THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

FOR OFFICIAL USE ONLY

Report No: PAD4147

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED GRANT

IN THE AMOUNT OF SDR 106 MILLION
(US$150 MILLION EQUIVALENT)

TO THE

REPUBLIC OF MOZAMBIQUE

FOR A

RURAL AND SMALL TOWNS WATER SECURITY PROJECT

November 19, 2021

Water Global Practice
Eastern and Southern Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective October 31, 2021)

US$1 =	MZN 64.10
US$1 =	SDR 0.71

FISCAL YEAR
January 1 - December 31

Regional Vice President:	Hafez M. H. Ghanem
Country Director:	Idah Z. Pswarayi-Riddihough
Regional Director:	Mark R. Lundell
Practice Manager:	Catherine Signe Tovey
Task Team Leader:	Pierre Francois-Xavier Boulenger

ABBREVIATIONS AND ACRONYMS

AIAS	Water and Sanitation Infrastructures Administration (*Administração das Infra-estruturas de Água e Saneamento*)
AFBD	African Development Bank
AURA	Water Regulatory Authority *(Autoridade Reguladora de Água)*
BCC	Behavior Change Communication
BG	Block Grants
BOD	Biological Oxygen Demand
BOD_5	Five-day Biological Oxygen Demand
CCAP	Climate Change Action Plan
COVID-19	Coronavirus Disease 2019
CPF	Country Partnership Framework
CUT	Single Treasure Account (*Conta Única do Tesouro*)
DA	Designated Account
DAS	Department of Water and Sanitation (*Departamento de Água e Saneamento*)
DFID	United Kingdom Department for International Development
DHS	Domestic Household Survey
DMF	Delegated Management Framework
DNAAS	National Directorate for Water Supply and Sanitation (*Direcção Nacional de Abastecimento de Água e Saneamento*)
DNGRH	National Directorate for Water Resources Management (*Direcção Nacional de Gestão de Recursos Hídricos*)
DPOP	Provincial Directorate of Public Works (*Direcção Provincial de Obras Públicas*)
ENABEL	Belgian Development Agency
ENASU	National Strategy for Urban Water and Sanitation (*Estratégia Nacional de Saneamento Urbano*)
EE	Energy Efficient
ERR	Economic Rate of Return
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMS	Environmental and Social Management System
ESRS	Environmental and Social Review Summary
ESS	Environmental and Social Standards
FCDO	Foreign, Commonwealth and Development Office
FCV	Fragility, Conflict, and Violence
FIPAG	Water Supply Asset Holding and Investment Fund *(Fundo de Investimento e Património do Abastecimento de Água)*
FM	Financial Management
FMS	Financial Management System
FSM	Fecal Sludge Management
FSTP	Fecal Sludge Treatment Plant
GBV	Gender-Based Violence

GDP	Gross Domestic Product
GEMS	Geo-Enabling Initiative for Monitoring and Supervision
GHG	Greenhouse Gas
GIS	Geographic Information System
GNI	Gross National Income
GoM	Government of Mozambique
GRID	Green, Resilient and Inclusive Development
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
HC	Household Connection
IBNET	International Benchmarking Network for Water and Sanitation Utilities
ICR	Implementation Completion and Results Report
IDA	International Development Association
IDPs	Internally Displaced Persons
IFR	Interim Financial Report
IOM	International Organization for Migration
IPF	Investment Project Financing
IRM	Immediate Response Mechanism
IRR	Internal Rate of Return
ISDB	Islamic Development Bank
IVA	Independent Verification Agent
JICA	Japan International Cooperation Agency
LIFECA	Open Defecation Free (*LivresLIvres de FecalismoFEcalismo a Céu Aberto*)
LMP	Labor Management Procedure
LNG	Liquified Natural Gas
MAC	Minimum Access Condition
MAF	Financial AdministrationAdmnistration Manual (*Manual de Administração Financeira*)
MDG	Millennium Development Goal
MEDH	Ministry of Education and Human Development (*Ministério da Educação e Desenvolvimento Humano*)
MHM	Menstrual Hygiene Management
MOPHRH	Ministry of Public Works, Housing, and Water Resources (*Ministério das Obras Públicas, Habitação e Recursos Hídricos*)
MoU	Memorandum of Understanding
MPI	Multidimensional Poverty Index
MUSP	Mozambique Urban Sanitation Project
NDC	Nationally Determined Contribution
NGO	Nongovernmental Organization
NPV	Net Present Value
NRW	Non-Revenue Water
O&M	Operation and Maintenance
ON-CUT	Treasury Single Account (*Conta Única do Tesouro*)
OVC	Output Verification Certificate
OVR	Output Verification Report
PAP	Project Affected People

PASA	Water Sector Action Plan for Sustainable Development Goals
PBC	Performance Based Contract
PDO	Project Development Objective
PEC	Provincial Executive Council
PER	Public Expenditure Review
PF	Process Framework
PFS	Project Financial Statement
PG	Provincial Governments
PLM	Improved Latrines Program (*Programa de Latrinas Melhoradas*)
PIM	Project Implementation Manual
PIR	Policy, Institutions and Regulation
PIU	Project Implementation Unit
PMP	Pest Management Plan
PO	Private Operator
PPA	Project Preparation Advance
PPP	Public-Private Partnership
PPSD	Project Procurement Strategy for Development
PRAVIDA	Water for Life Program
PRONASAR	National Program for Rural Water and Sanitation
PSP	Private Sector Participation
PQG	Government 5-Year Program (*Programa Quinquenal do Governo*)
PWP	Private Water Provider
PRA	Prevention and Resilience Allocation
PTU	Provincial Technical Unit
RAP	Resettlement Action Plan
RE	Renewable Energy
RF	Results Framework
RPF	Resettlement Policy Framework
SCD	Swiss Development and Cooperation Agency
SDG	Sustainable Development Goal
SDR	Special Drawing Rights
SDPI	District Planning and Infrastructure Service
SEA	Sexual Exploitation and Abuse
SEP	Stakeholder Engagement Plan
SH	Sexual Harassment
SINAS	National Water and Sanitation Information System
SNV	Netherlands Development Organization
SPC	Shadow Price of Carbon
STEM	Science, Technology, Engineering and Mathematics
STEP	Systematic Tracking of Exchanges in Procurement
TA	Technical Assistance
ToR	Terms of Reference
UNICEF	United Nations Children's Fund
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
USAID	United States Agency for International Development

VAC	Violence Against Children
WASH	Water, Sanitation and Hygiene
WB	World Bank
WBG	World Bank Group
WHO	World Health Organization
WSP	Water and Sanitation Program
WSS	Water Supply and Sanitation

TABLE OF CONTENTS

DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Mozambique	Rural and Small Towns Water Security Project	
Project ID	**Financing Instrument**	**Environmental and Social Risk Classification**
P173518	Investment Project Financing	Substantial

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[✓] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[✓] Fragile State(s)
[ ] Performance-Based Conditions (PBCs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternate Procurement Arrangements (APA)	[ ] Hands-on Enhanced Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
14-Dec-2021	30-Jun-2027

Bank/IFC Collaboration

No

Proposed Development Objective(s)

The objective of the project is to increase access to improved water supply and sanitation services in selected small towns and rural areas of Mozambique.

Components

Component Name	Cost (US$, millions)
Component 1: Enhancement of Water Supply and Sanitation Services in Small Towns.	99.50
Component 2: Enhancement of Water Supply and Sanitation Services in Rural Areas	33.50
Component 3: Institutional and Project Management Support	17.00
Component 4: Contingent Emergency Response Component (CERC)	0.00

Organizations

Borrower:	Republic of Mozambique
Implementing Agency:	Ministry of Public Works, Housing, and Water Resources

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	150.00
Total Financing	150.00
of which IBRD/IDA	150.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	150.00
IDA Grant	150.00

IDA Resources (in US$, Millions)

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
Mozambique	0.00	150.00	0.00	150.00
National PBA	0.00	150.00	0.00	150.00

Total	**0.00**	**150.00**	**0.00**	**150.00**

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2022	2023	2024	2025	2026	2027	2028
Annual	1.00	6.00	15.00	40.00	50.00	33.00	5.00
Cumulative	1.00	7.00	22.00	62.00	112.00	145.00	150.00

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

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

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

COMPLIANCE

Policy

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

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
Cultural Heritage	Relevant
Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank's due diligence assessment of the Project's potential environmental and social risks and impacts, please refer to the Project's Appraisal Environmental and Social Review Summary (ESRS).

Legal Covenants

Sections and Description
Schedule 2, section 1.B.1 of the Financing Agreement. The Recipient, not later than 30 days after Effective Date, shall prepare and adopt, in accordance with terms of reference acceptable to the Association a Project implementation manual ("PIM") setting out detailed guidelines, methods and procedures for the implementation of the Project.

Conditions

Type	Financing source	Description
Effectiveness	IBRD/IDA	Article V of the Financing Agreement. The Subsidiary Agreement has been executed on behalf of the Recipient and AIAS in accordance with terms and conditions satisfactory to the Association.
Type	Financing source	Description
Disbursement	IBRD/IDA	Schedule 2, section III. B1 (a) of the Financing Agreement. No withdrawal shall be made for payments made prior to the Signature Date.
Type	Financing source	Description
Disbursement	IBRD/IDA	Schedule 2, section III. B1 (a) of the Financing Agreement. No withdrawal shall be made for Emergency Expenditures under Category (4), unless and until all of the following conditions have been met in respect of said expenditures: (A) that the Recipient has determined that an Eligible Crisis or Emergency has occurred, and has furnished to the Association a request to withdraw Financing amounts under Category (4); and (B) the Association has agreed with such determination, accepted said request and notified the Recipient thereof; and the Recipient has adopted the CERC Manual and Emergency Action Plan, in form and substance acceptable to the Association.

I. STRATEGIC CONTEXT

A. Country Context

1. **Mozambique has achieved significant economic growth since the end of the civil war in 1992, but important challenges are still affecting the country's growth prospects.** Mozambique grew at an average of 8 percent between 2001 and 2015, driven by several large-scale foreign investment projects in the extractives sector in the context of political stability and significant donor support.[1] However, falling commodity prices, climate shocks, fiscal tightening, and a slowdown in foreign direct investment in the aftermath of the US$1.4 billion hidden-debt disclosure caused economic growth to drop to 3 percent in 2016-2019,[2] and inflation to peak at 26 percent in 2016.[3] When tropical cyclones Idai and Kenneth hit the country in 2019, growth fell sharply to 2.3 percent due to the supply shock to productive capacity.[4] This situation worsened in 2020 due to the economic impact of the Coronavirus Disease 2019 (COVID-19) pandemic and escalation of insurgency in northern Mozambique. The economy registered its first contraction in almost three decades since 1992. However, Mozambique is also expected to embark on a growth recovery in 2021, with growth expected to reach 3.8 percent by 2022, owing to a rebound in global demand, improved agriculture performance, and additional stimulus to the business environment from Liquified Natural Gas (LNG) projects.

2. **COVID-19 is dimming the country's short-term growth prospects, leading a sizeable number of Mozambicans to fall back into poverty.** Economic activity is declining as social distancing measures and travel restrictions disrupt supply chains and reduce the demand for goods and services. At the same time, lower demand is lowering the price of commodities and slowing the pace of investment in gas and coal, two of the country's key growth industries. As a result, the economy contracted by 1.2 percent in 2020,[5] down from a pre-COVID-19 forecast of 4.3 percent,[6] with significant downside risks. This economic slowdown resulted in worsening livelihoods, food security, and nutrition as many households, and particularly the poor, saw their incomes shrinking. According to the National Institute of Statistics, as of June 2020, about 2.9 percent of the firms affected by the pandemic were forced to cease their activity; 120,000 jobs were lost, and 63,000 employment contracts were suspended, with women being the most affected.[7]

3. **Despite the improving economic outlook before the fiscal crisis and the pandemic, poverty remained high and uneven across provinces and between urban and rural areas.** Almost half of Mozambicans (46.1 percent) remain in poverty, with living conditions tending to be worse in the rural areas and northern Mozambique.[8] In 2015, poverty stood

[1] World Bank. 2021. Mozambique Economic Update, February 2021: Setting the Stage for Recovery. link: *https://openknowledge.worldbank.org/handle/10986/35214*
[2] *Ibid.*
[3] World Bank. 2018. Mozambique Economic Update, October 2018: Shifting to More Inclusive Growth. link: *https://openknowledge.worldbank.org/handle/10986/30865*
[4] World Bank. 2018. Mozambique Economic Update: Mind the Rural Investment Gap. link: *http://documents.worldbank.org/curated/en/480651580155354219/Mozambique-Economic-Update-Mind-the-Rural-Investment-Gap*
[5] World Bank. 2021. World Bank Data Portal: GDP growth (annual %) – Mozambique. link: *https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=MZ*
[6] World Bank. 2021. Mozambique Economic Update, February 2021: Setting the Stage for Recovery. link: *https://openknowledge.worldbank.org/handle/10986/35214*
[7] *Ibid.*
[8] MEF (Ministry of Economy and Finance). 2016. "Poverty and Wellbeing in Mozambique." Fourth national poverty assessment, using data from the Household Budget Survey 2014/2015. link: *https://www.wider.unu.edu/sites/default/files/Abstract_Executive_Summary_EN_4Eval.pdf*

at 50.1 percent in rural areas, against 37.4 percent in urban areas. There are also disparities across regions. The highest poverty rates are in the northern and central provinces: Niassa (67 percent), Nampula (65 percent), Zambezia (62 percent), and Cabo Delgado (50 percent), against the southern provinces of Gaza (44 percent), Inhambane (35 percent), and Maputo (12 percent). The northern provinces also have the highest rates of multi-dimensional poverty;[9] lowest access to basic services such as water, sanitation, and electricity; and the highest rate of stunting.[10] These social vulnerabilities are exacerbated by frequent climate and disaster shocks, which also impact growth and development.

4. **Mozambique is one of the most vulnerable countries to climate shocks in the region, and its economic growth historically is correlated to climate shocks.** A catastrophe risk modeling study estimates that Mozambique faces average annual losses of US$440 million due to floods alone.[11] A recent analysis of climate shocks and household well-being in Mozambique[12] finds that a cyclone, flood, or drought event can lead to a 25-30 percent drop in per capita food consumption and 0.4 fewer meals per day per person (Baez et al., 2019). The tropical cyclones Idai and Kenneth resulted in widespread damage to infrastructure and affected more than one million people, causing 602 direct deaths, 1,600 injuries, 6,506 cases of cholera, and 14,059 cases of malaria. Hundreds of thousands of people lost their homes and a significant number of people took shelter in displacement sites (UNOCHA, 2021).[13] Without changes in climate and Disaster Risk Management and financing policy, climate change is expected to cause economic damage of between US$2.3 billion and US$7.4 billion during the 2003–2050 (discounted and in 2003 prices) period.[14] Exposure of project areas in Nampula and Zambezia provinces to extreme precipitation and flooding and to strong winds linked with tropical cyclones was assessed as moderate with moderate impacts to water supply infrastructure. This implies that potentially damaging and life-threatening river-floods and winds are expected to occur at least once during the 30-year life span of projected infrastructure.[15]

5. **The pandemic and the conflict in Cabo Delgado are also likely to exacerbate pre-existing factors of fragility and widen inequalities across the country.** The pandemic could heighten socioeconomic grievances and sharpen the inequalities and sense of marginalization that are contributing to the escalating insurgency in the northern province of Cabo Delgado. As of April 2021, the estimated number of Internally Displaced People (IDPs) from Cabo Delgado was 732,000 individuals, representing about a quarter of the population of Cabo Delgado Province.[16] Children were reported as the largest displaced group during the reporting period, representing 46 percent of the IDP population, followed by women (31 percent) and men (23 percent).[17] Elderly people and pregnant women were the two largest vulnerable groups identified. About 90 percent of these IDPs have remained in Cabo Delgado Province, while the remaining have mostly moved to the nearby provinces of Nampula, Zambezia, and Niassa, putting additional financial, economic, and social pressure onto the host communities, some of which lack basic infrastructure and services. Unless the needs of incoming

[9] A Multidimensional Poverty Index (MPI), using information from the 2017 Census.
[10] INE (Instituto Nacional de Estatística). 2013. "Mozambique Demographic and Health Survey (DHS) 2011". *link: https://www.dhsprogram.com/pubs/pdf/FR266/FR266.pdf*
[11] World Bank. 2018. *Financial Protection Against Disaster in Mozambique*. *link: https://reliefweb.int/sites/reliefweb.int/files/resources/bm-brochura-pfc-en.pdf*
[12] Baez, *et al*. 2018. *Extreme Weather and Household Well-being: Evidence from Multiple Shocks in Mozambique*. World Bank.
[13] UNOCHA (United Nations Office for the Coordination of Humanitarian Affairs). 2021. *Mozambique highlights on humanitarian crisis*. *link: https://reports.unocha.org/en/country/mozambique*
[14] World Bank. 2010. *The Economics of Adaptation to Climate Change – Mozambique*. *link: https://openknowledge.worldbank.org/handle/10986/12748*
[15] World Bank. 2020. *Climate and Disaster Risk Screening Report for the Rural and Small Towns Water Security Project*.
[16] UNOCHA (United Nations Office for the Coordination of Humanitarian Affairs). 2021. *Mozambique highlights on humanitarian crisis*. *link: https://reports.unocha.org/en/country/mozambique*
[17] *Ibid.*

IDPs are considered in the planning and delivery of services, there is a risk of conflicts between hosting communities and IDPs, which may fuel further displacement.

6. **Narrowing the gap and disparities in access to basic services such as water, sanitation and hygiene (WASH) have the potential to reduce vulnerability and fragility.** According to the Mozambique Risk and Resilience Assessment,[18] stark regional disparities in public service delivery, as a proportion of per capita social spending by province, is a key factor of social exclusion. Access to basic services is generally low in Mozambique, with an estimated 55.7 percent access to basic water services, 29.4 percent to sanitation, and 27.4 percent to electricity. Such limitations lead to poor socioeconomic and public health outcomes, which in turn hinder the productivity of the country's active population.[19] This is further exacerbated by the gap in service access between urban and rural. For instance, less than 45 percent of the people have access to basic water services, and less than 20 percent have access to electricity in the northern provinces of Mozambique, against more than 90 percent access for both water and electricity in the two southern provinces of the country. These rural-urban and regional divides in access to basic services is also linked to the fact that decades of skewed access to public investments has left large sections of the rural population unequipped to benefit from the structural transformation of the economy and economic growth.[20] Thus, reversing the trend of poor socioeconomic outcomes, social exclusion, and instability requires an increase in investments in infrastructure and basic services to bridge the urban-rural gap and north-south divide.

B. Sectoral and Institutional Context

7. **Investing in water security can lead to significant economic and human development gains.** Improving water availability and reliability boosts the country's economic growth and contributes to poverty eradication by increasing productivity with higher agriculture and industrial production and yields, time-saving and less sick workers, and reduced expenditure in healthcare and treatment.[21] The socioeconomic gains of water investments in Mozambique are evident in the main urban centers, where more than two decades of consistent investments have resulted in increased access to water supply from 60 percent in 2000 to close to 90 percent in 2020, and contributed to a reduction in child mortality from 95 (in 1,000 children) in 2003 to 69 in 2011, as well as reduction in prevalence of diarrheal diseases in children under five from 13.4 percent in 2003 to 9.9 percent in 2018.[22,23,24] Further, the gains in the water sector have contributed to narrowing the gap on gender equality, and led to the creation of direct jobs. However, access to WASH remains low in the rural and small towns in Mozambique, as the government has historically prioritized investments to expand access to water supply in the large urban centers, despite the former having a larger share of the total population.

