs. It is used to assess the improvement on financial viability of participating utilities as a result of the intervention. Calculation: $\frac{\text{Revenue}}{\text{Operating Expense}}$ Risks:	MoWIE/AA WSA/ Secondary city Utilities	Official utility records, MIS system and regular reports		Annual



	<p>There is a possible problem of % age aggregation during the process of compiling the results of the secondary utilities and average of utility reported %ages 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 %age data and Regions and MoWIE should only use these source files to aggregate and reach at the required value</p>				
Addis Ababa					
Secondary cities					

Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
New Sewer Connections constructed under the project	This indicator is measured as the cumulative number of new sewer connections constructed under the	AAWSA	official Records/ regular reports		Semi Annual



	project. The baseline value is zero.				
Residential		AAWSA	Official Records/ Regular reports		Semi Annual
commercial		AAWSA	official records/ regular reports		Semi Annual
Volume of wastewater/sludge safely collected, transported, treated and disposed under the project (per day)	<p>Definition: This indicator measures additional volume of wastewater/ sludge conveyance safely transported/ treated and disposed as a result of the Project’s intervention. (either through VTs and networks) . The indicator contributes to the SDG indicator for Percentage of wastewater generated by households that is safely treated.</p> <p>Implementing agencies are expected to provide separate result information for collection and transport through VTs and network.</p>	MoWIE/AAWSA/Secondary city Utilities	Official records/regular reports	<p>Calculation: Total volume of wastewater/ sludge safely transported to a treatment plant that is safely treated and disposed = Volume of sludge transported by VTs to a safely managed treatment plant + Volume of wastewater transported by network to a safely managed treatment Plant</p>	Semi Annual



Addis Ababa					
Secondary Cities	<p>Definition: This indicator measures additional volume in secondary cities of wastewater/ sludge conveyance safely transported/ treated and disposed as a result of the Project’s intervention. (either through VTs and networks) . The indicator contributes to the SDG indicator for Percentage of wastewater generated by households that is safely treated.</p> <p>Implementing agencies are expected to provide separate result information for collection and transport through VTs and network.</p>			<p>Calculation: Total volume of wastewater/ sludge safely transported to a treatment plant that is safely treated and disposed = Volume of sludge transported by VTs to a safely managed treatment plant + Volume of wastewater transported by network to a safely managed treatment Plant</p>	
Participating cities that have prepared and implemented an integrated urban sanitation management plan under the project.		MoWIE/AA WSA/Secondary city Utilities	Official records/regular reports		Semi Annual
Addis Ababa					
Secondary Cities					
People trained to improve hygiene behavior/sanitation practices under the	This indicator measures the cumulative number of				



project	<p>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.</p> <p>The baseline value for this indicator is expected to be zero.</p>				
People trained to improve hygiene behavior/sanitation practices - female					
Number of public and communal latrines constructed under the project and providing service	<p>This indicator measures the number of public and communal latrines constructed and providing service under the project. The term public refers to the provision of WSS in places where large number of people are present which include among others market places, bus stations, institutions (schools and health facilities) and etc. The term providing service reflects use appropriate</p>	AAWSA/MOWI/Secondary city utilities	official records MIS	<p>Calculation:</p> <p>i) Number of public and communal latrines constructed under the project = count of public latrines + count of communal latrines constructed.</p> <p>ii) Proportion of targeted public facilities provided with WSS services under the Project to respond to emergency situations=number of public facilities provided</p>	Semi-annual



	<p>management model to manage the latrines including provision of water supply. The indicator will be used to measure the project's pro poor intervention in Low Income Areas (LIAs), public places and institutions including health facilities and schools. The Project's interventions towards responding to emergency situations such as COVID 19 through provision of WSS facilities for public places and targeted institutions. This indicator will separately report public WSS facilities constructed under the Project in response to emergency situations.</p>			<p>with WSS under the Project to respond to emergency situations/total number of constructed public latrines with WSS and providing service under the Project</p>	
<p>Addis Ababa</p>	<p>Definition: This indicator measures the number of public and communal latrines constructed and providing service under the project in Addis Ababa. The term public refers to the</p>	<p>AAWSA</p>	<p>Official records MIS</p>	<p>Calculation: i) Number of public and communal latrines constructed under the project in Addis Ababa = count of public latrines + count of communal latrines</p>	<p>Semi annual</p>



	<p>provision of WSS in places where large number of people are present which include among others market places, bus stations, institutions (schools and health facilities) and etc. The term providing service reflects use appropriate management model to manage the latrines including provision of water supply. The indicator will be used to measure the project's pro poor intervention in Low Income Areas (LIAs), public places and institutions including health facilities and schools. The Project's interventions towards responding to emergency situations such as COVID 19 through provision of WSS facilities for public places and targeted institutions. This indicator will separately report public WSS facilities constructed under the Project in response to emergency</p>			constructed	
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	situations.				
Secondary cities	<p>This indicator measures the number of public and communal latrines constructed and providing service under the project in secondary cities. The term public refers to the provision of WSS in places where large number of people are present which include among others market places, bus stations, institutions (schools and health facilities) and etc. The term providing service reflects use appropriate management model to manage the latrines including provision of water supply. The indicator will be used to measure the project's pro poor intervention in Low Income Areas (LIAs), public places and institutions including health facilities and schools. The Project's</p>	Secondary cities / MOWIE	Official records MIS	<p>Calculation: i) Number of public and communal latrines constructed under the project in secondary cities = count of public latrines + count of communal latrines constructed.</p>	Semi Annual



	<p>interventions towards responding to emergency situations such as COVID 19 through provision of WSS facilities for public places and targeted institutions. This indicator will separately report public WSS facilities constructed under the Project in response to emergency situations.</p>				
<p>Proportion of targeted public facilities provided with water supply and sanitation services under the Project to respond to emergency situations</p>	<p>Definition: This indicator measures the number of public and communal latrines constructed and providing service under the project. The term public refers to the provision of WSS in places where large number of people are present which include among others market places, bus stations, institutions (schools and health facilities) and etc. The term providing service reflects use appropriate management model to manage the latrines including provision of water supply. The indicator</p>		<p>MIS system for project</p>	<p>Proportion of targeted public facilities provided with WSS services under the Project to respond to emergency situations=number of public facilities provided with WSS under the Project to respond to emergency situations/total number of constructed public latrines with WSS and providing service under the Project</p>	<p>MIS System</p>



	will be used to measure the project's pro poor intervention in Low Income Areas (LIAs), public places and institutions including health facilities and schools. The Project's interventions towards responding to emergency situations such as COVID 19 through provision of WSS facilities for public places and targeted institutions. This indicator will separately report public WSS facilities constructed under the Project in response to emergency situations.				
Volume of biogas captured and used for electricity generation					
Women benefitting from actions that advance gender equality	This indicator is measured as the cumulative number of women benefitting from any actions that advance gender equality under the project.		Official Records/ regular reports as well as Equal Aqua HR survey assessment	Calculation: Number of people benefitting from actions to advance gender equality = Number of females trained to improve hygiene behavior/sanitation practices + Number of newly assigned decision-making positions filled	



				by women in Project participating utilities + Number of women employed as a results of the newly constructed public toilets.	
New piped household water connections that are resulting from the project intervention	Number of new piped household water connections which result from the project intervention. A piped household water connection is defined as a connection that provides piped water to the consumer through either a house or yard connection. Hence, they do not include, inter alia, standpipes, protected well, borehole, protected spring, piped water provided through tanker trucks, or vendors, unprotected wells, unprotected spring, rivers, ponds and other surface water bodies, or bottled water.				
Addis Ababa					
Secondary Cities					



Participating utilities that have established/ are 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: $\frac{\text{Number of participating towns that have established NRW data management system}}{\text{count of participating towns that introduce and use NRW data management system}}$	MoWIE/AA WSA/Seco ndary city Utilities	Official records/regul ar reports		Semi Annual
Addis Ababa					
Secondary Cities					
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	MoWIE/AA WSA/Seco ndary city Utilities	Official records/regul ar reports		Semi Annual