8. **Poor access to WASH services is a binding constraint to economic transformation in small towns and rural growth poles.** With the focus on decentralization, small towns[25] and rural growth poles are playing an increasingly vital

[18] World Bank. 2020. *Mozambique Risk and Resilience Assessment*
[19] UNDP (United Nations Development Programme). 2020. *Socio-economic impacts of the COVID-19 in Mozambique*. *link: https://www.undp.org/content/dam/rba/docs/COVID-19-CO-Response/Socio-Economic-Impact-COVID-19-Mozambique-UN-Mozambique-March-2020.pdf*
[20] WBG (World Bank Group). 2021. *Eligibility Note for Access to the Prevention and Resilience Allocation for Mozambique (PRA)*.
[21] SIWI (Stckholm International Water Institute) 2005. *Making Water a Part of Economic Development*.
[22] MISAU (Ministério da Saúde). 2005. *Demographic and Health Survey 2003 Report*.
[23] MISAU (Ministério da Saúde). 2013. *Demographic and Health Survey 2011 Report*.
[24] MISAU (Ministério da Saúde). 2018. *Inquérito de indicadores de imunização, malária e HIV 2015*.
[25] Small towns refer to urban areas which fall under the country category of *vilas.* As detailed in the Norms and Criteria for Classification of

role in promoting economic development by strengthening the rural-urban linkages for key sectors such as agriculture, industry, and mining. However, the lack of WASH services limits their potential as a catalyst for economic growth. Currently, only 48 percent of the rural population has access to basic water supply, and 23 percent access to at least basic sanitation.[26] The share of the rural population relying on traditional pit latrines[27] which are vulnerable to extreme rainfall and wind events is significantly high and estimated at 22 percent.[28] Access rates are worse overall in small towns. The average coverage in small towns is below 20 percent (approximately 14 percent served with hand pumps and 6 percent piped water), and a significant proportion of them have no functional piped water supply at all. This is far below the desirable coverage level, and well below even the coverage in rural areas and large urban centers (over 80 percent). This situation is drastically worse in the northern provinces of Nampula and Zambezia. In Nampula, only 2 out of 20 small towns currently have fully operational systems, albeit 6 systems are currently operating with serious limitations, leaving nearly 716,000 people without access to safely managed water supply services. Similarly, in Zambezia, only 8 out of 17 systems are fully operational and just under half of those operate at suboptimal levels, affecting the lives of nearly 448,000 people. As identified in the current water sector Public Expenditure Review (PER), the inequitable funding in the water supply and sanitation (WSS) subsector, wherein a concentration of funding is directed to the urban WSS sector results in expenditures that are, on average,[29] more likely to benefit the non-poor. This is because the poor (46.1 percent of Mozambique's population[30]) disproportionately live in rural areas. Between 2010 and 2018, the GoM's WSS expenditures, roughly 80 percent, were concentrated in urban settlements, despite most of the population living in rural areas.

9. **Women and girls experience the greatest burden of inadequate WASH.** Although Mozambique has been experiencing a positive socio-demographic transformation, with women increasingly taking a lead role in the economy and society, women are "time poor" relative to men. This is mostly driven by the unequal division of labor within the household caused by the extra time women and school-aged girls devote to fetching water.[31] With one in three women having experienced some form of gender-based violence (GBV) in Mozambique,[32] the risks are higher for women without access to water in the premises. Growing evidence points to widespread fear or experiences of GBV while collecting

Districts and Urban Areas (Decree 20/2015), the classification criteria combine population size and socio-economic development. For the population size criteria, areas with inhabitants between 20,000 and 50,000 fall under the *Vilas B* category, and between 50,000 and 100,000 fall under the *Vilas A* category. Urban areas with a population above 100,000 inhabitants are classified as *Cidades*, with four incremental levels A, B, C, and D.

[26] WHO (World Health Organization), and UNICEF (United Nations Children's Fund). 2020. *Joint Monitoring Program – Mozambique Rural and Urban Service Levels*. *link.*

[27] A traditional pit latrine consists of a single pit covered by a slab with a drop hole and a superstructure. The slab may be made of wood (sometimes covered with mud) or reinforced concrete. The superstructure provides shelter and privacy for the user. The absence of a ventilated pipe places the user in contact with the odors during its use. Source: WHO (World Health Organization). 2003. *Linking Technology Choice with Operation and Maintenance in the Context of Community Water Supply and Sanitation*. *link*: https://www.who.int/water_sanitation_health/hygiene/om/wsh9241562153.pdf

[28] Estimates from the World Bank analysis of the Census 2017 database.

[29] Findings from the Water Sector PER 2010-2018 (prepared for the World Bank by DH Infrastructure, 2020), indicate that average public expenditure per person living in rural areas (MZN 11.7) with access to at least basic sanitation was 8.6 times lower than a person living in urban areas (MZN 101). Water supply public expenditure per person living in a rural settlement (MZN 99.7) with access to at least basic drinking water services was 2.6 times lower than a person who lives in an urban area (MZN 261.5).

[30] MEF (Ministry of Economy and Finance). 2016. "Poverty and Wellbeing in Mozambique." Fourth national poverty assessment, using data from the Household Budget Survey 2014/2015. link: *https://www.wider.unu.edu/sites/default/files/Abstract_Executive_Summary_EN_4Eval.pdf*

[31] Graham *et al*. 2016. An Analysis of Water Collection Labor among Women and Children in 24 Sub-Saharan African Countries. PLoS ONE 11(6). link: *https://doi.org/10.1371/journal.pone.0155981*

[32] MISAU (Ministério da Saúde). 2013. *Demographic and Health Survey 2011 Report.*

water or using shared or public latrine blocks.[33,34,35] School girls are particularly vulnerable, as poor WASH threatens their security, education, and overall well-being. In many cases, girls are forced to stay at home during the menstrual period due to the absence of adequate sanitation facilities in their schools. Thus, providing access to safely managed WASH, including Menstrual Hygiene Management (MHM), is essential for enabling women and girls to devote more time to the pursuit of education and productive activities, including actively participating in the management of water services.

10. **The Ministry of Public Works, Housing, and Water Resources (MOPHRH) has the overall responsibility for the water sector.**[36] The MOPHRH's National Directorate for Water Supply and Sanitation (*Direcção Nacional de Abastecimento de Água e Saneamento* DNAAS) oversees policy development, planning, and investment promotion in WASH, while the National Directorate for Water Resources Management (*Direcção Nacional de Gestão de Recursos Hídricos* DNGRH) oversees water resources management. Water supply in large urban centers falls under the responsibility of the Water Supply Asset Holding and Investment Fund (*Fundo de Investimento e Património do Abastecimento de Água,* FIPAG). To address the service deficit in small towns, in 2009 the GoM created the Water and Sanitation Infrastructure Administration (*Administração das Infra-estruturas de Água e Saneamento,* AIAS), a national asset management agency for 130 small towns) and extended the Delegated Management Framework (DMF) previously in place only for the largest water supply systems (under FIPAG, which is the asset holder for the 17 large urban systems) to small towns. The AIAS is separate from the FIPAG because the smaller systems are less likely to be able to repay their capital costs, which the FIPAG is mandated to do for the systems it manages. The AIAS is responsible for investment planning and implementation in water supply for secondary systems, serving small towns, and for sanitation for all urban areas. Both the AIAS and FIPAG are autonomous entities reporting to the MOPHRH on technical and policy issues and to the Ministry of Economy and Finance on financial issues. The Water Regulatory Authority (*Autoridade Reguladora de Água* AURA) has the overall responsibility for ensuring a balance between the quality of the WSS service provided, the interests of users, and the economic sustainability of the water supply systems, through economic regulation.

11. **The GoM embarked on a series of reforms to address the service gap in rural and small towns.** The Rural Water and Sanitation Strategy 2006-2015 adopted a gradual approach to decentralizing rural WSS service delivery, with districts and provincial governments (PGs) taking a more active role in investment planning and particularly in ensuring sustainable management of services. Building from the lessons of the first phase of the National Program for Rural Water and Sanitation (PRONASAR), which started in 2010, the Water Sector Action Plan for Sustainable Development Goals (PASA) 2015-2030 proposes the implementation of integrated district water and sanitation programs (WSPs), with clear accountability frameworks, financial management (FM), and operational structure. A new umbrella program, the Water for Life Program (PRAVIDA),]) to promote water investment from LNG royalties was commissioned by the GoM in 2019, and its first phase was fully completed in 2020 with a total investment of US$80.0 million that improved access to water to over one million people.[37] After a difficult start-up phase, the AIAS investment program is picking up and more funding, though still insufficient, is becoming available to bring these systems up to basic viability. Many of these systems have

[33] USAID Global Waters. 2021. *Protecting and Empowering Women and Girls for Safer Access to Water. link: https://www.globalwaters.org/resources/blogs/protecting-and-empowering-women-and-girls-safer-access-water*

[34] Root. 2020. *When the Price of Water is Sexual Assault*. *link: https://www.devex.com/news/when-the-price-of-water-is-sexual-assault-98307*

[35] Gonsalve, et al. 2015. *Reducing Sexual Violence by Increasing the Supply of Toilets in Khayelitsha, South Africa: A Mathematical Model. link: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4414450/#idm140435517368496title*

[36] Comissão Interministerial da Administração Pública. 2016. *Estatuto Orgânico do Ministério das Obras Públicas, Habitação e Recursos Hídricos* .Resolução 19/2015, de 17 de Julho.

[37] PRAVIDA spent US$80 million (MZN 4.8 billion) to improve access to 1.7 million people through the construction of 62 water supply systems for rural growth poles and small towns, 80 scattered sources, 10,000 household connections (HCs), and 40 excavated reservoirs.

received virtually no investment since national independence in 1975. The AIAS institutional structure has recently[38] been enhanced, moving into a statutory corporation status with financial autonomy. These recent changes pave the way for improving the AIAS capacity to attract and manage investments.

12. **Key sector development strategies rely on the low capacity of districts and PGs to plan for and manage WASH infrastructure investments and services.** The GoM's new Decentralization Framework[39] enacted in 2019/2020 decentralizes responsibility for rural WSS service delivery to the newly elected PGs.[40] The recent legal reforms are yet to be fully operationalized on the ground. The PGs and districts remain dependent on the central government and lack the technical capacity and human and financial resources to implement their newly mandated roles and responsibilities. These capacity limitations perpetuate a vicious cycle where central-government-level entities continue to lead the management of key investment programs for rural WSS, with no clear strategy to strengthen the role of local governments. As a result, funding mechanisms for rural WSS investments at local level are undeveloped, with lack of clarity regarding fiscal decentralization and lack of assurances of intergovernmental financing to provincial-level government in line with new responsibilities. Even less funds are channeled to district governments units. These central-local dynamics result in limited accountability, excessive focus on capital infrastructure development, and persistent setbacks on service quality and sustainability. Further, as identified by the on-going Policy, Institutions and Regulation (PIR)[41] review, service beneficiaries lack structured mechanisms to participate in the planning and management of services, as well as in reporting and addressing their grievances related to water supply services. Therefore, the PIR recommends that local stakeholders, including civil society, are more involved in the assessment of the sector performance, with the creation of local groups in that purpose, and the strengthening of the participatory planning mechanisms. Annex 5 summarizes the main findings from the PIR and PER assessments.

13. **The existence of a local dynamic private sector offers an important entry point to improve the management of WSS services, including through improved regulatory oversight.** The operation and maintenance (O&M) of water supply schemes has been successfully delegated to private operators (POs) in small towns for more than 10 years. The performance reviews of these schemes so far, support the basic assumption behind engaging professional operators for the management of water supply systems to help ensure operational sustainability. However, progress has not been uniform and many of the schemes fail to attract experienced operators with the required operational and financial muscle. Most of the delegated schemes struggle to reach financial sustainability and to expand services beyond the baseline customer set. Thirty-eight percent of the schemes are not able to cover the operating costs, despite satisfactory collection rates, most above 75 percent); and the average water supply coverage also stands at 38 percent, well below the 60 percent reference value. Box 1 details the quality of service and operational and financial performance of systems delegated to POs.

[38] Council of Ministers. 2020. *Adjustment of AIAS Statute Giving Financial and Assets Autonomy in Addition to the Administrative Autonomy (Decree 112/2020, from December 29)*.
[39] Legal Framework of the provincial decentralized units (Law 4/2019, from May 31). Article 9 – Attributions of decentralized governance.
[40] Council of Ministers. 2020. *Framework of Principles, Organization Norms, Competences and Functioning of Decentralized Provincial Government Units (Decree 64/2020, from August 7)*.
[41] EY (Ernst & Young). 2020. *Mozambique Water Supply and Sanitation Sector Policy, Institutions and Regulation Review*.

Box 1 – Performance of private water operators of small towns water supply systems (main data sources: Castalia 2019[42], AURA 2020[43])

A dynamic private sector to be promoted and reinforced

The AIAS was established in 2009 to manage the assets of public water supply systems for 130 small towns or secondary cities, with a total population of 3.3 million, through their delegation to POs or other autonomous entities. From the 130 systems, 53 were operational by the end of 2020, with 44 managed by private entities and 9 by public entities (6 by the FIPAG, 3 by District Planning and Infrastructure Services [SDPIs]). All 44 systems managed by POs had lease contracts signed with the AIAS with similar clauses.

Based on the findings of recent studies, the overall performance of POs is positive and promising. The overall compliance with reference values set by the regulator for small town systems is better than the compliance with the performance standards indicated in the DMF lease contracts signed with the AIAS; an analysis of the service performance of 23 systems managed by POs with data for 2018[44] yielded the results summarized below.

Level and quality of services: (a) Service coverage average of 38 percent, with only 21 percent above the AURA's reference value of 60 percent, all below the 90 percent indicated for the last year of the lease contract signed with the AIAS; (b) average service time of 15 hours, with 83 percent complying with AURA's reference value of 8 hours; (c) water quality conformity ranging from 67 percent to 100 percent, with 77 percent of systems complying with AURA's reference value of 90 percent conformity; (d) good performance on average response time to complaints below AURA's reference value of 10 days and the AIAS' reference value set for the first year of the contract of 5 days for all systems; and (e) invoicing based on actual water meter readings ranging between 50 percent and 100 percent, with 74 percent complying with AURA's reference value of 85 percent.

Among the different constraints to expanding access and level to water services, the PIR analysis revealed: (a) that the duration of the lease contracts is too short to enable recovery of investment and capital gains from the PO and (b) the unpredictability of tariff adjustments with no clear mechanism to reinstate the economic and financing equilibrium when significant changes occur in the operations context.

Operational performance: (a) Average non-revenue water (NRW) of 33 percent (ranging from 2 percent to 76 percent), with only 48 percent complying with AURA's reference value of 30 percent; (b) average collection ratio of 74 percent (ranging from 40 percent to 100 percent), all below AURA's reference value of 100 percent; (c) staff per 1,000 connections ranging from 6.9 to 43.3, all above the reference value of 5.

Financial performance: (a) Coverage of operating costs varied between 0.56 and 1.96, with 61 percent positive operational results and 26 percent exceeding AURA's reference value of 1.1 and (b) the Earnings Before Interest, Taxes, Depreciation margin varying from -79.5 percent to 48.1 percent, with 61 percent of systems with positive results. The AIAS started to charge the lessor fee (12 percent of revenues) in October 2018, with the percentage of payers dropping from 65 percent to 30 percent in one year.

The burden of the electricity bill (from grid or diesel generators) is the main factor undermining the financial sustainability of the water supply systems, with an electricity bill accounting for an average of around 25 percent of the total operating costs, with some schemes as high as 62 percent,[45] though investments in solar, even if costly, could significantly reduce the O&M while reducing greenhouse gas (GHG) emissions associated with service provision.

[42] Castalia Strategic Advisors. 2019. *Review and Assessment of Lease Contracts and Performance of Private Operators*. Volume 2 - Current Situation and Performance of Private Operators.
[43] AURA (Autoridade Reguladora de Água). 2020. *Annual Service Regulation Report 2017 and 2018*.
[44] Castalia Strategic Advisors. 2019. *Review and Assessment of Lease Contracts and Performance of Private Operators*. Volume 2 - Current Situation and Performance of Private Operators.
[45] World Bank's (WB's) analysis of reported operational data for 42 AIAS's systems for 2020.

14. **The contracting strategy and accountability framework needs to be reviewed to incentivize private sector investment and expansion and improvements in quality of services.** The GoM, supported by a few development partners, the Dutch Government, and the United Nations Children's Fund (UNICEF), has been the only source of capital investments in small town water supply to date. The investment needs projected by the GoM to meet the Sustainable Development Goal (SDG) of universal access to water supply in small towns are estimated at US$887 million, about US$59 million/year—on average, three times the investments observed from 2014 to 2018.[46] If this situation prevails through 2030, the role of these rural and small towns as growth centers and in curbing fragility will be weakened, as the sustainability of services will be jeopardized. The WSS-PIR highlighted the development of private sector participation (PSP) as one of the priority areas of reform to increase private investment and reduce public sector deficit, increase efficiency, and support expanding service coverage of WSS provision for the poor. The current Public-Private Partnership (PPP) framework for small town water supply is a five-year lease contract with basic elements of risk sharing between the contracting agency and the operator, whereby the operator carries extensive, but limited in scope, repair and renewal obligations. The AIAS is currently reviewing the contract model to increase the contract duration to 10 years and update the risk sharing structure between the asset holder and the operator. Aligned with the PIR findings, this review of the contract gives the opportunity to introduce performance-based incentives in the contracts and group systems into clusters to increase their viability, attract larger operational capacity, and enable investments beyond the minor expansion to full investment in a new system or major extension. This expansion is already undertaken by some operators, but usually only to the extent necessary to be able to sell all the water from the source works. The GoM has given a positive signal to the private sector with the approval of a mechanism for tariff adjustments on an annual basis,[47] which when implemented can give more predictability to the water supply industry.

15. **The sustainability of water investments hinges on an effective women's empowerment strategy that shifts from policy to practice.** There is growing evidence that women's full participation in both the planning and implementation of water interventions contributes to its effectiveness and sustainability.[48] The Mozambique water sector policies and strategies[49] recognize the vital role of women in the supply, management, and safeguarding of water, and mandate sector institutions to involve women in the development and implementation of policies as well as in the management of water services at all levels. However, the sector progress in gender equality in general has been very slow, despite the engagement of women in a few sector leaderships' positions. The last sector assessment indicates that the percentage of female staff in the WASH sub-sector is only 27 percent, with less than 10 percent in decision-making roles.[50] This low ratio of women in decision-making positions is partially linked with the fact that the core business of the water industry relies to a great extent on professionals from science, technology, engineering and mathematics (STEM) courses for which the female enrollment rate was as low as 3.7 percent in 2017.[51] The analysis of the 44 systems managed by POs in 2020, providing water to 262,218 people, revealed that a total of 497 staff were employed, of whom 14 percent were women. A survey of private water providers (PWPs)[52] which are common in the southern province of the country indicated that

[46] Data shared by the MOPHRH - Human Resources Department for 2021.
[47] Council of Ministers. 2021. *Average Reference Tariffs Indexing and Adjustment Mechanisms for Public Water Supply Services (Decree 41/2021)*.
[48] UN Water. 2006. Gender, Water and Sanitation: A Policy Brief. *link: https://www.un.org/waterforlifedecade/pdf/un_water_policy_brief_2_gender.pdf*
[49] The Water Sector Action Plan for Sustainable Development Goals (PASA), the National Water Policy and the National Strategy for Water Resources Management.
[50] Data shared by the MOPHRH - Human Resources Department for 2021.
[51] Uamusse, et al. 2020. *Women Participation in Science, Technology, Engineering and Mathematics Courses in Mozambican Higher Education*. *link*: https://doi.org/10.1590/1806-9584-2020v28n168325
[52] USAID (United States Agency for International Development). 2020. *Mozambique's Private Water Providers: Local Entrepreneurs Increasing Access to Water*.