	<p>measures the extent to which billed amounts are collected and that arrears are minimized.</p> <p>Calculation:</p> <p>$\frac{\text{Collection}}{\text{efficiency of participating utilities}} = \frac{\text{amount of cash collected from residential and commercial customers}}{\text{billing to residential and commercial customer} + \text{arrears}}$</p> <p>Risks:</p> <p>$\frac{\text{There is a possible problem of \% aggregation during the process of compiling the results of the secondary utilities. Reporting average of utility reported \% ages will not give the true image. For this each utility should provide source information (cash collected from all types of customers and billed amounts to residential and commercial customers.}}{\text{}}}$</p>				
Addis Ababa					
Secondary Cities					



Number of participating utilities with updated business plan		AAWSA/M OWIE/Seco ndary cities	Official records/regul ar reports		Semi Annual
Addis Ababa					
Secondary Cities					
Savings from NRW interventions under the project	Definition: This indicator measures the Project's contribution towards reducing NRW of Utilities supported under the Project. The change is expected to be documented in percentage to show the level of reduction against the baseline. The annual utility water production and the actual annual volume sold will be used for computing the indicator. Utilities billing information will be used as a key data source to determine the consumption amount.			Calculation: Saving from NRW interventions under the project (%) = Annual volume of water sold in m3 as reported by the billing system of the utility/amount of water produced by the utility.	
Addis Ababa					
Secondary Cities					
Proportion of Project utilities producing Project progress report (physical and financial) including progress on GAP as	Definition: this indicator measures the implementing agencies	MoWIE/AA WSA/ Secondary	Official records, MIS system		Semi Annual



<p>per the reporting format on a quarterly basis</p>	<p>capacity and adherence towards the reporting requirement of the Project. By reporting requirement, it means regular (quarterly) reporting of physical and financial (IFR) reports in accordance and timeline provided in the PIM. Reports are expected to be complete as per the outline provided in the PIM. Among other reports will be considered complete when the report provides the current status of Project components and sub components, additional section provided to report on Procurement, FM, Safeguards ,M&E, provides updated results framework and progress of Gender Action Plan (GAP). Calculation: number of utilities supported under the Program that have submitted a complete quarterly Progress report/total number of utilities supported by the Project.</p>	<p>city Utilities</p>			
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Number of participating utilities in secondary cities that have assigned a unit responsible for sanitation services		MOWIE / Secondary city utilities	Official records and regular reports		Semi Annual
Grievances registered related to delivery of project benefits that are actually addressed (%)		MoWIE/AA WSA/ Secondary city Utilities	Beneficiary survey at MTR and PCR		At MTR & Project Completion
of which submitted by women	Grievances will be systematically collected and registered by all implementing agencies 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 utilities. A separate sub indicator will track progress on prioritization of grievances coming from women while addressing reported grievances .			<p>Calculation</p> <ul style="list-style-type: none"> Grievance registered related to delivery of project benefit that are actually addressed=number of grievances addressed related to delivery of the Project/number of grievances registered related to delivery of the Project <p>Percentage of addressed grievances of which submitted by women= number of addressed</p>	



				grievances reported by women/ total number of grievances reported by women	
Share of newly assigned decision-making positions filled by women in Project participating utilities	Definition: this indicator measures the Projects contribution towards empowering women to take responsibilities on decision making positions within the utility.			Calculation: share of newly assigned decision-making positions filled by women in Project participating utilities=number of women assigned on decision making positions under the utilities since the Project MTR/total number of new decision-making positions filled by utilities since MTR.	
Addis Ababa					
Secondary Cities			HR Utility Survey	HR Utility Survey	MoWE/Utilities



Annex 1: Economic and Financial Analysis

I. Background

- 1. The objective of the project is “to increase access to water supply and sanitation services and to improve operational efficiency of water and sanitation utilities in Addis Ababa and select secondary cities”.** In addition, 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 revenue enhancement intervention to reduce NRW and operational expense and improve collection efficiency.
- 2. Since the project was declared effective it has encountered several international and national challenges that are beyond the project control resulting in a very high price escalation.** As a result, achieving the intended program targets within the resource and time allocated becomes difficult and triggers restructuring of the project for AF and extension of the closing date. Without the AF and extension of the closing date the number of direct project beneficiaries will reduce by over 1.32 million (39 percent of the program targets) and proportionally reduce revenue of the utilities. In the AF, the PDO and all indicators will be maintained as per the original project and no new activities will be added. The proposed restructuring include: (i) additional financing of US\$ 275 million and (ii) extension of project closing date by three years, from June 30, 2024, to June 30, 2027.
- 3. At appraisal, separate cost benefit analysis (CBA) was conducted for Component 1: Sanitation and water supply services improvements in Addis Ababa and Component 2: Sanitation and water supply service improvement in secondary cities.** The analysis showed that with positive Net Present Value (NPV) and Internal Rate of Return (IRR) greater than the discount rate, the project was financially and economically viable both for Addis Ababa and secondary cities. The CBA will be revised for Component 1 and 2 using the same approach used for the parent project.

II. Addis Ababa

- 4. The AF is expected to increase the cost of Component 1 by US\$147 million (52 percent).** The Cost benefit analysis conducted at appraisal was revised to accommodate the increase in overall project cost due to the additional financing, the delayed benefit due to extension of the closing date for three more years and the recent increase in tariff.
- 5. Accordingly, a cost-benefit framework is used to assess the financial and economic viability of the project with the additional financing.** “With” and “without” project scenarios defined at appraisal to identify the incremental costs and benefits of the project are revised to include the cost increase in the with- project scenario because of the additional financing. 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. In addition, appreciation of the US dollar against the birr and change in inflation rate are considered in the analysis.
- 6. Costs.** With the additional financing of US\$147 million, the Addis Ababa component of the project is estimated to cost US\$ 407 million. It is assumed that the WWTP and sewer lines will have an economic life of 30 years with zero residual value at the end. Operational costs are estimated based on the average actual expenditures disaggregated by major expenditure components (salaries, chemicals, electricity, fuel and lubricants, maintenance and repair, and others).



7. **Revenue.** All revenue considered in the financial analysis of the parent project are considered in the AF with adjustment for delayed implementation for three years including; (a) revenue from sales of additional water(6.68 million m³/year) made available by the project resulting from reduction in NRW from 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 m³ per day wastewater treatment capacity and sewer line; (c) connection fees from 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. As shown in the following table in 2023 Addis Ababa City Administration has approved a tariff structure, which is expected to generate about ETB 4.15 billion per annum. The revenues are estimated based on this recently revised tariff with an assumption that tariffs will be periodically revised upwards.

Table 1.1. AAWSA’s Current Tariff and Suggested Revisions¹⁵

No.	Tariff Block	Tariff in 2016 ETB	Suggested Increase for 2018 ETB	Tariff Revision in 2023
1	Water Tariff ¹⁶			
	Block 1- from 0 m ³ to 7.99 m ³ /Month	1.75	3.05	7.21
	Block 2- from 8 m ³ to 20.99 m ³ /Month	3.80	4.58	12.61
	Block 3- from 21 m ³ to 40.99 m ³ /Month	4.75	6.11	23.42
	Block 4- from 41 m ³ to 100.99 m ³ /Month	5.95	7.63	36.03
	Block 5- from 101 m ³ to 300.99 m ³ /Month	7.45	9.16	43.23
	Block 6- from 301 m ³ to 500.99 m ³ /Month	9.30	10.69	50.44
	Block 7- above 501 m ³ /Month	11.60	12.21	57.67
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	1760
	For Non-Domestic use	500.00	898	3520

8. **After considering the changes in the cost and revenue the financial and economic NPV and IRR are re-estimated and summarized in Table 1.2.** Although the NPV and the IRR are reduced compared to the original estimate the Addis Ababa component is both financially and economically viable with positive NPV, and financial and economic IRR greater than the 10 percent discount rates used. The revenue generated from tariff increase and the number of beneficiaries already provided with access to safely managed excreta and improved water supply have contained the cost overrun maintaining the financial and economic viability of component 1.

¹⁵ 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.

¹⁶ The tariff structure (block arrangements) is revised.



Table 1.2. Summary of Financial and Economic IRR and NPV for the Addis Ababa Component

No.	Scenario	Original Estimation		Original +AF	
		NPV US\$ (millions)	IRR (%)	NPV US\$ (millions)	IRR (%)
1	Financial Base Case	45.3	12.9	14.1	11.1
2	Economic Base Case	92.7	16.1	58.1	14.9
3	Economic Return with Carbon Pricing included (lower bound)			61.99	15.2

9. **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, taxes, and financial costs (interest expense on loans) from cost streams, while subsidies from the city administration are excluded from the revenue stream. The Addis Ababa component is found to be economically viable with an estimated value of US\$58.1 million economic NPV and 15 percent Economic IRR.