15 percent of the systems are owned by women,[53] showing their appetite to invest in the water business. It is therefore important to foster institutional changes that deliberately enhance the role of women in the management of water services through dedicated training and skills development packages, targeted employment packages for technical and managerial roles in key sector agencies and service providers, and systematic engagement of young female entrepreneurs with opportunities and facilitated business development in WSS. The DNAAS has drafted a gender strategy proposal for the water sector,[54] which identifies key actions to address some of the deeply ingrained inequalities, enhance service delivery and promote women's access to means of production and income generation.

16. **The WSS sector's medium-term investment plan is outlined in the PASA, in line with the SDGs and the National Strategy for Urban Water and Sanitation (ENASU) 2011–2025.** Building on a consistent track record of investments in major urban centers through the National Water Development Projects I and II (1998 to 2005), and the Water Services and Institutional Support Projects I and II (2012 to date), the GoM is committed to increasing investments in rural and small towns, promoting efficiency in service delivery and fostering sustainability, with the aim of delivering safely managed water to all. For small towns, the GoM's plan is structured around unpacking the incentives for attracting investments and building service delivery capacity. For rural water supply, the GoM wishes to align the implementation models for water investments with the decentralization process, and optimize demand creation, the management of water supply infrastructure, and service levels. The PRONASAR (2019–2030) will continue to be the pivot investment program for rural water supply at the national level, with a more proactive delegation of functions from the central to local levels.

17. **To help bolster the implementation of the PASA, and complement the PRONASAR, the GoM has requested the World Bank's (WB) support to finance key WSS investment in small towns and in the rural growth centers of the underserved provinces of Nampula and Zambezia.** In addition, the GoM would like the WB to support technical assistance (TA) activities designed to (a) enhance the local government's capacity, at provincial and district levels, on investment planning and implementation, as well as operational and FM capacity to improve the sustainability and quality of WASH services and (b) package and test investments and service delivery models to improve operational capacity and climate resilience. In the wake of the COVID-19 pandemic and the security crisis which has caused displacement of the population, the project will contribute to improve school sanitation to enable safe return to classes and extend and strengthen services to host communities and new settlements for IDPs. The project will also keep an active window to support the GoM's emergency response that can be triggered by the occurrence of eventual disasters and calamity situations, with a focus on restoring and rehabilitating critical WSS infrastructure and services, including water supply systems, water points, and household and institutional sanitation facilities, securing the continuity of services during weather-related hazards such as cyclones or hydrological shocks, such as floods.

18. **Project interventions will complement the joint effort of the development partners supporting the implementation of the second phase of the PRONASAR with an estimated investment need of US$1.2 billion.** Specifically, the United Kingdom Foreign, Commonwealth and Development Office (FCDO),[55] the United States Agency

[53] With the support of the United States Agency for International Development (USAID), the DNAAS conducted in 2018 a survey of private water supply schemes which mapped 1,830 private water supply schemes all over the country employing 2,640 workers, with 20 percent being women. Mapped private systems are owned by 1,503 PWPs with 15 percent of them women.

[54] The Mozambique Urban Sanitation Project (MUSP, P16177) is financing the upgrade of the draft water sector gender strategy for the first MOPHRH's gender strategy covering the entire public works sector with strengthened contents on gender equity, social inclusion, GBV including sexual harassment, and use of children's labor.

[55] FCDO (Foreign, Commonwealth and Development Office). 2021. Supporting the Transformation of Rural WASH Service Delivery in Mozambique with focus on Nampula and Zambezia provinces – Project page (*link*)

for International Development (USAID), the Austrian Cooperation, the Swiss Development and Cooperation Agency (SCD), and UNICEF contribute to the established Joint Fund that allocates channeled funds to ten rural provinces, and their rural districts, using the Treasury Single Account (*Conta Única do Tesouro CUT*). In addition, other agencies support the implementation of the PRONASAR without channeling their funding through the Joint Fund. These include: the Japan International Cooperation Agency (JICA), the African Development Bank (AFDB), the Islamic Development Bank (ISDB), India, China, the Belgian Development Agency (ENABEL), Helvetas, World Vision, and the Netherlands Development Organization (SNV). For small towns, the project will complement the support from the Dutch Government's TA program for Pos, targeting 75 (PO75) small towns, and extending it to an additional 13 small towns[56] and 22 rural growth centers; planned investments from the USAID Transform WASH Project[57] in the provinces of Nampula and Zambezia; and the development of blended financing models from UNICEF that will contribute to mobilizing additional private capital to extend the services.

19. **The WB is also financing a set of investments in urban and rural development in northern Mozambique, which include some complementary interventions for WASH, and will further narrow the service gap.** These include the Mozambique Urban Sanitation Project (MUSP, P161777), Improving Learning and Empowering Girls in Mozambique (P172657), the Northern Mozambique Rural Resilience Project (P174635), Water Services and Institutional Support II (P149377), and the Northern Crisis Recovery Project (P176157). It is expected that the cumulative impact of these investments will lead to a significant increase in WASH coverage in the northern part of the country at the household and institutional levels, more specifically in schools.

C. Relevance to Higher Level Objectives

20. **The project is consistent with the Country Partnership Framework (CPF) for FY17–FY21 discussed by the Board on April 27, 2017.**[58] The project primarily contributes to Investing in Human Capital (Focus Area two) by targeting investments in the most vulnerable rural areas and small towns to increase access to sustainable WSS services (objective seven). This will have positive impacts on health by reducing the incidence of water- and sanitation-related diseases, including child stunting, cholera epidemics and chronic diarrhea outbreaks, and child mortality, and on the overall health status of the poor living in small towns and rural areas (objective six). Increased access will also promote positive nutrition and education outcomes. The project also supports Improving the 'Business Environment for Job Creation' (Focus Area one) by engaging the private sector for operation of water supply systems and sanitation service provision. In addition to job creation from PSP, improved water and sanitation services will promote enhanced economic growth and productivity in small towns and rural growth centers. Lastly, the project addresses the sustainability and resilience agenda (Focus Area three) by strengthening the sector's institutional framework; building climate-resilient WASH facilities; and allocating investments in improved sanitation, which will reduce contamination of surface and groundwater.

21. **The project is aligned with Strategic Goal two of the World Bank Group's (WBG's) Prevention and Resilience Allocation (PRA) for Mozambique.** The second strategic goal of the PRA sets out to address "regional imbalances in access to services and state presence." Between FY21 and FY23, the PRA addresses the regional gaps in infrastructure between the North and the South and promotes inclusive development in parts of North and Central Mozambique, by

[56] The following four project small towns are covered by the PO75 capacity building program: Malema, Nametil, Ribaué, Namapo and Namialo in Nampula.
[57] USAID (United States Agency for International Development). 2021. USAID Transform WASH – Request for Proposals (*link*).
[58] Report No. 104733-MZ, March 30, 2017.

supporting the increase in investments in basic infrastructure, including water supply, to those provinces with the lowest access rates, which includes the provinces of Nampula and Zambezia supported by this project.[59]

22. **The project contributes to the WBG twin goals of ending extreme poverty and promoting shared prosperity and is well aligned with the principles of Green, Resilient and Inclusive Development (GRID)[60] and the Climate Change Action Plan (CCAP) [61] for 2021–2025.** The project targets the poorest communities in Mozambique's rural areas and small towns in the northern provinces of Zambezia and Nampula. Reliable and affordable sources of clean water and sanitation are an essential precondition for a healthy population and robust economic activity, especially in the Mozambican context of high incidences of WASH-related diseases and constrained economic activity. This project is closely aligned with the GRID approach to promoting a strong and durable recovery and growth through green, resilient, and inclusive development as it contributes to boosting human capital as a foundation for shared prosperity by targeting investments in inclusive and equitable access to WSS services in Mozambique's poorest communities. In addition, engagement of the private sector will foster job creation and economic transformation. The project also seeks to build resilience to the impacts of climate change and other shocks and stresses by promoting adaptation measures such as climate-resilient infrastructure design, mitigation measures, including non-revenue water reduction, and sustainability of infrastructure investments and solar-powered infrastructure, in alignment with the CCAP (2021–2024).

23. **The project also supports the GoM's Five-Year Program (*Programa Quinquenal do Governo* PQG) 2020–2024 and sector strategies.** The PQG places strong emphasis on economic transformation of rural communities with a geographic focus on Mozambique's central and northern regions. The PQG and medium-term strategy are articulated around three priorities: (a) human capital development and social justice; (b) boosting economic growth, productivity, and job creation; and (c) strengthening sustainable management of natural resources and the environment. The project supports all three priorities and, more specifically, the strategic objective of promoting infrastructure development, including multiple actions to improve access to WSS. Furthermore, the project contributes to the implementation of the PRONASAR 2019–2030, which aims to improve access to improved water and sanitation infrastructure in rural areas, and the PASA 2015–2029, the water sector action plan for the achievement of the SDG6–universal access to safe WSS; the project also encourages PSP and clarity of institutional functions in WSS service delivery in the urban space under the DMF set by the ENASU 2011–2025. The project will also contribute to Mozambique's Nationally Determined Contribution (NDC) by reducing people's vulnerability to climate-change-related vector-borne diseases and develop resilient climate infrastructures, on the adaptation side. On the mitigation side, the project will contribute to reduce environmental degradation with lower GHG from boiling water with charcoal and the use of diesel-powered generators for pumping water, in line with meeting the target of reducing 76.5 $MtCO_2eq$ during the period 2020–2030. It will also prevent the contamination of water sources with improved containment, treatment, and disposal of fecal sludge.

[59] World Bank Group. 2021. *Eligibility Note for Access to the Prevention and Resilience Allocation for Mozambique*.
[60] World Bank. 2021. Green, Resilient, and Inclusive Development. link: *https://openknowledge.worldbank.org/handle/10986/36322*
[61] World Bank Group. 2021. World Bank Group Climate Change Action Plan 2021–2025: Supporting Green, Resilient, and Inclusive Development. link: *https://openknowledge.worldbank.org/handle/10986/35799*

II. PROJECT DESCRIPTION

A. Project Development Objective (PDO)

PDO Statement

The objective of the project is to increase access to improved water supply and sanitation services in selected small towns and rural areas of Mozambique.

PDO Level Indicators

24. The PDO-level indicators are the following:

a) Number of people provided with access to improved water supply services

b) Number of people provided with access to improved sanitation services under the project

B. Project Components

25. The project consists of four components, which are each briefly described below. The project components have been structured with respect to the different institutional arrangements for project implementation in small towns, urban areas, and rural areas. Detailed descriptions and costs are provided in Annex 4.

26. **Component 1: Enhancement of Water Supply and Sanitation Services in Small Towns (US$99.50 million equivalent).** This component will be managed by the AIAS and aims at addressing the WSS infrastructure and service gap in 17 small towns in the provinces of Zambezia (7 towns) and Nampula (10 towns) and build incentives to enhance the financial and operational sustainability of the services. In addition, this component will finance additional investments for 22 systems from rural growth centers (8 in Nampula and 14 in Zambezia) to simplify project implementation and reduce transaction costs by concentrating investments in water supply systems in one institution. Investments under this component will be packaged into larger works and scheme operations with built-in incentives to attract technically qualified operators with robust financial capacity, promoting the engagement of the private sector in addition to encouraging job creation. Climate-resilient design elements will be incorporated in all new infrastructure and in retrofitting, reducing the risk of failure and vulnerability to climate-related shocks such as floods, cyclones, and sea level rise.

27. **Subcomponent 1.1: Construction, Rehabilitation and Expansion of Small Towns and Rural Growth Centers Water Supply Systems (US$81.0million equivalent).** This subcomponent will specifically finance engineering studies, civil works, and safeguards implementation for the 17 small towns and 22 rural growth centers water supply schemes, including construction and upgrading water source, treatment, transmission, distribution, and households' connections (HCs), with an average number of 1,000 HCs per system and 10 public standpipes. Investments across the water supply value chain will guarantee availability, reliability, and sustainability of water supply services for 17 small towns. Specifically, 6 new systems (3 in Nampula and 3 in Zambezia) will be built and 11 systems (7 in Nampula and 4 in Zambezia) will be rehabilitated and expanded to serve more customers with improved services. Works will also include the construction of solar energy sources for new systems and shifting of electrical systems (grid, diesel generator) to solar

for existing systems, to reduce the energy bill which accounts for more than 30 percent of the operational costs[62] for a third of small water supply schemes. Energy Efficient (EE) pumping equipment will be prioritized for procurement considering the high savings from EE pumps.[63] Project interventions will also prioritize replacement of aged and obsolete pumps and pipes to reduce NRW.[64] These interventions are expected to reduce operational costs and GHG emission from fuel-powered generators.

28. Rural growth poles with between 4,700 and 18,000 inhabitants were selected to benefit from an upgrade of the current service level based on dispersed water points to piped connections and standpipes, including the main IDP resettlement area in Nampula, Corrane (Meconta district[65]). The rural WSS will be hybrid, using solar energy, in complementarity to the energy from the grid, and EE pumping equipment to lower operational costs and to contribute to the sustainability of the investments. Clusters of intervened systems will be assigned to local POs. All 22 systems for rural growth centers are new.

29. **Subcomponent 1.2: Sanitation investments in small towns (US$13.50 million equivalent).** This subcomponent aims at increasing access to sanitation and hygiene services in the 17 small towns, which will benefit from water supply interventions. The investment framework will follow the city-wide inclusive sanitation approach, which looks at the full-service chain from containment to treatment and allows for multiple technological options to address the service gap. Specifically this subcomponent will finance: (a) engineering studies and construction works for fecal sludge management (FSM) systems and simplified sewer systems for 4 small towns; (b) rehabilitation and upgrade of 29 school sanitation facilities, including MHM facilities for girls; (c) business development packages for private sector engagement on FSM; (d) capital subsidy for sanitation service delivery through private sector in all 17 small towns including climate-resilient toilets for 13,600 households; and (e) sanitation marketing and hygiene promotion to create demand for the sanitation products and services offered by the private sector.

30. **Sub-component 1.3: Design and roll out Performance-Based Contracts (PBCs) for improved and inclusive service delivery by private operators (US$5.0 million equivalent).** This subcomponent will finance the transaction support and implementation of the second generation of contracts for small towns systems and provide stronger incentives for POs to expand coverage and improve operational efficiency, including energy efficiency, for water supply systems. This builds on the findings of the PER and PIR which recommend the adoption of performance-based approaches to address the low performance of service providers and incentivize them to expand and improve water services. It will contribute to increasing the unsatisfactory level of coverage of the population living in the service area estimated to be at 16 percent for 2020, below the reference value of 60 percent set in the regulatory framework,[66]with the poor living in the unserved towns' fringes being excluded. It will also incentivize POs' sustained quality of services which complies with the regulatory framework set by the regulator for small towns' systems and increase of the share of women employed by POs to at least

[62] For 2020, 17 out 55 functional small towns' water supply schemes had the electricity bill accounting for above 30 percent of the operational costs, with a share above 50 percent for 8 systems.

[63] Applying variable-speed pumps can induce reductions in energy costs above 20 percent with only 10 percent of pump speed decrease as indicated by: Vogelesang. 2009. *Two Approaches to Capacity Control*. World Pumps, volume 2009, Issue 511. *link: https://doi.org/10.1016/S0262-1762(09)70141-5***.** It can also contribute to reducing the contracted peak for a lower and more affordable value.

[64] Seven out of the 12 existing systems planned for intervention under the project, at present run by SDPIs, did not benefit from structural investments since the independence in 1975, and are not at present viable to have their management delegated to POs. Six systems have NRW equal or above 30 percent, with a maximum of 45 percent for Namarroi (Table A4.5).

[65] According to the UN-OCHA June 2021 report, Meconta is the rural district with most influx with nearly 21,000 IDP. *link*: https://reports.unocha.org/en/country/mozambique

[66] AURA (Autoridade Reguladora de Água). 2020. *Annual Service Regulation Report for years 2017 and 2018*.

one-third.[67] The PBC will incentivize POs to expand the service to additional households in the service areas beyond the initial set of connections.

31. **Component 2: Enhancement of water supply and sanitation services in rural areas (US$33.50 million equivalent).** Investments under this component will support the implementation of the second phase of the PRONASAR (2019–2030) and contribute to increasing access to improved WSS for the rural population of the two most populated and underserved provinces of Mozambique, Nampula and Zambezia. Aligned with the decentralization arrangement and leading the provincial government in the provision of WSS services in the rural space, this component will support capacity building for local governments.[68] Specifically, the project will finance a Block Grant (BG) to complement the fiscal governmental transfers for provinces and district administrative authorities to invest in sustainable and resilient WSS services. Aiming to improve the quality and sustainability of WSS services in the rural space, the BG will be bound to Minimum Access Conditions (MACs), working as a financial incentive for local authorities to improve planning, investment, and monitoring capacity at provincial and district levels and strengthen the role of the local governments and community groups through capacity building programs.

32. Funds will be transferred from the DNAAS to the Provincial Directorate of Public Works (DPOP) who will manage the grant on behalf of the districts. Districts will utilize the grants to finance: (a) the construction of 100 solar-powered mini-systems for rural water supply; (b) the construction of 400 water supply boreholes; (c) rehabilitation and upgrade of 150 rural schools' sanitation facilities; (d) sanitation and hygiene promotion activities for households and schools; (e) TA for the creation of district participatory planning groups with at least one-third of participants being women, and establishment of management mechanisms and monitoring mechanism for rural WSS services; and (f) roll out of a capacity building program for district staff and POs. In addition, this component will finance the construction of solar-powered water supply schemes, resilient toilets through local private sector service, and WASH hygiene promotion activities in 10 IDP resettlement areas or host communities in need in the Nampula and Zambezia provinces through a pre-positioning allocation for IDP needs response and extended operational support until beneficiary communities recover their income-generation capacity.

33. **Component 3: Institutional and project management support (US$17.0 million equivalent).** This component will finance TA for capacity development and project implementation support for central level implementing institutions (DNAAS and AIAS), and the extension of the regulatory role for the rural space and its strengthening in small towns. This component will also finance a set of activities for women in water empowerment to enhance the capacity of and attract qualified female technicians to work in the management and operations of small towns schemes, and a set of activities that will support the development of the sector in a climate-resilient manner, building on the findings of the PIR and PER, and the Water Supply and Sanitation Law.[69]

34. **Subcomponent 3.1: Provision of support for the development of the sector (US$7.0 million equivalent).** This subcomponent will finance key activities for institutional support including: (a) institutional development support and beneficiary assessment for strengthening service regulation and citizen engagement; (b) the development of WSS regulations for the Water Supply and Sanitation Law - the new law offers an opportunity to address climate change

[67] Women employment rate by POs was assessed to be 14 percent for 2020.
[68] Aligned with the PRONASAR decentralized WASH implementation strategy, project interventions will focus on the following six building blocks for enhanced local capacity: (a) institutional arrangements and coordination, (b) service delivery infrastructure, (c) monitoring, (d) planning, (e) finance, and (f) regulation and accountability.
[69] The MUSP is financing the draft of the new Water Supply and Sanitation Law.

adaptation and mitigation in the sector; (c) TA for developing district planning framework; (d) women in water initiative with training packages, business development support grant, and targeted recruitment programs for young female technicians; and (e) investment planning for future sector development programs, considering climate change and including the development and implementation of a sustainable EE and renewable energy (RE) fund that will enable savings from intervened systems to be "recycled" and used for future investments. This subcomponent will be managed by the DNAAS.

35. **Subcomponent 3.2: Technical assistance and project management support for DNAAS (US$3.50 million equivalent).** This subcomponent will finance: (a) project management support comprising TA and incremental operating costs to ensure fiduciary compliance, including FM, procurement, environment and social safeguards, and monitoring and evaluation (M&E) for activities related to Component 2 and Subcomponent 3.1; (b) necessary equipment (for example, computers, software, and other goods) and incremental staff to allow the project implementing unit to carry out their responsibilities; and (c) consultancy services for project design, supervision, and development of improved service delivery models and plans.

36. **Subcomponent 3.3: Institutional and project management support for AIAS (US$6.50 million equivalent).** This subcomponent will finance: (a) TA and incremental operating costs to ensure fiduciary compliance including FM, procurement, and environment and social safeguards, for activities related to Component 1; (b) equipment, training, and incremental staff to equip the project implementing unit at the AIAS to carry out their responsibilities; (c) a capacity building program for POs; and (d) consultancy services for development of improved service delivery models and plans for small towns. This subcomponent will also finance the adjustment of the AIAS to its new statute of a public institute,[70] including establishment of corporate governance structures, policies, and procedures; acquisition of working equipment; and construction and rehabilitation of its provincial delegations in Nampula and Zambezia provinces.

37. **Component 4: Contingent Emergency Response Component (CERC) (US$0 million).** This component will provide immediate response to an Eligible Crisis or Emergency, as needed. This will finance emergency works in the case of another disaster event by including a "zero-dollar" CERC. This will help recover damage to infrastructure, ensure business continuity, and enable early rehabilitation. In parallel, following an adverse event that causes a major disaster, the GoM may request the WB to channel resources from this component into an Immediate Response Mechanism (IRM). The IRM will enable the use of up to 5 percent of uncommitted funds from the overall IDA portfolio to respond to emergencies. This IRM has already been established for Mozambique and is now operational.

C. Project Beneficiaries

38. **In 17 small towns from the Nampula and Zambezia provinces**, approximately 186,000 people will get access to improved water supply services. This includes investment in water supply that will improve the service to 53,000 people who are at present connected to 11 systems that will be rehabilitated and expanded. Sanitation interventions planned under the project will benefit 72,000 people from poor households and IDPs living in targeted small towns that will have their toilet facilities upgraded through local services providers. Additional benefits from the project include access to improved sanitation facilities to 29,000 students from 29 schools which will have toilets built or rehabilitated under the project, with improved facilities for MHM for women and young girls. The project will introduce FSM services in 4 small towns, benefiting 107,000 people with this service.

[70] Council of Ministers. 2020. *Adjustment of AIAS Statute Giving Financial and Assets Autonomy in Addition to the Administrative Autonomy (Decree 112/2020, from December 29)*.

39. **In the rural space**, 301,000 people will get access to improved water supply services in the Nampula and Zambezia provinces, specifically 91,000 people that will be served by 22 rural water supply systems to be built, and 210,000 people from dispersed water points. Sanitation interventions planned under the project will benefit 106,000 people from poor households and IDPs in Nampula[71] and Zambezia who will have their toilet facilities upgraded through local services providers. Additional benefits from the project include access to improved sanitation facilities to 75,000 students from 150 schools which will have toilets built or rehabilitated, with emphasis on improving MHM for women and young girls.

40. **Moreover, women and girls will particularly benefit from this project** as improved MHM facilities in school will reduce their absence and dropout from schools. With water in the premises or in a closed waterpoint with attached laundry facilities, women will reduce the time spent on fetching water and taking care of sick children with waterborne diseases, making extra time available for other productive uses. The project also aims to increase women employed in water supply systems to at least 30 percent, improving their income generation potential and securing that one-third of women are represented in district planning and monitoring groups. Small towns and rural growth poles water supply schemes managed by POs will create 190 new permanent job positions, employing at least 65 women.[72]

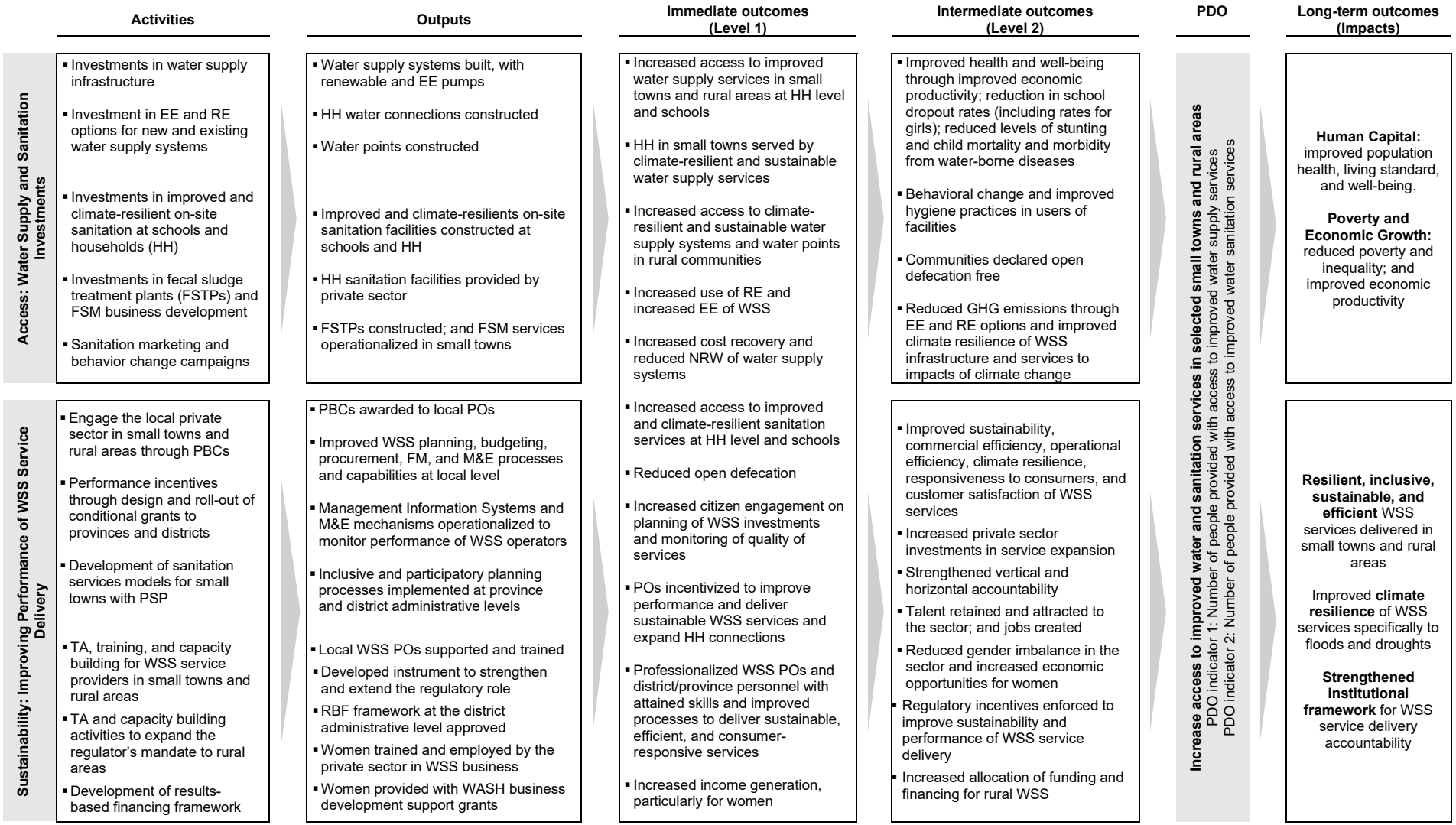
D. Results Chain

41. To secure the achievement of the PDO of increasing access to improved water supply and sanitation services in selected small towns and rural areas, project inputs were grouped into two fronts of activities. The first front includes a set of activities that will contribute to increase access, and the second fronts includes activities that are key for sustainability and desired improved performance of WSS services. Therefore, the project will invest in the construction and rehabilitation of climate resilient WSS infrastructure to increase access to services. In parallel, to secure the sustainability of and strengthen the service delivery capacity, the project will support the capacity building of local government structures, POs, and WSS service providers. It will also support the development of instruments to strengthen citizen engagement in planning and supervision of services and develop financing mechanisms to secure allocation of resources at local level. Figure 1 depicts the full results chain that underpins the Theory of Change for the project, following the principle of two fronts of activities, outputs and outcomes that will contribute for the achievement of the PDO and impact on human capital, poverty and economic growth, improve climate resilience and strengthen sector institutions.

[71] According to the International Organization for Migration's (IOM's) DTM March 2021 report, Namialo is the district with the most influx with nearly 20,000 IDP.

[72] Estimated considering the optimal ratio of 5 staff per 1,000 water connections set by the AURA, and that 27,000 new connections are projected for the 18 small towns and 11,500 new connections for the 23 rural growth poles. At least one-third of the job positions must be occupied by women.

Figure 1. Proposed Theory of Change for the Rural and Small Towns Water Security Project



E. Rationale for Bank Involvement and Role of Partners

42. **The WB has been a long-standing and valued partner in the Mozambique water sector**. Significant progress in institutional and sector reforms and investments to improve water availability, access, and quality of water supply services were achieved with WB support. However, most of the WB support was focused on water supply improvements in large urban centers which have significantly increased access and quality of services, and most recently extended to sanitation through the MUSP which is supporting investments to increase safely managed sanitation services and strengthen municipal sanitation service delivery capacity in selected large urban areas. This project offers an opportunity for the WB to extend its support to rural areas and small towns with a dedicated project, spaces where the needs are huge and are at present lagging behind in terms of access to basic services and underfunded as pointed out by the Water PER. The WB is well-placed to support the GoM, drawing on its global experience in supporting governments to establish equitable, resilient, low-carbon, and sustainable water supply, sanitation, and hygiene services at scale in rural areas and small towns. This will be possible with the accumulated and shared experience through the Rural Water Supply and Sanitation Community of Practice and its experience in similar projects implemented in Benin, Senegal, and Cambodia.

43. **Participation of the WB is expected to complement additional support from other development partners and support the enhancement of service delivery models.** The GoM has approved the second phase of the PRONASAR which counts on support from the United Kingdom FCDO, USAID, Austrian Cooperation, SDC, and UNICEF, as contributors to the established Joint Fund,[73] channeling their contributions to the CUT or managed by a Fund Manager. The United KingdomFCDO has been actively implementing a project in the Nampula and Zambezia provinces, with great focus on strengthening districts and provincial systems toward a sustainable service delivery. The Indian Government will finance the construction of 800 dispersed water points in these two provinces (400 in each).

44. The Netherlands Government has been a long-running supporter of the AIAS and the GoM's investment in small towns as part of a training program for PO and has recently extended its support program from 35 to 75 small towns including 6 project locations.[74] The current project will invest in water supply schemes in four small towns in Zambezia province with projects being prepared under the Dutch initiative 'Design to Build'. Other development partners, such as the USAID and UNICEF, are planning to support investments in additional small towns in the Nampula and Zambezia provinces. This joint effort should make it possible to have all small towns in these two underserved provinces covered with operational water systems. USAID is supporting the development of the second generation of lease contracts for POs with an extended duration from five to ten years to enable investment which will be a solid base to advance clustering and introducing performance-based conditions that the project is planning to support. These different initiatives will contribute to creating an enabling environment for the PO to come and invest in the water sector.

F. Lessons Learned and Reflected in the Project Design

45. **Infrastructure investments alone may not translate into safely managed services.** Promoting long-term sustainability of rural and small towns' WSS is a key feature of this project. Since the inception of the PRONASAR in 2010, Mozambique has made strides in expanding access to WSS in rural areas with 4,000 rural communities declared free from

[73] The Joint Fund is an established mechanism for implementation of the PRONASAR which relies on the government sector planning systems and uses an algorithm defined in the PRONASAR Manual to allocate funds for investments in all 10 rural provinces of Mozambique (excluding Maputo City province).

[74] The following small towns are covered by the PO75 capacity building program: Malema, Nametil, Ribaué, Namapo, and Namialo in Nampula province, and Lugela in Zambezia province.

open defecation (*livre de fecalismo a ceu aberto*, LIFECA), the establishment of 250 water supply systems, and the construction and rehabilitation of approximately 21,000 water sources and 700,000 latrines.[75] While a satisfactory level of operationality of 91 percent[76] (below the 95 percent goal) is observed between dispersed water points, the sustainability of rural growth poles water supply schemes continues to be a challenge. However, successful operationalization of sustainable service delivery models in rural communities and small towns has not yet been achieved in Mozambique. This project incorporates lessons learnt based on the WB's global experience in rural and small towns WSS to promote scalable and sustainable service delivery models in line with the objectives of the PRONASAR. This includes the clustering of systems to enable cross subsidies between more and less profitable systems and lowering of operational costs linked with the electricity bill or diesel-powered generators with the adoption of solar energy planned for 23 systems and 100 multiuse mini-systems to be built in the rural space under the project.

46. **PSP can be effective in operating rural piped water schemes.** Private operation of water schemes has shown promise in several countries, including Bangladesh, Benin, and Senegal, when enabling factors—such as strong private partners, strong capacity of local POs, and clear regulatory regimes—are in place. Various PPP models have emerged and are now implemented at scale. For example, Senegal and Benin have implemented lease/affermage contracts at scale, whereby assets are owned by central or local government entities and operated and maintained by private contractors. In Mozambique, under the DMF, 44 out of 53 operational secondary systems serving small towns are run by POs with lease contracts with the AIAS, which succeeded in securing the continuity of services despite the operational challenges.[77]

47. **Clustered water schemes in contractual arrangements have proven effective in attracting PSP**. To achieve economies of scale and attract larger and more professional POs, rural and small towns water schemes in this project will be clustered together to form much larger tenders and contracts. Clustering can also mitigate many of the risks of the private sector models relating to scale, expertise, and revenue generation. In addition, the example in Benin (P132114) demonstrates that clustering enables reductions in transaction costs including within clustered piped water schemes that are less profitable, making the transaction more attractive for POs drawn by larger water sale volumes and increasing potential for commercial financing by proposing larger transactions.[78] However, a core factor enabling the success of the Benin PPP experience is the professionalization and strengthening of the management capacity of piped water schemes to ensure their sustainability. In Mozambique, the DNAAS together with the DPOP Gaza piloted clustering of rural water supply systems in 2020 assigned to POs.

48. **Combining water supply investments with sanitation and hygiene investments can maximize health benefits to project beneficiaries.** International experience demonstrates the importance of considering investments in sanitation and hygiene as well as water supply to realize the full health benefits associated with water service delivery. Lessons learnt from the Senegal Supporting Access to On-Site Sanitation Project (P102478) has highlighted that this is particularly important for small towns where access to greater quantities of water is provided through an increase in HCs. Sanitation solutions to sustainably manage wastewater must be implemented to avoid unhealthy conditions and mitigate risks of water-borne diseases to the population that benefitted from water services. This project includes investments in

[75] SNV (Netherlands Development Organization). 2021. *Better WASH Services for Millions of Mozambicans: An SNV Video Co-production*. *link: source:%20https://snv.org/update/better-wash-services-millions-mozambicans-snv-video-co-production*

[76] DNAAS (*Direcção Nacional de Abastecimento de Água e Saneamento*). 2020. *Annual Performance Evaluation Report for Water Supply and Sanitation Sector for 2019*.

[77] Uandela. 2021. *Assessment of the Private Sector Engagement on Provision of Water Supply Services in Small Towns and Rural Areas of Mozambique*.

[78] World Bank. 2015. *Benin Innovative PPPs for Rural Water Sustainability*. *link***:** https://www.wsp.org/sites/wsp/files/publications/WSP-Benin-Innovative-Public-Private-Partnerships-Rural-Water-Services.pdf

sanitation and hygiene within schools and households, with special considerations for gender-related specificities. A combination of services is also advantageous for sanitation when a service struggles to be financially self-sufficient. Constraints on affordability and willingness to pay for sanitation services often make it difficult to recover operating costs through sanitation tariffs alone.

49. **Behavior change communication (BCC) and impact on demand and design is key to get community buy-in.** International experience demonstrates that effective communication, consultation, and participatory approaches are integral to the success of rural WSS projects. Such an approach allows for early identification of needs/priorities and potential implementation issues. It helps manage expectations, facilitates ownership and trust, and supports accountability mechanisms. For example, without early consultation and engagement of beneficiary communities, residents will not be aware of project benefits and will be less likely to accept the final project system and associated costs (that is, costs of HCs and tariffs for WSS services). In a WB project in Nicaragua, 36 effective public communication campaigns helped achieve very high connection rates, even in poor communities. In WSS projects in China and elsewhere, community level awareness raising of the benefits from improved WSS and WASH have helped increase willingness to connect to WSS systems and pay for WSS services. Demonstrated experience in India and Indonesia also showcase the positive impacts of behavior change interventions whereby communities reaching LIFECA status within two months of starting a campaign achieved markedly higher access gains and sustained LIFECA behaviors than communities that took a longer time initially. The project design allows for adequate time to identify suitable project beneficiaries and gain community buy-in and trust before project commencing/implementation. TA to develop a social and commercial marketing strategy tailored to influence sanitation behaviors and create demand for various sanitation products and services (that is, improved toilets and emptying services) is underway.

50. **Affordability remains a challenge for safely managed sanitation services and financial support is required for household on-site sanitation facilities.** Experience from the Improved Latrines Program (*Programa de Latrinas Melhoradas* PLM) and other attempts to increase sanitation coverage have shown that sanitation marketing and promotion alone have not resulted in significant reduction in the use of unimproved sanitation facilities. A key bottleneck is the low affordability and the need for some form of subsidy or financial support for the poor households in the peri-urban areas. In rural areas, achievement of cost recovery may become a challenging task as relatively high tariffs can divert the big majority of new users back to unsafe water and unprotected water resources. Therefore, tariffs reflecting affordability need to be installed first and then slowly corrected to costs.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

51. **At the national level, the proposed project will be implemented by the MOPHRH through the DNAAS and AIAS.** The DNAAS holds overall responsibility for project coordination, planning, and monitoring. It leads the implementation of Component 2 (Enhancement of Water Supply and Sanitation Services in Rural Areas), Subcomponent 3.1 (Support for the development of the sector), and Subcomponent 3.2 (Technical assistance and project management support for DNAAS) of this project including procurement, FM, M&E, and environmental and social safeguards for Component 2. The AIAS leads the implementation of Component 1 (Enhancement of Water Supply and Sanitation Services in Small Towns) and Subcomponent 3.3.

52. **New fully staffed Project Implementation Units (PIUs) will be housed within each central government level agency (DNAAS and AIAS).** The proposed project implementation arrangements, summarized in Figure 2 below, result from extensive consultation with the sector agencies, institutional assessments, and analytical work to define the most efficient project delivery framework.

53. The DNAAS has an established and operational PIU with experience in implementation of WB-financed projects, currently supporting the implementation of the MUSP (P161777), with administrative reporting to the National Director and technical reporting to the Department of Water Supply. The new PIU will benefit from the experience of the existing PIU to carry out day-to-day implementation of this new project. The DNAAS PIU team comprises a project manager, and the following new positions: project coordinator, procurement specialist, FM and grants specialist, on-site sanitation specialist, water supply technician, environmental and social safeguards specialist, and monitoring and evaluation specialist. Other specialists may be considered as required. The detailed implementation arrangement with shared and new resources is detailed in Annex 1.