10. **In addition, the project is estimated to have a net emissions reduction of 144,378 Tons of Carbon Dioxide Equivalent (tCO₂-eq) over the life of the project** and an average net emission reduction of 7,219 tCO₂-eq/annum) due to energy efficiency gained from captured biogas at the eastern catchment wastewater treatment plant. The global benefits of reduced GHG emissions due to the project is estimated using the Social Values of Carbon recommended for World Bank projects.^[1] The net shadow monetary value is added to the project incremental financial cash flows and the economic return is recalculated. With consideration of the carbon shadow pricing, the NPV for the program has increased by US\$7.74 million using the upper bound value and US\$3.89 million for the lower bound.

11. **Sensitivity analysis against the risk of potential cost increase was conducted.** Accordingly, a switching value of cost increase beyond 15.3 percent is estimated to change NPV to negative and the internal rate of return less than the discount rate. To maintain the financial viability of the project, in addition, to ensuring proper implementation of revenue enhancement measures (reduction in NRW, tariff increase, collection efficiency), AAWSA and MoWE must strengthen their follow up and support to avoid any further cost escalation due to delay in procurement processes and slow physical implementation.

12. **Fiscal impact and cash flow.** 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 and not yet implemented. For the city administration, which is expected to largely finance GTP II targets¹⁷, contributing US\$60 million to match US\$200 million will be a fiscal relief than a burden.

13. **Based on financial data obtained from AAWSA (Table 6) the operational cost coverage ratio of the utility in during EFY 2015 is 1.05.** 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

¹⁷ 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.



targeted to increase to 1.29. With the current tariff increase and proper implementation of the project including revenue enhancement measures AAWSA will have sufficient resource to cover all cash requirements, including depreciation as well as commitments for debt service requirements for existing and the current loan.

Table 1.3. Addis Ababa Water and Sewerage Authority EFY 2015 Income and Expenditure Summary in Million ETB

No	Branch	Income	Expenditure
1	AAWSA Head Office	376.21	2052.17
2	Arada	315.21	62.02
3	Megnagna	418.45	55.83
4	Gulele	211.35	65.88
5	addis Ketema	192.09	63.3
6	Mekanisa	199.78	83.14
7	Akaki	216.47	56.64
8	Nefas Silk	282.99	68.41
9	Gurd Shola	290.5	57.45
10	Lemi Kura	208.2	48.22
11	Kolfe	34.98	13.71
	Total	2746.23	2626.77
	Operating cost coverage ratio	1.045478	

III. Secondary cities

14. **A total of US\$241 million was initially allocated for the secondary cities' component of the project.** The funds are earmarked for the 22 secondary cities on a per capita basis. At appraisal Cost benefit analysis was conducted for Gondar, Bishoftu and Debrebirehan that are selected to represent large, medium, and small cities respectively¹⁸. The CBA conducted for component 2 of the parent project has confirmed that the selected cities are both financially feasible and economically viable. In addition, sensitivity analysis was also conducted to assess resilience against the risk of cost increase during implementation. Accordingly, switching values of 26.8 percent cost increase for Gondar, 19.5 percent for Bishoftu and 10 percent for Debrebirehan are estimated to change the NPV to negative and IRR below the discount rate.

¹⁸ **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.



15. **The AF has increased the cost of Component 2 by US\$127 million (53 percent of the original cost estimate).** However, on the revenue stream there is no significant change except delayed benefit due to extension of the project implementation period by three more years. The Cost benefit analysis conducted at appraisal was revised with the additional financing and consideration of the extended implementation period. In the Cost Benefit analysis, it is assumed that the additional financing will be shared among Secondary cities on a per capita basis. Hence the investment cost is proportionally increased for each city.

16. **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 customers resulting from the project. The revenues are estimated based on the 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.

17. **Technological choice:** Originally it was assumed, 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. However, based on the detailed technical analysis conducted for each city the feasible technical option for the project is found to be Fecal Sludge Management (FSM). Accordingly centralized and decentralized sewer systems are excluded from the project. Accordingly, revenue from sewer connections and its O&M costs are excluded from the analysis while the beneficiaries remain served through FSM.