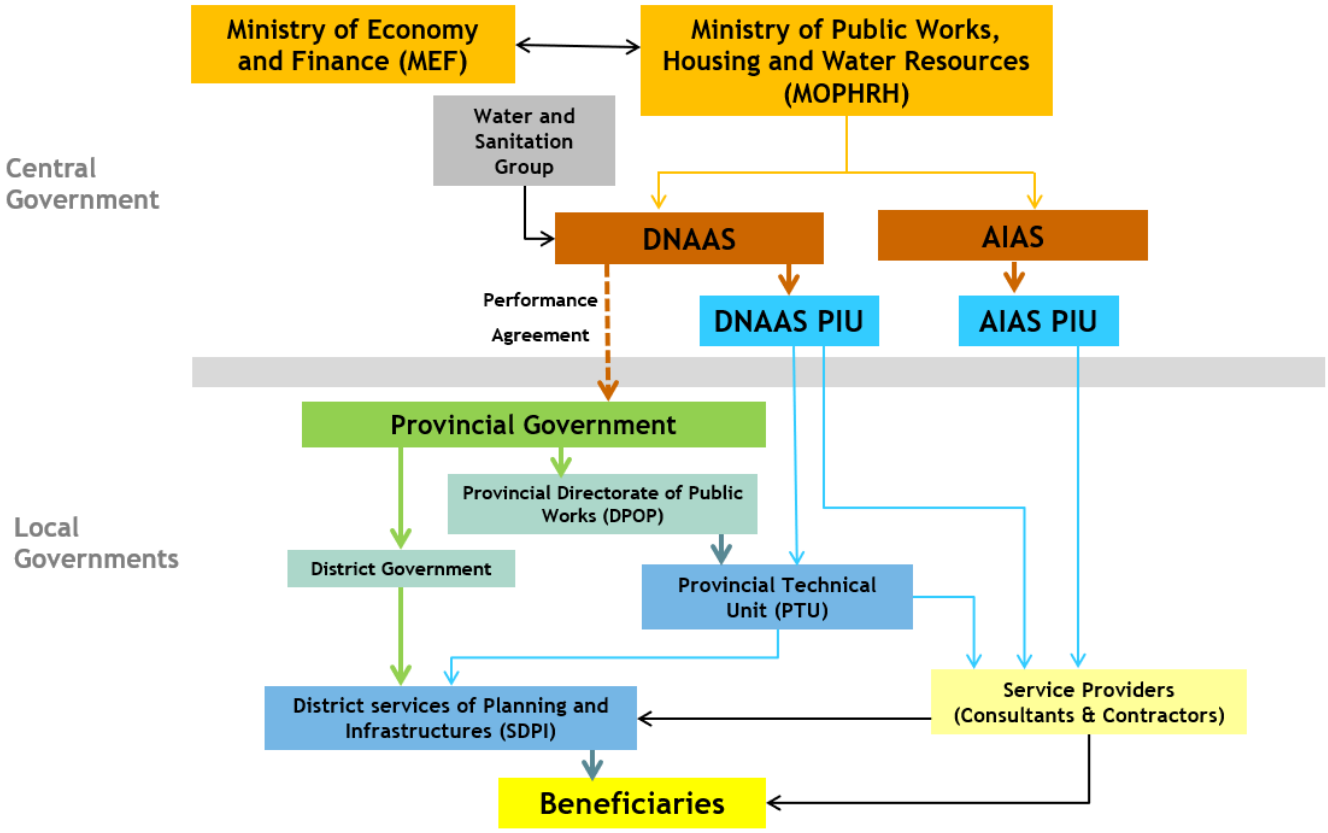
54. The AIAS has an established and operational PIU with experience in implementation of WB-financed projects, currently supporting the implementation of the MUSP (P161777), with administrative reporting to the General Director and technical reporting to the Department of Control, Operations and Technical Assistance. The new PIU will benefit from the experience of the existing PIU to carry out day-to-day implementation of Component 1 and Subcomponent 3.3 of this project. The AIAS PIU team comprises a project manager, project coordinator (new), administrative and financial assistant (shared with the MUSP), sanitation marketing specialist (new), WSS specialist (new), two water and two sanitation technicians for Nampula and Zambezia delegations (new), environmental safeguards specialist (new) and social safeguards specialist (new), GBV official (new), procurement specialist (new), and FM specialist (shared with the MUSP). Other specialists may be considered as required.

55. **At the provincial government level, the Provincial Executive Council (PEC) through the DPOP will lead province-level project implementation responsibilities in the rural space.** The DPOP from Nampula and Zambezia will work with selected 22 districts for project investments (11 in each province) providing the resources for capacity building, participatory planning, supervision, and monitoring of planned WASH interventions. The DPOP will lead the procurement and financial management of the project rural activities, reporting to DNAAS on the use of BG allocated for their work with selected districts, developed activities, sustainability, and continuity of services.

56. The DPOP will establish Provincial Technical Units (PTUs) with administrative reporting to the Provincial Director and technical reporting to the DAS. The PTU will include at least the following positions to be fulfilled by local staff: a project manager (Head of DAS), WSS specialist, financial and administrative assistant, on-site sanitation technician, water supply technician, environmental and social safeguards technician, M&E technician, procurement technician, procurement specialist, and financial and grants manager. Other specialists may be considered as required.

57. **A Steering Committee established for the MUSP will be established to support the project in resolving issues that may require high-level coordination,** and to provide strategic and policy guidance for: (a) planning and implementation, (b) logistics and advocacy, and (c) social mobilization and communication. The terms of reference (ToR), composition (including representatives of the project stakeholders and beneficiaries), and powers acceptable to the Association for the extended Steering Committee will be described in the Project Implementation Manual (PIM).

Figure 2. Institutional Arrangements of the Rural and Small Towns Water Security Project



B. Results Monitoring and Evaluation Arrangements

58. **The reporting and M&E will be based on the agreed Results Framework (RF) and monitoring arrangements.** Project reporting and M&E, including social accountability and gender equity measures, will be managed and coordinated by the PIUs using information collected on a regular basis. The RF will lay out the modalities and timing of collecting key data on results and outcomes, including project progress reports, third-party evaluation studies, and specific baseline and post-intervention beneficiary surveys. Semi-annual monitoring reports will be prepared by the PIUs and discussed with the WB during project support missions. These reports will assess compliance with legal covenants, achievements against the agreed annual work plans, and the project's RF. The PIUs will also be responsible for preparing the annual project plan and budget, quarterly FM reports, quarterly social and environmental management reports, and monthly project implementation monitoring reports. The Borrower will also conduct an independent project completion evaluation after the project's closing date, which will inform the WB Implementation Completion and Results Report (ICR).

59. **Monitoring of BG.** The DNAAS will verify the accuracy of the data provided by each PG and respective districts to evaluate the achievement of applicable MACs. The performance of each PG will be jointly reviewed by the Recipient and the Association who will determine the continued eligibility of the province and districts in the next year.

60. The project will use the M&E system already in place at the national level:

(a) The National Water and Sanitation Information System (SINAS) developed and administrated by the DNAAS to provide reliable, publicly available data on water and sanitation nationwide The SINAS is a web-based Geographic Information System (GIS) that houses detailed information and maps on water and sanitation access points throughout the country, which is collected using mobile data collection tools (tablets). The data which are collected at the local level, validated at the provincial level, and stored in the national database are being used to prepare and execute realistic plans for the development of WSS infrastructure and services.

(b) The online monitoring system—Operators Portal, financed by the Netherland Cooperation PO35 Project for the benefit of the AIAS, to monitor the performances of the POs in charge of the O&M of the water systems. As part of their contractual obligations, the POs have to submit a monthly report online to monitor the key indicators of their contract; the new POs to be recruited to manage the new water systems will be trained to use this online monitoring system.

(c) With support from the Water Services and Institutional Support II Project, the AURA is developing a publicly accessible benchmarking and monitoring system, AURAnet. This platform is based on the International Benchmarking Network for Water and Sanitation Utilities[79], funded by the WB. It will aggregate and make available for public use performance information for regulated entities (public operators and POs and municipal service providers).

61. Close supervision of this project will be difficult due to the large geographical area of project implementation, with dispersed locations and difficulties of access to some areas (poor road quality, or rainy seasons that may affect physical displacements at provincial level). This situation has also been exacerbated since the beginning of the COVID-19 crisis in March 2020, with restrictions to the movement of people, including WB staff. To respond to this situation, the project will use the Geo-Enabling Initiative for Monitoring and Supervision (GEMS) developed by the Fragility, Conflict, and Violence (FCV) Group at the WB. GEMS allows the creation of customized digital real-time M&E systems as well as the enhancement of remote supervision of implementation using simple and low-cost technology and local skills. GEMS can also be leveraged for real-time risk and safeguards monitoring and geo-mapping of all interventions to facilitate coordination across components, partners, and other projects. Particularly, the use of GEMS will enable:

(a) The creation of a centralized digital platform to remotely supervise and map ground activities that can be linked to the SINAS.

(b) Project-specific digital M&E platforms and questionnaires to monitor field activities across the project cycle via structured indicators, photos, and other rich data, which can also be connected to the SINAS and other digital platforms.

(c) Real-time monitoring of environmental and social risks and safeguards.

62. This will be implemented at low cost, using open-source technology for digital real-time data collection and analysis. Cost factors may include smartphones or tablets for data collection (low-cost Android devices) and potential field data collection costs on the side of the project. To launch the GEMS system with the project, the PIU and project team will participate in a three-day capacity-building training offered by the GEMS team (remotely or in-person). The

[79] Danilenko *et al*. 2014. The IBNET Water Supply and Sanitation Blue Book 2014: The International Benchmarking Network for Water and Sanitation Utilities Databook. World Bank Group, Washington, DC. link: *https://openknowledge.worldbank.org/handle/10986/19811*

training will provide access to all required tools and skills to set up a customized digital monitoring system via an open-source platform. This includes, among other things, (a) account creation and administration; (b) digital questionnaire design; (c) offline field data collection; (d) data analysis including automated geo-mapping; and (e) data architectures, exports and sharing. The training will be delivered by the GEMS team on a cost-recovery basis, with costs for staff time and potential travel covered by the project supervision budget.

C. Sustainability

63. **The GoM has demonstrated strong commitment to expand and sustain access to improved WSS services in rural areas and small towns in Mozambique.** After successful completion of the first phase of the PRONASAR, a second phase was launched for implementation between 2019 and 2030 and seeks to expand and sustain access to rural WSS. Other GoM programs launched in parallel include the PRAVIDA, and PASA and ENASU strategies (see paragraph 16), demonstrating strong commitment to this project's success as it is closely aligned with the GoM's vision and ongoing WASH programs.

64. The project will complement the GoM's efforts by providing opportunities for institutional support, capacity building, and investments to implement these programs at scale, while recognizing that achieving inclusive, resilient, efficient, and sustainable WSS services in two of the most deprived provinces cannot be achieved alone through a single project and will require long-term GoM and donor commitment and investments. In addition, sustainability relies to a great extent on covering operational costs and affordability which interfere and are dependent on tariff adjustments which might not occur on a planned annual basis.

65. **This project addresses the following factors that are integral to the sustainability of the project's objectives and results with indicated actions to strengthen it:**

(a) **Strengthening Institutional and Regulatory Frameworks:** With BG, the project supports the operationalization of the newly mandated role of PGs to deliver WSS services in rural areas, and in doing so, clarifying the sector's institutional framework within the context of the newly enacted decentralization laws. The project also provides support to strengthen the role of the sector's regulator, AURA, and provides capacity building support to sector institutions.

(b) **Demand for Sanitation Services:** The project supports implementation of sanitation marketing, including BCC to support eradication of open defecation and generate household demand for sustainable sanitation services from private service providers. Inclusion of female household members will be essential in encouraging demand for sanitation services and in increasing willingness to pay for sustainable, reliable, safe, and convenient sanitation facilities.

(c) **PSP:** Using PBCs, local POs will be incentivized to provide services that meet the standards of the SDG6 in providing "safely managed" services. WSS schemes will be clustered into a set number of PBCs with 10-years duration to attract professional operators with capacity to implement at scale. Clustering will also contribute to improve the prospectus of global financial sustainability of services as it enables compensations between more and less profitable systems, and small towns and rural systems and water points. It is expected that the clustering model can continue to be implemented whenever the water agencies have funds available to make concentrated investments in scale. The introduction of the principle of allocating and channeling a defined portion of the revenue to be dedicated for investments to an escrow account, under the PBC arrangement, will create a virtuous cycle that will enable the availability of funds for service extension and improvement

after the end of the project. Nevertheless, the extension of service will occur at a slower pace after the end of the project considering that matching funds for investments under the PBC arrangement will no longer be available. The project will also provide capacity building opportunities to enhance the technical and business skills of local POs, with dedicated training targeting women.

(d) **Empowerment of local government structures and groups:** The project will strengthen the role of local governments and community groups through capacity building program and financial incentives through the BG, aiming to contribute to improve quality and sustainability of WSS services in the rural space. BG will provide financial resources for provincial and district authorities to lead planning and implementation of investment priorities defined in consultation with the local population. For such purpose, MACs attached to grants include the need for district participatory annual plans for WASH to be elaborated with community representatives and at least one-third of female participants.

(e) **Financial Sustainability:** Financial sustainability will be strengthened through volumetric tariffs approved by the sector regulator, AURA, and through the reduction of operating costs by implementing EE and RE options. The regulator counts recently approved mechanisms for annual tariff adjustments for inflation.[80] PBCs will make possible a more balanced risk-sharing between the lessor and the lessee and enable compensations for the operator in the absence of tariff adjustments through a varying lessor fee share of the revenues before taxes, instead of a fixed 12 percent value, or adjustments in the PO investment plan for the system or clusters of systems.

(f) **Operational Sustainability:** Private sector engagement will promote sustainability of WSS operations. Risk mitigation measures include extending the contractual period to 10-year contracts, clustering to benefit from economies of scale, and performance-based incentives. Capacity building support will be provided to the districts to support POs and undertake contract supervision. To provide an extra incentive for districts to secure the sustainability of investment and continuity of services, the BGs were designed with MACs requiring 90 percent of dispersed water points and 95 percent of school sanitation facilities to be operational to renew their eligibility for the grants on an annual basis.

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis

66. **Significant technical capacity exists in both the central- and local-level institutions and service providers.** Under the implementation model used for WSS services, government agencies assign contracts to private entities for design, construction, supervision, goods, and services provision. Government agencies have developed experience in procuring large packages of consulting services and works, as well as capacity in managing the implementation of large contracts. Although the GoM still needs additional technical support to manage these contracts, this arrangement is preferred given the opportunities it generates for economies of scale and for compliance with planned timetables.

67. **Water supply systems** will be built to serve small towns and rural growth centers. The AIAS has intervened in 46 out of 130 small towns assigned to the water supply system, with works varying from rehabilitation and expansion to

[80] Council of Ministers. 2021. *Average Reference Tariffs Indexing and Adjustment Mechanisms for Public Water Supply Services (Decree 41/2021)*.

greenfield construction. Preliminary assessments of investment costs and mapping of interventions for each location were prepared by the AIAS and validated by consultants. Designs are being prepared for the first package of investments covering four small towns with funds from the Dutch Design to Build initiative. The AIAS and DNAAS have also progressed with the draft Terms of Reference for a large consulting package (engineering designs, environmental and social support, and works supervision) for the water supply systems. For rural areas, three different types of facilities will be implemented depending on the degree of development, specifically: (a) 22 solar-powered rural systems for rural growth centers; (b) 100 multiuse solar mini-systems with attached facilities for laundry, cattle drinking, and charging of cellphones; and (c) 400 hand pumps for scattered settlements with up to 300 people. Standard designs are available and used for these three types of interventions which rely on groundwater, reducing the complex needs for surface water treatment. POs will be required to ensure that standpipes are functional and remain connected to provide water to poor segments of the population which cannot afford a private connection.

68. **Sanitation and hygiene promotion:** Project design builds on the experience under the MUSP and strategies to be conceived for on-site sanitation marketing and school sanitation management. Nevertheless, considering its extended intervention in the rural space, the project scoping includes the development of communication and marketing strategies adjusted to this space and to strengthen engagement of local administrative and community leaders to increase and sustain the achieved improvements. Beneficiaries will be targeted through a combination of sanitation marketing and partial support for construction of improved sanitation facilities. Site-specific sanitation technologies will be introduced (for example, flush/pour flush toilets connected to a septic tank or pit latrine mainly in public facilities such as schools and small towns, building a toilet or improved pit latrine with slab) tailored to local conditions and user preferences. All schools mapped for intervention will be equipped with a borehole if not connected to the public network. On-site sanitation intervention for rural areas will follow the consolidated implementation models outlined in the PRONASAR, which relies on the development and use of private sector service providers (local artisans and workshops), sanitation marketing to increase the demand for local sanitation services, and hygiene and sanitation promotion campaigns to increase the number of communities free from open defecation.

69. **Climate-proofing was considered with the integration of both climate change mitigation and adaptation.** On the mitigation side, the project will maximize the use of RE, including solar, for both existing and new water supply systems and dispersed water points. This principle contributes to the reduction of GHG emissions. The adoption of solar energy will not only cut costs with electricity from the grid but will also give the required redundancy in the energy source and enable that in case of extreme weather events such as cyclones that might damage power transmission lines and cause long interruptions in power supply; the system can continue the service with an alternative solar source. On the adaptation side, project interventions design will account for the influence of increased frequency and magnitude of floods and droughts on river flows, ground water levels, and storage in reservoirs. Existing water intake infrastructure will be adjusted in height and wellfields moved or built outside the inundation strips. Climate-resilient sanitation infrastructure will be designed and promoted to reduce their vulnerability and the risk of failure with the occurrence of extreme climate events and hydrological hazards such as extreme precipitation and floods, and strong winds which damage toilet walls and ceiling. The capacity building of POs and sanitation service providers will be extended to increase capacity of infrastructure and services to respond to climate shocks, including the development of resilience plans.

70. **Priority investments:** The COVID-19 situation and the urgent need to support schools with basic WASH conditions as the first line of defense puts the package of sanitation upgrade for 150 schools in rural areas and 22 schools in small towns and 22 districts as priority interventions for the project. Standard design models exist for new construction of toilet facilities for schools prepared by the Ministry of Education and Human Development (MEDH). Potential beneficiary

schools were identified. A second priority group for investments are IDP resettlement areas and hosting communities that exist mainly in Nampula, with Namialo (Meconta district) being one of the project locations with high influx of IDPs.

71. **Sustainability of services:** The project will finance the development of PBCs for clusters of systems and with provisions and incentives to extend the service and its quality to also improve the sustainability of services. To secure the sustainability of rural systems, all rural systems and mini-systems will be designed and built to use solar energy as the primary source, contributing to a reduction in high operational electricity costs. Building on the results of the PIR, the project was designed to include support to the sector regulator to strengthen its action in small towns and extend its role to the rural space which can support the approval of cost-reflected tariffs and development of pro-poor compensation mechanisms. The project will finance the development of the financing strategy for local-level investments to sustain and extend the services, for the development of sanitation services. It will also finance capacity building interventions targeting operators and service providers and district and provincial technicians to strengthen their capacity for planning, implementation, and monitoring of activities and investments.

Economic Rate of Return (ERR): 37 percent
Net Present Value (NPV, 10% discount rate): US$107.5 million

72. **The economic model** uses a cost-benefit analysis methodology and compares the results of the scenarios *with project* and *without project.* The economic feasibility analysis of the project compares estimated economic benefits of the project with its economic costs. As the project costs are given, the primary analytical focus of this analysis is to estimate the expected benefits that are likely to occur as a result of project implementation. In the cost-benefit analysis, benefits were assessed at financial prices due to a lack of data on economic prices. See details of the analysis in Annex 2.

73. For water components, the benefits flow from: (a) the increase in household connection rate to running water; (b) the increase in living standards by at least 5 percent to the currently unserved population of about 387,600 and 341,000 in Zambezia and Nampula, respectively; and (c) the associated increase in the value of beneficiary houses gaining access to household connections. After the installation of the new connections, water consumption will also grow to at least 20 liters per capita a day to support sanitary requirements and a national standard for water supply.[81] Benefits from sanitation investment include reduced coping costs of handling wastewater and increased value of housing with latrines. Open defecation will be eliminated and produce substantial benefits. The project will also increase the value of the housing it will provide with latrines; however, only houses with both water and latrines are included in the analysis to avoid double counting. The cost of emptying new latrine is added as a new cost for households. Both investments in water and sanitation reduced the burden of morbidity from malaria and waterborne diseases and associated costs by at least 15 percent. The economic analysis includes global benefits related to reduced GHG emissions.

74. Separately calculated economic efficiency of both (a) sanitation component for schools and (b) menstrual health benefits will cover improvement in school sanitation and menstrual hygiene for adolescent girls. These actions are expected to generate the same health benefits as above and reduce girls' absenteeism with the drop-out rate reduced by 30 percent, adding about 0.5 percent of gross domestic product (GDP) per capita if girls are maintained through secondary education.[82] Additional benefits are expected from Component 3, bringing transparent procurement,

[81] All citizens should be able to obtain at least 20 liters of safe water per day from water points situated no more than a 30-minute walk away from their homes. The policy target until late 2010 was that each water point should supply 500 users; this was revised down to 300.
[82] A World Bank study in 1999 demonstrates through data simulation for a selection of 100 countries that increasing the secondary

performance assessment, and fact-based investment decision process in the Mozambique water sector that will reduce the risk of mishandling the scarce financial resources and technical expertise (not accounted).

75. Global benefits are expected from the reduction of GHG emissions with the reduction in use of charcoal due to water quality improvement, proper sanitation, septage treatment, as well as reduction of the five-day biological oxygen demand (BOD_5) into the marine environment. Also, additional benefits are expected from substituting the existing or proposed diesel-powered pumps with solar-powered small rural water pumps. (Details in Annex 3). A summary of these benefits is provided below in Table 1.

Table 1. Reduction of the GHG emissions resulting from project interventions

	GHG reduction due to reduction in use of charcoal, tCO_2e	GHG reduction due to sanitation improvement, tCO_2e	GHG reduction due to improvement of schools' sanitation, tCO2e	GHG reduction due to solar substitution of diesel, tCO_2e	Total, tCO_2e
Zambezia	870,482	(166,224)	76,222	44,062	824,542
Nampula	899,347	(257,964)	76,222	28,341	745,946
Total	**1,769,828**	**(424,189)**	**152,445**	**72,403**	**1,570,487**

76. If GHG benefits are accounted at the Shadow Price of Carbon (SPC) at upper-level corridor of the SPC suggested by the World Bank Climate Change Corporate Commitments team[83], the project NPV increases from to 37 percent, to US$107.5 million. Its internal rate of return (IRR) increases to 37 percent from 24 percent and climate co-benefits add 68 percent to the project NPV. Table 2 summarizes the economic analysis of the project with and without GHG benefits accounted. The project remains sustainable according to both scenarios.

Table 2. Summary of project economic assessment and benefits

With CC co-benefits	Zambezia, water and sanitation	Nampula, water and sanitation	School Sanitation	Menstrual Hygiene	Solar Pumping	Total
ERR	48%	43%	10%	10%	15%	37%
NPV, 10%	US$40,385,585	US$66,328,712	US$137,406	US$18,241	US$614,002	US$107,483,944

Local benefits only	Zambezia, water and sanitation	Nampula, water and sanitation	School Sanitation	Menstrual Hygiene	Solar Pumping	Total
ERR	25%	30%	10%	10%	1%	24%
NPV, 10%	US$18,483,935	US$46,376,969	(US$66,890)	US$18,241	(US$916,822)	US$63,895,434

77. The financial impact on households of the proposed investments will be positive as it will reduce coping costs from untreated water at household level by directly supplying treated potable water at standard regulated tariff, reduce costs

education of girls by 1 percent results in annual income increase of 0.3 percent per capita. Source: Dollar D., and R. Gatti. "Gender Inequality, Income, and Growth: Are Good Times Good for Women?" *World Bank Policy Research Report on Gender and Development, Working Paper Series 1*. Washington, DC: World Bank.

[83] WBG (World Bank Group). 2021. Climate Change – Shadow Price of Carbon. link: *https://worldbankgroup.sharepoint.com/sites/Climate/Pages/Shadow-Price-of-Carbon.aspx*

of purchasing water from vendors, reduce pollution of water table and surface water by source protection. It will also reduce coping cost of maintaining poorly constructed latrines. The associated costs to get connected and pay for piped water supply and improved sanitation services at households may prevent the population currently collecting water from unprotected sources and practicing open defecation to migrate to safe services. To limit this potential affordability problem, costs with improved water supply and sanitation services will be kept below the 2 percent benchmark of the per capita gross national income (GNI). In addition, the financial costs to household switching from unprotected sources and open defecations is outweighed by the household costs of having to treat water and loss work days due to disability adjusted life years. See details in Annex 2.

B. Fiduciary

(i) Financial Management

78. **The overall virtual FM Assessment assessed the FM arrangements of all the project implementation agencies as adequate, with substantial residual risk subject to the implementation of the FM action plan.** The virtual FM Assessment was conducted to evaluate whether the project meets the World Bank's minimum FM requirements in Directives and Policy for Investment Project Financing (IPF). The assessment was conducted at the DNAAS, AIAS, and DPOP in Nampula and Zambezia, the implementing agencies that shall be responsible for FM arrangements. The assessment complied with the World Bank Guidance on FM in WB IPF Operations issued on February 28, 2017. The assessment revealed that there are acceptable FM arrangements at the DNAAS and the AIAS established over time as the two agencies have been implementing other World Bank-financed operations. At provincial level, the departments of administration and finance of the DPOP in Zambezia and Nampula have FM capacity (that includes budgeting, accounting, internal control, financial reporting, funds flow, and auditing) to handle the project funds to be channeled to them to finance small and less complex investment and operating costs. The DPOP will report through the DNAAS and the DNAAS will provide appropriate training and support throughout the project implementation period.

79. The following FM actions should be implemented to ensure existence of adequate FM arrangements throughout project implementation: (a) develop and adopt the PIM, including a section on the FM procedures, no later than 30 days after effectiveness—the PIM will be based on the PIM of the ongoing project and the Financial Administration Manual (*Manual de Administração Financeira* MAF); (b) the DNAAS should customize the existing accounting package by creating codes to record and report financial transactions of the project separately; (c) develop and adopt simplified FM guidelines for the two participating provinces; and (d) train the finance staff at the DPOP in Zambezia and Nampula in the use of the project funds. A recent review of the FM arrangements of the ongoing projects[84] implemented by the two agencies concluded that they continue to have acceptable FM arrangements.

80. **The following project FM arrangements have been agreed upon.** The project funds, expenditures, and resources will be accounted for using the existing automated accounting packages, and basis of accounting will be Financial Reporting under Cash Basis. The DPOP in Nampula and Zambezia will make use of excel worksheets to record project transactions and will report through the DNAAS and their reports will form a part of the DNAAS, including the audit report. Internal controls system and procedures of the project will be based on national procedures, defined in the MAF and the PIM. The IDA funds will be disbursed on transaction basis (statements of expenditures [SOEs]) using the following

[84] The DNAAS is implementing the Urban and Sanitation Project (P161717). The AIAS is implementing the Urban and Sanitation Project (P161717) and Cyclone Idai and Kenneth Emergency Recovery and Resilience Project (P171040) and the AURA is implementing the Water Services and Institutional Support II (P149377) and Greater Maputo Water Supply Expansion Project (P125120).

methods: (a) reimbursement, (b) advances, (c) direct payments, and (d) special commitments. The two implementing entities will prepare quarterly unaudited interim financial reports (IFRs) and provide such reports to the WB within 45 days of the end of each quarter. The DPOP will open separate bank accounts at the Central Bank to receive funds from the DA to be managed by the DNAAS to finance project activities at provincial level. Funds from these separate accounts will finance project activities to be implemented at provincial level. The project financial statements (PFSs) of the components to be implemented by the DNAAS and AIAS will be audited annually by the Administrative Tribunal. The separate audit reports together with separate Management Letters for each implementing entity will be submitted to the WB no later than six months after the end of each fiscal year.

(ii) Procurement

81. **Procurement arrangements and capacity.** Implementation of the project will be managed by the DNAAS and AIAS at the central level and by the DPOP of Zambezia and Nampula at the decentralized level. The agencies at the central level have considerable exposure and experience in the implementation of WB-financed operations, including the ongoing MUSP (P161777), for the case of the DNAAS and AIAS. The decentralized level does not possess experience with WB-financed projects but has extensive experience with other financiers such as the United Kingdom FCDO (former United Kingdom Department for International Development) and UNICEF. The arrangements for the implementation of the proposed project, at the central level, will build on the available arrangements for the MUSP that are adequate in a manner satisfactory to the WB. Nevertheless, capacity enhancement in procurement processing may be made as they become necessary. The existing implementation structure will allow the DNAAS and AIAS to advance procurement implementation. The WB will carefully monitor the procurement processing and provide support and guidance as required.

82. **Procedures.** Procurement for the proposed operation will be carried out in accordance with the WB Procurement Regulations for IPF Borrowers (dated November 2020) and the provisions of the Financing Agreement. Furthermore, the Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants (dated October 15, 2006 and revised in January 2011 and July 2016) will apply. In view of the emergency nature of the project, the procurement section of the PIM will provide for streamlined procedures for the procurement of goods, works, and services, including consultants' services.

83. **Country practices.** Payments to foreign providers may cause delays in the implementation of contracts, as has occurred during other projects, including the ongoing projects. Furthermore, the implementing agencies shall be proactive in ensuring that work permits for foreign consultants and contractors are issued expeditiously. In addition, the requirements of the Attorney General's Office and the Administrative Tribunal for the legal vetting of contracts may lead to delays in contract signing, after the contracts are awarded. It is imperative that these delays are considered in planning for the activities. For contracts with a foreign supplier/consultant/contractor, clearance is needed from the Ministry of Economy and Finance (*Repartição de Assuntos Júridicos e Contratos*) and the Central Bank (*Banco de Moçambique*), before payments abroad can be authorized.

84. **Project Procurement Strategy for Development (PPSD).** A PPSD has been prepared jointly by the proposed implementing agencies and approved by the WB as well as the Procurement Plan for the initial 18 months. The PPSD captured the key contracts to be financed by the project for the initial 18 months and recommended the most suited approaches for the implementing agencies to implement a fit-for-purpose procurement, achieving value for money with efficiency. Recommendations of the PPSD will be incorporated in the Procurement section of the PIM. These will guide the implementing agencies in carrying out procurement in accordance with WB Procurement Regulations.

85. **Procurement risk is considered High.** While the implementing agencies at the central level have relevant experience with World Bank fiduciary requirements and are implementing in parallel other World Bank-funded operations with largely comparable activities, the decentralized risk requires an additional oversight from the DNAAS and AIAS as there is no experience with World Bank financing and there is limited capacity at that level, hence the overall risk for implementation being rated as High. This risk rating may be revised throughout implementation, as deemed appropriate.

(iii) Readiness

86. **The project will mainly rely on the DNAAS and AIAS as implementing agencies.** These two agencies already recruited a water and sanitation specialist (funded by the MUSP) to provide support for project preparation. Scope of their activities includes (a) the elaboration of the PPSD and PIM and (b) the writing of ToRs for the different consulting activities already identified to better define the works activities. A Procurement Plan for activities to be conducted during the first 18 months of project implementation has been finalized and approved as part of the PPSD, and the DNAAS and AIAS will update this Procurement Plan in Systematic Tracking of Exchanges in Procurement (STEP) while profiles to use STEP for the DPOP will be created and a training will be provided by the WB procurement team. A programmatic project preparation advance (PPA) of a total amount of US$6 million for the benefit of the MOPHRH is under approval; the project will benefit US$1 million from this amount as project preparation funds. For investments in small town systems, the project will inherit four designs under preparation (financed by the Netherland Cooperation). Under the PPA the remaining 13 locations will have designs ready for implementation. All designs should be ready for implementation when the project is active. For the rural systems, the PPA will equally finance the design of the 22 systems that should be ready for implementation.

C. Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	Yes
Projects in Disputed Areas OP 7.60	No

D. Environmental and Social (including safeguards)

87. The project Environmental and Social risk ratings are Substantial at this stage, based on the project's anticipated environmental and social risks and impacts, after considering the expected land acquisition under Component 2 that may cause physical and economic displacement of PAPs, disturbance to community health and safety and labor influx, pressure on natural resources, community health system, sources of water and natural resources, elite capture of project benefits, and GBV/sexual exploitation and abuse (SEA)/sexual harassment (SH) risks. The risk related to the Borrower's capacity is also considered challenging due to the project currently being geographically fragmented and with limited resources overseeing various existing projects, the project's previous performance under the World Bank Safeguards Guidelines, and the PIU not having experience with implementing projects under the new Environmental and Social Framework (ESF).

88. Anticipated environmental impacts and risks typically associated with small- to medium-scale civil works (Components 1 and 2) are expected to occur mainly during the construction phase and may lead to loss of vegetation or

sensitive habitats, soil erosion and degradation, soil and surface water pollution, dust and noise emissions, impact on water usage, generation and disposal of construction waste, occupational health and safety concerns to contracted workers, as well as community health and safety risks caused by public nuisance and increased road traffic. Anticipated risks and impacts related to location, construction, and operation of fecal sludge treatment facilities (Component 1) are expected and may lead to (a) deterioration of sensitive habitats and community health, and safety risks as a result of disposal and management of sludge during operations; (b) management of waste during the construction phase; (c) occupational health and safety issues to contracted workers; and (d) nuisance related to air and noise and odor emissions.

89. Results from the Climate and Disaster Risk Screening indicated current and future moderate exposure to extreme precipitation and flooding and to strong winds. Current and future potential impacts on water supply infrastructure were assessed as moderate while for sanitation and water storage infrastructure as low. Risk to the outcome and service delivery of the project was also assessed as low.

90. Lack of proper operations and maintenance of the fecal treatment facilities and transfer stations could lead to contamination of surface water resources and land due to accidental release of fecal sludge or spills. This in turn may lead to public health issues and nuisances due to odor emissions. Furthermore, common risks across all project components include health risks due to COVID-19 pandemic that are expected in crowded situations during civil works. Proposed policy and regulatory reforms under the TA activities and support for the development of the sector (Component 3) may lead to downstream environmental risks when implemented through future investments that will require adequate assessment of environmental implications once detailed scope of such reforms is known. Similarly, activities to address emergency response (Component 4) due to natural disaster events may have a moderate to substantial risk, depending on the type and extent of the natural disaster event.

91. The social risk rating is Substantial, and it takes into account the capacity of the sectoral implementing agencies to manage social, GBV/SEA/SH, and Violence Against Children (VAC) risks. The MOPHRH (PIUs) has limited experience in implementing ESF projects and has very limited capacity and experience to monitor GBV/SEA/SH/VAC risks and impacts. Other risk is related to selection criteria of project areas and beneficiaries, considering the socio-cultural norms in different regions of the country (that is, “matrilinear communities” in the northern part of the country). The implementation of specific activities such as promoting access to improved sanitation facilities for households (under Component 2) should consider systemic, knowledge, and sociological risks. Systemic risks relate to the water and sanitation services’ ability to regularly provide safe water at affordable prices for the vulnerable households. Since the project will specifically focus on supporting access to services (demand), the risk is in the ability of the service to address the demand. The knowledge risk is linked to persisting low demand for improved sanitation services in project targeted provinces, especially in small towns and rural areas. The sociological risks are associated with cultural and social practices that ultimately do not encourage safe sanitation and adherence to water and sanitation services. While major mitigation measures are clearly identified, a more systematic approach to community mobilization and participation is paramount to address risks of service adherence and knowledge.

92. The project will consider the potential adverse social impacts of the project in small towns and rural areas, which could result from imbalanced power dynamics between service providers and project beneficiaries’ vulnerable households, elders, and child-headed households. The proposed project activities will require substantial efforts to ensure stakeholder engagement and regular community awareness interventions supported by adequate mitigation measures to address several factors outside the control of the project, with potential significant adverse impacts on the social performance and outcomes of the project. The security risk is a pre-existing condition due to the insurgency in Cabo Delgado province, with consequently a large number of IDP settling in project proposed areas, particularly in

Nampula province. However, the risk of conflict can be increased by the project unless potential beneficiaries are identified in a transparent manner based on an assessment of marginalization and exclusion that could sideline potential beneficiaries.

93. The project will also face social (and environmental) risks related to transmission of communicable diseases; for example, COVID-19 that could arise from people gathering for capacity building workshops and trainings, as well as implementation of works financed under the project. The conflict-affected region of Cabo Delgado is not included under the project, and implementing entities confirmed that there will be no use of security personnel as defined under Environmental and Social Standard 4 (ESS4). Nonetheless, the Environmental and Social Management Framework (ESMF) contains information on security risks, potential measures if the security situation changes, as well as conflict analysis. Should retaining of security personnel become necessary during implementation, the implementing entities will prepare necessary mitigation measures as per ESS1 and ESS4, as well as in line with the WB's advice provided on the basis of Good Practice Note on Assessing and Managing the Risks and Impacts of the Use of Security Personnel. The risk of GBV and SEA/SH during construction and rehabilitation of infrastructure in rural areas is an issue, especially for activities taking place in rural areas where supervision might be a challenge. Relatively limited experience of implementing entities in handling sensitivities around GBV and SEA/SH complaints may contribute to social risks.

94. There are allegations of forced labor risks associated with the polysilicon suppliers. The Borrower will require bidders to provide two declarations: a Forced Labor Performance Declaration (which covers past performance), and a Forced Labor Declaration (which covers future commitments to prevent, monitor and report on any forced labor, cascading the requirements to their own sub-contractors and suppliers). In addition, the Borrower will include enhanced language on forced labor in the procurement contracts.

95. The implementing agencies confirmed that the project will not take place in designated protected areas, national reserves, or parks; therefore, the Process Framework (PF) was not prepared as part of the Resettlement Policy Framework (RPF). However, if there is a need for water and sanitation services in designated conservation areas, the implementation agency will develop a PF, submit it for the WB's review and clearance, and consult and disclose it before any project activity takes place in such areas.