18. **Other Changes:** In addition, depreciation of birr against US\$, increase in inflation rate, delay in implementation and delivery of benefits are changes factored in while revising the CBA. After considering the changes in the cost and revenue streams and other parameters the financial NPV and IRR are re-estimated for the three sample cities and summarized in Table 1.4.

19. **As shown in Table 1.4 the financial NPV has turned negative and the IRR below the discount rate reflecting that with the additional financing the direct benefit will not cover the direct cost of the project.** This is consistent with the sensitivity analysis conducted at appraisal. Without a notable revenue increase, the 53 percent cost increase encountered is beyond the switching values estimated at appraisal to change NPV in to negative and the internal rate of return less than the discount rate. This estimation is consistent with the detailed feasibility studies conducted for Debrebirehan and Gondar, where the direct cost is exceeding the direct benefits.

Table 1.4 Summary of NPV and IRR for selected secondary cities

Scenarios	Original Estimation		Original +AF	
	NPV in million US\$	IRR (%)	NPV in million US\$	IRR (%)
Gondar	2.87	15.2	-4.51	3.9%
Bishoftu	2.95	33.94	-2.84	4.1%
Debrebirehan	2.35	18.9	-4.31	4.5%

20. **However, there are several potential economic benefits that are not factored into the current economic analysis because of lack of quantifiable data and information.** Time savings associated with



better access to water and sanitation; gains in productivity due to less down time for being ill; economic gains associated with saved lives; and health sector and household health expenditure saved due to reduced diarrheal diseases¹⁹ are among the health benefits expected from the project²⁰. In addition, the project benefits women, and children²¹ who are disproportionately affected by lack of access to clean water and basic sanitation and are at higher risk of exposure to water- and sanitation-related diseases. The environment also benefits from reduced release of untreated wastewater. These are among the potential benefits that reinforce the economic viability of Component 2 and of the project²².

21. **The detailed design and feasibility study conducted for the two medium towns has attempted to estimate the net economic benefit of implementing sanitation master plan.** The analysis estimated that the project will generate an overall economic benefit of ETB 4.5 billion for Debrebirehan and ETB 112 billion for Gondar confirming the economic viability of the secondary cities’ component.

22. **The significant distortions in the foreign exchange market as evidenced by sizable and persistent exchange rate premium and severe foreign exchange shortages could impact the viability of the project.** To mitigate some of the risk the project has adopted direct payments for all imported goods, which is estimated to account for about 60 percent of the total project cost. Moreover, to get a better understanding of the impact of the exchange rate distortions, sensitivity analysis was conducted for the local currency component of the project using alternative exchange rate of US\$1 = ETB 90 and US\$1= ETB 117. The result (see Table 1.5) shows that at both exchange rates the project is economically feasible.

Table 1.5 Shadow exchange rate sensitivity analysis

	Original Estimation		Original +AF		Sensitivity Analysis with US\$1=ETB 90 / US\$1=ETB 117	
	NPV US\$ (millions)	IRR (%)	NPV US\$ (millions)	IRR (%)	NPV US\$ (millions)	IRR (%)
Economic Base Case	92.7	16.1	58.1	14.9	106.0/62.4	10.8%/8.5%

¹⁹ In Ethiopia, about 90 percent of diarrhea disease occurs due to poor sanitation, lack of access to clean water supply, and inadequate personal hygiene.

²⁰ In 2013, Water and Sanitation Program/World Bank estimated that poor sanitation costs ETB 13.5 billion each year, equivalent to about ETB 170 per person per year or 2.1 percent of the national gross domestic product.

²¹ The 2017 and 2018 health and health-related indicator for Ethiopia indicated that diarrhea is the second biggest killer of children under five, next to acute respiratory infection, and is responsible for 13 percent of deaths in children under five.

²² The World Health Organization and United Nations Development Programme estimated that achieving the sanitation Millenium Development Goal target has a global return of US\$9.1 per US\$1 invested. Similarly, US\$1 invested on water will return US\$4.4. For universal coverage, these ratios increase to 11.2 for sanitation and 5.8 for water.