96. To address the impacts identified above, the project will be implemented in accordance with requirements of the ESF ESSs and in accordance with applicable national- and state-level regulatory and legal requirements. ESSs that apply to the activities being considered are the following:

(a) ESS1 Assessment and Management of Environmental and Social Risks and Impacts
(b) ESS2 Labor and Working Conditions
(c) ESS3 Resource Efficiency and Pollution Prevention and Management
(d) ESS4 Community Health and Safety
(e) ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
(f) ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources
(g) ESS8 Cultural Heritage
(h) ESS10 Stakeholder Engagement and Information Disclosure

97. To comply with ESF requirements and to enhance the environmental and social outcomes of the project, the Borrower has prepared the following four relevant environmental and social instruments that were all disclosed by the

client (published at AIAS on August 25, 2021), and by the World Bank before project appraisal (published at WB website on August 25 and October 6, 2021):

(a) ESMF, including Labor Management Procedure (LMP), Pest Management Plan (PMP) and GBV/SEA/SH Action Plan based on a SEA/SH risk screening,
(b) Resettlement Policy Framework (RPF),
(c) Stakeholder Engagement Plan (SEP), and
(d) Environmental and Social Commitment Plan (ESCP).

98. A grievance mechanism for workers is embedded in the LMP and a grievance mechanism for other affected parties in the SEP. The ESCP and SEP were consulted[85] and disclosed before appraisal both in country and on the website of the WB. Small- or medium-scale resettlement is expected, with respect to infrastructure rehabilitation or construction. Since the location of the infrastructures has not yet been identified, an RPF is being prepared to provide clear guidance on minimizing land acquisition and related physical or economic displacement; compensating PAPs; rehabilitating livelihoods; addressing grievances; and implementing the RPF through site-specific Resettlement Action Plans (RAPs) following the guidelines set out in the RPF. The RPF will ensure the resettlement process is inclusive, encompass vulnerable social groups, and guarantee that they receive equitable treatment.

99. **Gender.** Women are particularly affected by lack of access to basic services and are typically most impacted by poor public service provisions, such as lack of household water. Improving access to basic services such as water supply will benefit women by enhancing sanitary conditions and improving productivity, with benefits stemming from reduced time to collect water. Women may also be more exposed to violence at water collection points and during the planning and development of project financed infrastructure. To mitigate risk of GBV/SEA/SH the ESMF conducted a detailed risk assessment complemented by a proposal of mitigation actions. The list of key mitigation actions includes the recruitment of a GBV specialist to be based in the project implementation provinces; the development and dissemination of GBV code of conducts to be signed by all implementing agents and service providers; and the introduction of a GRM sensitive to GBV/SEA/SH. The GBV specialist will be assigned with the responsibility of monitoring the adoption and compliance with the GBV code of conduct, and follow-up up all reported or identified cases of GBV/SEA/SH up to their satisfactory closure. Additional gender-sensitive actions to be taken under the project include (a) ensuring women's participation in all aspects of the project, (b) use of gender-sensitive approaches and methods including public information events targeted at women, (c) collection and monitoring of gender-disaggregated data on project beneficiaries, (d) assessing the scale of women and female-headed households beneficiaries from project interventions, and (e) measuring the impact on time saved for women who receive water and sanitation services.

100. **The project aims to address certain gender and social inclusion gaps.** Based on the findings of the sector gender and social inclusion strategy, women and girls disproportionally lack access to sanitation services, and this is critical for young girls who do not have access to adequate MHM facilities at home or school. Women in Mozambique complete, on average, 1.4 years of schooling—two years less than men who go to school for an average of 3.4 years. There is also a gender gap in the higher education system, with less than 40 percent of women among the population with a higher education degree. Lower education among women translates into more precarious jobs and a higher vulnerability to

[85] For the ESCP and SEP, a virtual public consultation took place on April 11, 2021; This was followed by two additional public consultations in Rapale (Nampula) on May 26, 2021 and Gile (Zambezia) on May 27, 2021. For the RPF and ESM, three public consultation events were organized in Zambezia province: Lugela and Mocuba on June 30, 2021 and Nicoadala on July 1, 2021. Four public consultation events took place in Nampula province: Mozambique Island and Mossuril on June 30, 2021 and Monapo and Meconta on June 29, 2021.

disruptions to economic activities in the context of COVID-19. Data collected by the Ministry of Education and Human Development (*Ministério da Educação e Desenvolvimento Humano* MINEDH) show that of the 14,970 schools, close to 90 percent do not have adequate sanitation facilities; most of the toilet facilities lack proper maintenance and are not conducive to improved MHM. The project will address some of these gender gaps through the provision of MHM services and enhanced school WASH for teenage girls. The toilet upgrades incorporate changes required to meet basic MHM requirements, including separate and clean male and female toilets, doors and interior locks, lighting in toilet cubicles, bins to dispose of used menstrual materials, and clean water and soap for washing hands and body after changing sanitary pad. Training will be delivered to both teachers and teenage pupils on hygienic use and disposal of sanitary pads and health-related aspects to enhance MHM for girls. These interventions are expected to enhance girls' access to MHM services and reduce their absenteeism.

101. The project also aims to address the gender gap in employment and entrepreneurship in the WASH sector; assessments show that women are under-represented in water utilities, particularly in decision-making roles, and they comprise only 14 percent of private operator employees and 15 percent of private operators. Factors that drive this gender gap in employment and entrepreneurship include, among others, women's lower enrollment in STEM fields and their lower access to finance and business skills and training.[86] The project aims to address these gender gaps through a number of actions including incentivizing private operators to hire more women;[87] employment packages for technical/managerial roles in key sector agencies and service providers; internship programs for females to facilitate recruitment; capacity-building and targeted recruitment of female technicians to work in the O&M of small town schemes; provision of business development grants and training to existing and prospective women entrepreneurs; and capacity-building to enhance the technical and business skills of local private operators, with dedicated training targeting women.

102. To monitor the implementation of project activities on gender, the following indicators were adopted: (a) Girls provided with access to improved school sanitation facilities and MHM education programs supported by the project in small towns and in rural areas; (b) Percentage of female staff employed in water supply schemes benefiting from project interventions. (Percentage); and (c) Women WASH entrepreneurs provided with business development grants and training under the Project.

103. **Citizen engagement.** The project has been designed to address citizen engagement, enable stakeholder's coordination, and build consultative platforms for the community to stay updated during all stages of the project cycle. To strengthen citizen engagement on the planning of WSS investments and monitoring of the quality of services, Component 2 was designed with a MAC for districts to keep their eligibility to BG that requires that district annual plans for WASH are prepared in a participatory manner with community representatives and at least one-third of female participants. In addition, the results frameworks include the following two indicators to measure citizen engagement: (a) Number of participatory District WASH annual plans that reflect contributions/views of community representatives with at least one-third of female participants; and (b) Number of districts with local units for monitoring and supervision of water supply and sanitation services established, trained and reporting with at least one-third of female members.

Grievance Redress Mechanism

[86] We-Fi (Women Entrepreneurs Finance Initiative We-Fi) 2021. "Increasing WSMEs access to markets and finance in Mozambique."

[87] For example, through specific obligations under the contract such as having a minimum share of women employees

104. The project will establish a Grievance Redress Mechanism (GRM) to allow PAP and other stakeholders to seek satisfactory resolution to grievances they may have in relation to the project. The GRM will help ensure that rights and interests of affected people/beneficiaries are protected, and concerns are adequately addressed. The grievance process is based upon the premise that it imposes no cost to those raising the grievances (that is, complainants), that concerns arising from project implementation are adequately addressed on time, and that participation in the grievance process does not preclude pursuit of legal remedies under national law. The GRM will allow the potential affected people to use different channels to report their grievance.

V. GRIEVANCE REDRESS SERVICES

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

VI. KEY RISKS

106. Following corporate guidelines, the SORT ratings are now based on residual risks to the project. All risks, except two - fiduciary and environmental and social, rated substantial - are moderate, resulting in a Moderate Overall Risk rating for the project; descriptions below are provided only for substantial risk categories

107. **Fiduciary risk (Substantial).** While the implementing agencies at the national level have relevant experience with World Bank fiduciary requirements and are currently implementing other World Bank-funded operations with largely comparable activities, the risks from decentralized implementation (where capacity and experience are limited) require additional oversight from the DNAAS and AIAS. Fiduciary risk is rated Substantial, with FM rated Substantial and procurement rated High. To mitigate these risks, the following measures will be implemented: (a) include FM and procurement procedures acceptable to the World Bank in the PIM, to be prepared and cleared no later than 30 days after effectiveness; (b) strengthen capacity of the Financial Management System (FMS) and Procurement System (PS), including hands-on training of fiduciary staff at both the national and local levels; and (c) complete the implementation of a fully operational accounting software package. Despite these measures, residual fiduciary risks are currently considered substantial and will continue to be assessed during project implementation.

108. **Environment and social (Substantial).** There is a substantial likelihood that environmental and social risks could adversely affect the achievement of project objectives or the sustainability of results. Key environmental risks are typically associated with small- to medium-scale civil works that will occur mainly during the construction phase and may lead to: (a) loss of vegetation or sensitive habitats, (b) soil erosion and degradation, (c) soil and surface water pollution, (d) dust and noise emissions, (e) impact on water usage, (f) generation and disposal of construction waste, and (g) safety

concerns to contracted workers as well as community health and safety risks caused by public nuisance and increased road traffic. Key social risks include: (a) physical and economic displacement of PAP; (b) disturbance of community health and safety with labor influx; (c) elite capture of project benefits; and (d) SH, GBV/SEA, and VAC risks. The AIAS and DNAAS now have experience in implementing ESF projects, but still limited capacity and experience in monitoring GBV/SEA/SH/VAC risks and impacts. To mitigate these risks, all social and environmental risk mitigation measures will be detailed in the appropriate ESF instruments. Strong coordination mechanisms, consultations, and participatory approaches will also contribute to mitigating these risks. Residual risks will be managed through proactive and continuous supervision and close dialogue with the central and PGs. Overall, environmental and social capacity of the Borrower needs to be consolidated and strengthened, environmental and social experts will be deployed at provincial level, and a long-term capacity building program aimed and creating and establishing an integrated Environmental and Social Management System (ESMS) for water sector agencies will be supported under this project. Regarding the risk of forced labor, under Environmental and Social Standard 2 (ESS2), where there is a significant risk of forced labor related to primary supply workers, the Borrower requires the primary supplier to identify those risks and if forced labor cases are identified, the Borrower will require the primary supplier to take appropriate steps to remedy them. Ultimately, where remedy is not possible, the Borrower will, within a reasonable period, shift the project's primary suppliers to suppliers that can demonstrate that they are meeting the relevant requirements of ESS2; other mitigation measures on procurement are detailed in annex 1, paragraphs 23 and 24.

VII. RESULTS FRAMEWORK AND MONITORING

Results Framework
COUNTRY: Mozambique
Rural and Small Towns Water Security Project

Project Development Objectives(s)

The objective of the project is to increase access to improved water supply and sanitation services in selected small towns and rural areas of Mozambique.

Project Development Objective Indicators

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Number of people provided with improved access to water supply services							
1- Number of people provided with improved access to water supply services (Number)		0.00	0.00	119,450.00	300,500.00	491,450.00	487,000.00
1a. Of which 50% are women (Number)		0.00	0.00	59,275.00	150,250.00	245,725.00	243,500.00
Number of people provided with access to safely managed sanitation services							
2- Number of people provided with access to improved sanitation services (Number)		0.00	0.00	80,000.00	169,700.00	282,000.00	282,000.00
2a. Of which 50% are women (Number)		0.00	0.00	40,000.00	84,850.00	141,000.00	141,000.00

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Comp 1 - Enhancement of Water Supply and Sanitation Services in Small Towns							
3- Number of small towns and rural growth centers water supply systems with new systems, rehabilitated or expanded under the project (Number)		0.00	0.00	12.00	28.00	39.00	39.00
4- Piped household water connections that are resulting from the project intervention (newly constructed or rehabilitated) in small towns and rural growth centers. (Number)		0.00	0.00	11,500.00	28,000.00	36,500.00	36,500.00
5- Number of delegated small-towns water supply schemes fully covering operational costs. (Number)		3.00	3.00	8.00	14.00	17.00	17.00
6- Household receiving safely managed sanitation services under the project in small towns (Number)		0.00	0.00	3,500.00	9,000.00	13,600.00	13,600.00
7- Girls provided with access to improved school sanitation facilities and MHM education programs supported by the project in small towns (Number)		0.00	0.00	10,000.00	14,500.00	14,500.00	14,500.00
8- Percentage of female staff employed in water supply schemes benefiting from		14.00	17.00	17.00	20.00	25.00	33.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
project interventions. (Percentage)							
9- Water supply systems achieving at least 10 percent average reduction in water loss / increase in energy efficiency (Number)		0.00	0.00	0.00	2.00	4.00	6.00
Comp 2 - Enhancement of Water Supply and Sanitation Services in Rural Areas							
10- Functioning multiuse solar water points & mini-systems built under the project . (Number)		0.00	0.00	10.00	50.00	100.00	100.00
11- Functioning dispersed water points with hand pumps built by the project. (Number)		0.00	0.00	50.00	200.00	400.00	400.00
12- Household receiving safely managed sanitation services under the project in rural areas (Number)		0.00	0.00	5,000.00	10,000.00	20,000.00	20,000.00
13- Girls provided with access to improved school sanitation facilities and MHM education programs supported by the project in rural areas (Number)		0.00	0.00	7,500.00	20,000.00	37,500.00	37,500.00
14 – Number of participatory District WASH annual plans that reflect contributions/views of community representatives with at least one-third of female participants (Number)		0.00	0.00	22.00	44.00	66.00	88.00
15- Number of districts with		0.00	0.00	10.00	16.00	22.00	22.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
local units for monitoring and supervision of water supply and sanitation services established, trained and reporting with at least one-third of female members (Number)							
Comp 3 - Institutional and Project Management Support							
16- Women WASH entrepreneurs provided with business development grants and training under the Project (Number)		0.00	10.00	25.00	35.00	40.00	50.00
17- Developed and implemented instruments to improve inclusive, participatory, decentralized planning, implementation and monitoring of WASH investments and services (Number)		0.00	0.00	1.00	2.00	3.00	3.00

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
1- Number of people provided with improved access to water supply services	This indicator reflects number of people getting	Semi-annually	SINAS & Project	Information received from supervising	AIAS, DNAAS & DPOPs

	water from both safely managed water connections (i.e. piped connections) and basic eater supply services (through standposts). Improved sources include piped household connections, public taps or standpipes, boreholes, or tube wells, protected dug wells, protected springs, rainwater, tanker trucks and bottled water.		reports	consulting firms about number piped household connections, and public standpipes constructed.	
1a. Of which 50% are women					
2- Number of people provided with access to improved sanitation services	Safely managed sanitation is defined by the World Health Organization (WHO) as the use of an improved sanitation facility which is not shared with other households, and where excreta is safely disposed in situ and/or transported and treated off-site. Improved sanitation facilities include flush/pour flush toilets to piped sewer, septic tank or pit latrine; and composting toilet or pit latrine with slab.	Semi-annually	SINAS & Project reports		AIAS, DNAAS & DPOPs
2a. Of which 50% are women					

Monitoring & Evaluation Plan: Intermediate Results Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
3- Number of small towns and rural growth centers water supply systems with new systems, rehabilitated or expanded under the project	Number of small towns and rural growth centers where the Project will finance the construction / rehabilitation of water supply systems (new, rehabilitated or expanded)	Semi-annually	SINAS & Project reports	Semi-annual reports provided by AIAS, DNAAS & DPOPs	AIAS, DNAAS & DPOPs
4- Piped household water connections that are resulting from the project intervention (newly constructed or rehabilitated) in small towns and rural growth centers.	This will account households that at present are not connected but be connected as a result of new systems and the expansion of services in existing systems.	Semi-annually	Project reports	Monthly reports from supervising consultants.	AIAS
5- Number of delegated small-towns water supply schemes fully covering operational costs.	Number of delegated small-towns water supply schemes whose operational costs are 100% covered by water sell.	Annually	Municipal providers	Annual reports	AIAS and AURA
6- Household receiving safely managed sanitation services under the project in small towns	Number of households in small towns where the Project provides sanitation services.	Semi-annual.	Reports from AIAS and Districts.	Reports.	AIAS and Districts.
7- Girls provided with access to improved school sanitation facilities and MHM education programs supported by the project in small towns	Number of girls having access to improved school sanitation facilities and MHM education programs	Semi-annually	Project reports	Supervising consultant of works for sanitation facilities and number of students provided by	AIAS

	supported by the project in small towns.			schools administrations.	
8- Percentage of female staff employed in water supply schemes benefiting from project interventions.	Percentage of female staff employed in companies operating water supply schemes built / rehabilitated under project interventions.	Semi-annually	Project reports	Monthly activity reports provided by private operators.	AIAS
9- Water supply systems achieving at least 10 percent average reduction in water loss / increase in energy efficiency	Number of water supply systems reducing at least 10 percent average in water loss / increase in energy efficiency.	Semi-annual.	Activity reports provided by private operators.	Reports.	AIAS and AURA.
10- Functioning multiuse solar water points & mini-systems built under the project .	This will account the Rural Water Systems supported by the Project and by the Revolving Funds.	Semi-annually	Project reports	Activity reports of operators.	DNAAS & DPOPs
11- Functioning dispersed water points with hand pumps built by the project.	Number of functioning dispersed water points with hand pumps built by the project.	Semi-annually	Project reports & SINAS	Activity reports.	DNAAS & DPOPs
12- Household receiving safely managed sanitation services under the project in rural areas	This will account the households with an improved sanitation facility which is not shared with other households, and where excreta is safely disposed in situ. For rural areas improved sanitation facilities include septic tank or pit latrine; and	Semi-annually	Project reports & SINAS	Activity reports.	DNAAS & DPOPs

	composting toilet or pit latrine with slab.				
13- Girls provided with access to improved school sanitation facilities and MHM education programs supported by the project in rural areas	Number of girls provided with access to improved school sanitation facilities and MHM education programs supported by the project in rural areas.	Semi-annually	Project reports from supervising engineer and number of students registered at school provided by the school administration.	Reports.	DNAAS & DPOPs
14 – Number of participatory District WASH annual plans that reflect contributions/views of community representatives with at least one-third of female participants	Number of participatory District WASH annual plans that reflect contributions/views of community representatives with at least one-third of female participants.	Annual.	Annual reports from Districts.	List of participants, disaggregated male and female.	Districts.
15- Number of districts with local units for monitoring and supervision of water supply and sanitation services established, trained and reporting with at least one-third of female members	Number of districts with local units for monitoring and supervision of water supply and sanitation services established, trained and reporting with at least one-third of female members; the inclusion dimension means that both local government and	Annually	Regulator reports	Reports.	AURA and Districts

	communities' groups must be integrated in the units.				
16- Women WASH entrepreneurs provided with business development grants and training under the Project	Number of women WASH entrepreneurs who benefited from business development grants and training under the Project.	Annual.	Report.	Activity report provided by operators of water or sanitation facilities.	AIAS and AURA.
17- Developed and implemented instruments to improve inclusive, participatory, decentralized planning, implementation and monitoring of WASH investments and services	The following instruments will be developed: (i) district planning framework, (ii) local monitoring groups framework to assess sector performance (review of ALRs and CORAL) and (iii) platform for participatory monitoring of water supply and sanitation services quality.	Annual.	Activity reports from Districts and DPOPs.	Activity reports.	Districts and DPOPs.

ANNEX 1: Implementation Arrangements and Support Plan

COUNTRY: Mozambique
Rural and Small Towns Water Security Project

A. Implementation Arrangements

1. **Overall responsibility for project implementation is held by the MOPHRH through the DNAAS and AIAS.** The DNAAS will be the leading agency in overall project coordination, planning, and monitoring. Specifically, the DNAAS will also lead the implementation of expanding access to WSS in rural areas and institutional and project management support, including capacity building activities for the provincial government and district departments (Component 2 and Subcomponents 3.1 and 3.2). The AIAS will hold overall responsibility for expanding access to WSS in small towns (Component 1 and Subcomponent 3.3), including all associated procurement, safeguards, and FM responsibilities. Fully staffed and autonomous PIUs will be established within each central-government-level agency (DNAAS and AIAS).

2. The proposed project implementation arrangements, summarized in Figure A1.1 below, result from extensive consultation with the sector agencies, institutional assessments, and analytical work to define the most efficient project delivery framework. Further legal and institutional assessments will be carried out under the project to assist in defining the most adequate institutional framework for sustaining WSS investments in the rural communities and small towns served under this project.

Project Implementation Responsibilities of Central Government Agencies

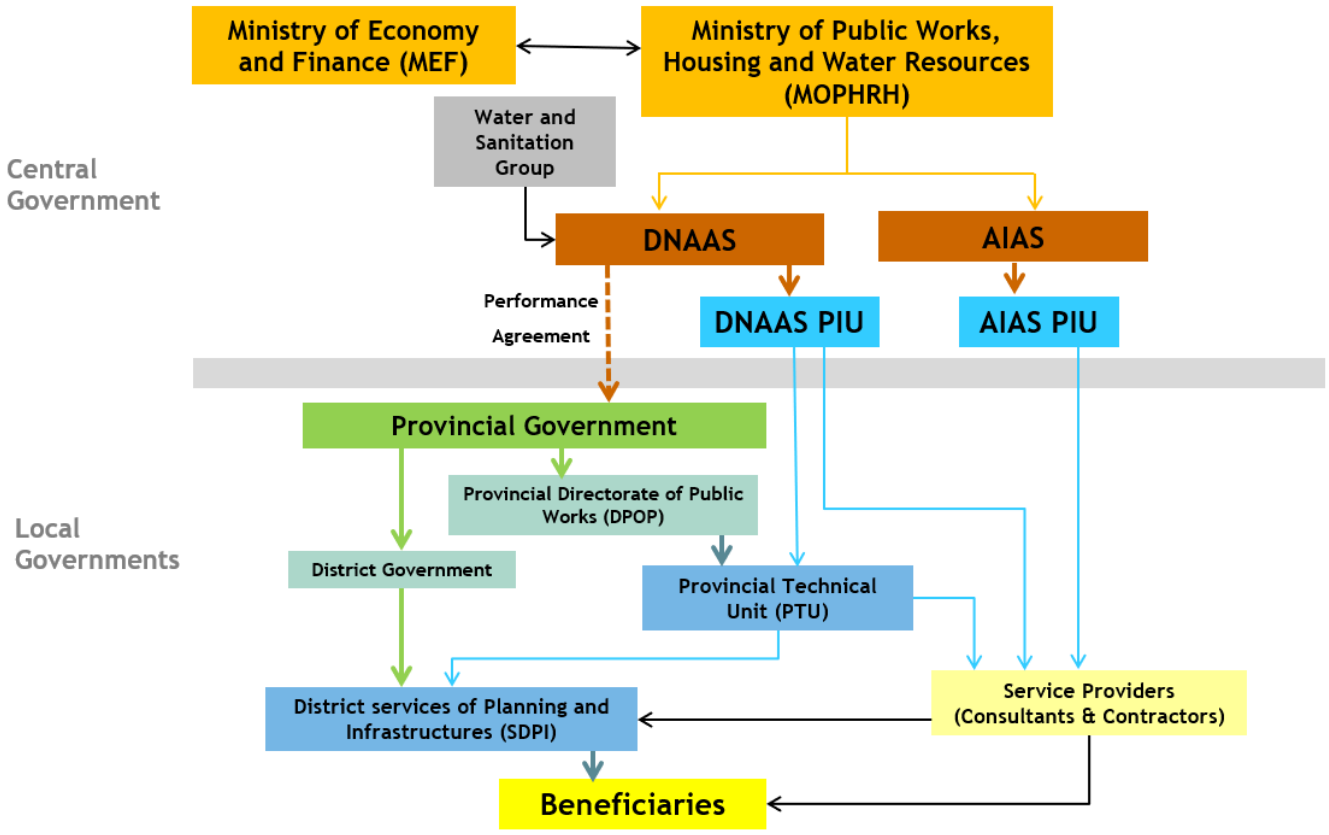
3. The DNAAS holds the institutional mandate of proposing and ensuring the implementation of policies, strategies, norms, regulations, and technical specifications for WSS, as well as the promotion of investments for construction, maintenance, and expansion of WSS infrastructure (Resolution nº 19/2015, of July 17, 2015), and reports directly to the National Director. The DNAAS holds considerable experience in executing WB-financed projects, including the MUSP (P161777), and has an established PIU with capacity for design and procurement of WSS infrastructure. The WB has carried out an institutional capacity assessment of the DNAAS PIU, which concluded that the DNAAS meets the basic institutional requirements to implement this project but a new PIU will be required to avoid a potential overload and compromise the performance of the MUSP PIU. The new DNAAS PIU will be staffed with a project manager (Head of the DAS), project coordinator, administrative and financial assistant, procurement specialist, grants and FM specialist, on-site sanitation specialist, water supply technician, environmental and social safeguards specialist, and monitoring and evaluation specialist (new).

4. The AIAS is mandated to manage public wastewater and drainage systems as part of the DMF approved through Decree nº18/2009, of May 7, 2009, and the following Decree nº 19/2009, of May 13, 2009. The AIAS was given financial autonomy and has seen its statute upgraded to a public institute through Decree 112/2020, of December 29, 2020. A new PIU will be established at the AIAS and will be responsible for the implementation of the water and sewerage investments in small towns under this project (Component 1). The AIAS PIU reports to the General Director. The PIU team is staffed with a project manager, project coordinator, administrative and financial assistant (shared with the MUSP), sanitation marketing specialist, WSS specialist, two water technicians and two sanitation technicians for the Nampula and Zambezia delegations, environmental safeguards specialist, social safeguards specialist, GBV officer, procurement specialist, and FM specialist (shared with the MUSP).

Project Implementation Responsibilities of Provincial Government and Districts

5. **The PEC, through the DPOP, will lead implementation responsibilities for Component 2.** The DPOP will establish PTUs which will carry out administrative reporting to the Provincial Director and technical reporting to the DAS. The PTU will include at least the following positions to be fulfilled by local staff: a project manager (Head of the DAS), financial and administrative assistant, on-site sanitation technician, water supply technician, environmental and social safeguards technician, M&E technician, procurement technician, procurement specialist, and financial and grants manager. The PTU will be strengthened with a water and sanitation specialist to be recruited. Other specialists may be considered as required.

Figure A1.1. Project Institutional Implementation Arrangements



B. Financial Management

6. **A virtual FM Assessment was undertaken to evaluate the adequacy of the proposed project FM arrangements.** The assessment was conducted at the DNAAS, AIAS, and DPOP in Nampula and Zambezia: the agencies that will be responsible for FM arrangements of this proposed project. The assessment was carried out in accordance with the Directives and Policy for IPF and the World Bank Guidance on FM in WB IPF Operations issued on February 28, 2017.

7. **The overall FM risk rating was assessed as Substantial due to country fiduciary system, capacity issues in the country, and the complexity of the project.** The agreed FM arrangements are adequate to provide, with reasonable

assurance, accurate and timely information on the status of the proposed project. However, the following agreed FM actions should be implemented to ensure existence of adequate FM arrangements throughout project implementation: (a) develop and adopt a PIM including a section on the FM procedures no later than 30 days after effectiveness; the PIM will be based on the PIM of the ongoing project and the MAF; (b) the DNAAS and AIAS should customize the existing accounting package by creating codes to record and report financial transactions of the project separately; (c) develop and adopt simplified guidelines for the two participating provinces; and (d) train the finance staff at the DPOP in Zambezia and Nampula on the use of the project funds. The World Bank shall closely monitor the implementation of the action plan.

Table A1.1. Risk assessment and mitigation measures

Risk factors/Description of Risk	Risk Rating	Risk Mitigating Measures Incorporated into the Project Design	Conditions of Negotiations, Board or Effectiveness (Yes or No)	Residual Risk Rating
Inherent Risk:				
Country level: Shortage of human resources, limited capacities for key FM functions, and overall weak public finance management control environment may negatively impact the implementation of the proposed project expenditures.	H	The Government is committed to implement further reforms of the country's PFMs with support from the World Bank and other development partners. The World Bank has a number of initiatives and projects under preparation that will strengthen the FM systems.	No	S
Entity level: The three agencies have experience in handling FM matters of World Bank-financed projects. However, the fact that they will have an additional operation poses a risk as this could jeopardize their ability to satisfactorily implement all the projects. In addition, the two provinces have limited experience in handling FM of World Bank-financed operations.	S	The financial staff of the three agencies have experience in handling World Bank-financed operations. The provincial staff will be trained in the use of a World Bank-financed operation as soon as the project is declared effective, and the DNAAS will provide technical support to them throughout the project implementation period. The World Bank will provide regular implementation support to the three agencies and the two participating provinces.	No	S
Project level: The project activities include funding infrastructure development. As a result, the project will be exposed to many risks: procurement risk, cost escalations, and impact of COVID-19 in completing the project on schedule. The project will finance small and less complex investments and operational costs at the provincial level and the DPOP may not observe	S	Develop the PIM that will include the implementation arrangements of the project at central and provincial levels. The project will use the procurement regulations for World Bank-financed operations.	Yes. Develop and adopt the PIM no later than 30 days after effectiveness.	S

Risk factors/Description of Risk	Risk Rating	Risk Mitigating Measures Incorporated into the Project Design	Conditions of Negotiations, Board or Effectiveness (Yes or No)	Residual Risk Rating
the applicable procedures for the project proceeds due to limited experience in managing World Bank-financed operations.		The implementing agencies will implement measures for supervision of civil works taking into account the restrictions that may be imposed by COVID-19. Develop and adopt a simplified FM guideline for the participating provinces. The DNAAS will provide support to the finance staff in participating provinces.		
Control Risk:				
Budgeting: The three agencies and provinces may not be able to produce a realistic and comprehensive budget due to capacity constraints and the nature of the project.	S	The PIM including FM procedures will be developed. Core staff involved in the budget preparation will be trained. The World Bank will review the draft budget as well as the IFR and provide comments.	Yes. Develop and adopt the PIM no later than 30 days after effectiveness.	S
Accounting: Project funds, expenditures, and resources are not properly recorded since the three agencies are accounting for other projects and may be confused in keeping a record of the project transactions. Capacity constraints in writing books of accounts by the two provinces.	S	The DNAAS and AIAS will make use of the automated accounting package to account for project funds, expenditures, and resources, which is currently in use by the ongoing operations. In doing so the accounting packages will be customized by creating codes to record and report financial transactions of the project separately. Simplified accounting records and financial reports should be prepared by the participating provinces. The DPOP will use excel worksheets to account for funds channeled at provincial level. Clear identification of the reporting chain and definition of the oversight roles and responsibilities at multiple levels should be put in place and documented in the simplified guidance.	No	S

Risk factors/Description of Risk	Risk Rating	Risk Mitigating Measures Incorporated into the Project Design	Conditions of Negotiations, Board or Effectiveness (Yes or No)	Residual Risk Rating
Internal control: Non-compliance with key project internal control procedures due to weak internal control environment and oversight mechanisms in the country. The project will finance small and less complex investments and operating costs at provincial level and there is risk that key internal controls and procedures are not properly observed.	S	The project will follow the procedures documented in the MAF, which has been designed to mitigate internal control risk, and those to be documented in the PIM. The PIM will include the process of approval of progress certificates and processing of payments. The internal audit should include in their work plan the review of project operations to identify control weaknesses on time. A simplified FM guideline will be prepared to guide the provinces in the implementation of project activities at local level. Regular supervision will be carried out by the World Bank.	Yes. Develop and adopt the PIM no later than 30 days after effectiveness.	S
Funds flow: Delays may occur in the flow of funds and affect implementation of the project as the project will finance activities to be implemented at provincial level that may delay submission of vouchers for payments of providers of goods and services.	S	The disbursement arrangements will be documented in the PIM. The simplified FM guidelines will be developed, and it will document all relevant procedures for funds flow to the participating provinces.	No	S
Financial reporting: The three agencies may fail to produce project financial reports on time due to the nature and coverage of the project.	S	The three agencies will use the existing automated accounting software to record and prepare reports for the project funds, expenditures, and resources. The DNAAS and AIAS have experience in producing reports for projects implemented at local level. The DNAAS will play the role of management oversight for the two participating provinces. The DNAAS will provide training to provincial finance staff and regular supervision. The DNAAS will conduct on-the-job training as needed.	No	M

Risk factors/Description of Risk	Risk Rating	Risk Mitigating Measures Incorporated into the Project Design	Conditions of Negotiations, Board or Effectiveness (Yes or No)	Residual Risk Rating
Auditing: Delays in submission of audit reports and delays in implementing the recommendations of the Management Letter.	S	The three agencies have been submitting audit reports of the ongoing projects on time. The World Bank will monitor audit submission compliance and ensure implementation of Management Letter recommendations. Draft Audit ToR for the DNAAS and AIAS will be reviewed by the World Bank FMS and discussed with the Administrative Tribunal. The ToRs will include auditing of project operations at provincial level. The ToR will emphasize the need for physical verification.	No	S
Governance and Accountability: Possibility of corrupt practices including bribes, abuse of administrative and political positions, mis-procurement and misuse of funds, and so on are a critical issue.	H	Robust FM arrangements (including a comprehensive internal and external audit of the project operations, World Bank FM supervision including review of transactions and asset verification) designed to mitigate the fiduciary risks in addition to agencies' overall internal control systems. Clear protocol for sanctions or remedies for misuse of project funds should be determined and well publicized.	No	S
OVERALL FM RISK	**S**			**S**

Note: H = High, S = Substantial.

Table A1.2. FM action plan

No.	Actions to mitigate FM risks	Responsibility	Completion date
1	Develop and adopt the PIM including FM procedures	DNAAS and AIAS	Within one month after effectiveness
2	Develop and adopt the simplified FM guidelines	DNAAS	Within one month after effectiveness
3	Preparation of Audit ToR	DNAAS and AIAS	Within one month after effectiveness
4	Customize the accounting packages by creating codes to maintain separate records and ledger accounts for the proposed project	DNAAS and AIAS	Within two months after effectiveness

8. **Budgeting.** Budget preparation, monitoring, and execution will follow national procedures and those to be documented in the PIM and in the simplified FM guidelines. The DNAAS and AIAS will prepare annual budgets based on the annual work plans and the approved procurement plans. The DPOP of Nampula and Zambezia will prepare annual work plans and budget to be consolidated by the DNAAS. It is expected that these agencies will prepare annual budgets that cover activities proposed to be carried out in each fiscal year. Each entity will be responsible for producing variance analysis reports comparing planned with actual expenditures on a quarterly basis. These quarterly variance analysis reports will be part of the IFRs that will be submitted to the WB on a quarterly basis.

9. **Staffing.** The DNAAS and AIAS will be responsible for fiduciary aspects of the project. The two agencies have finance staff with acceptable skills and experiences to handle FM and disbursement matters of the World Bank-financed operations. The assessment of the DPOP in Nampula and Zambezia revealed that there is staff capable of managing project funds to be channeled to these provinces despite limited experience in handling FM of World Bank-financed operations. In addition, the provincial finance staff will report to the DNAAS and this agency will provide support and training as needed.

10. **Internal control.** Internal controls system and procedures of the project will be based on national procedures, defined in the MAF and the PIM. In addition, the DNAAS will develop and adopt a simplified FM guideline to guide the provincial finance staff in managing project proceeds to be channeled to them. The project may also be subject to the review of the General Inspectorate of Finance (*Inspeção Geral das Finanças*) based in the Ministry of Economy and Finance. The World Bank FM team will also conduct regular supervision through desk review and field visits (that include expenditures and asset reviews) to ensure that the implementing agencies are maintaining adequate systems of internal controls and key procedures are complied with. COVID-19 may negatively impact the implementation support of the project. Under these circumstances, the World Bank team will provide remote support to the project through Internet solutions and phone calls. The project will use the WB New Procurement Framework. The PPSD and Procurement Plan for the first 18 months were prepared in collaboration with the WB procurement team, and approved.

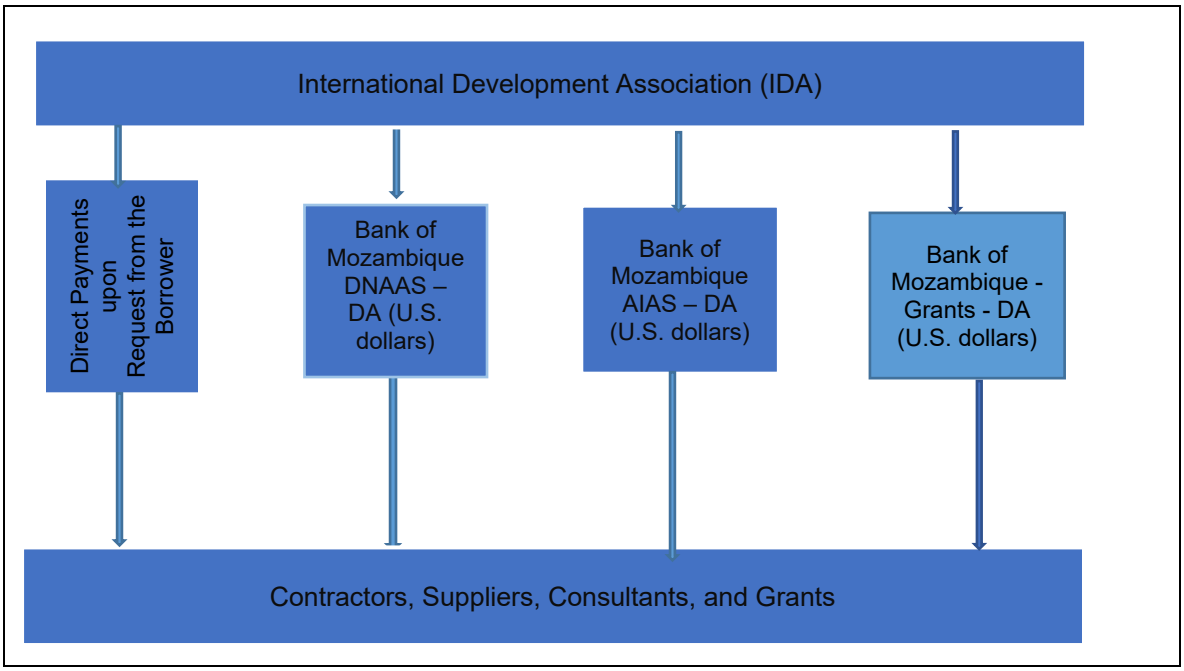
11. **Accounting.** The two implementing agencies will account for all project funds, expenditures, and resources using the existing automated accounting packages, which are adequate as they can produce reliable financial reports required to effectively monitor and manage the progress of the project and are being used by other World Bank-financed operations. The accounting packages will be customized by creating codes to maintain separate records and ledger accounts for the proposed project and allow preparation of project-specific financial reports. However, the DPOP in Nampula and Zambezia will make use of excel spreadsheets or professional accounting software to account for project funds to be channeled at provincial level. They will send the accounting records to the DNAAS for consolidation.

12. **Financial Reporting.** The three agencies are producing acceptable quarterly IFRs for the ongoing operations. Each implementing agency will prepare separate quarterly IFRs for the project in form and content satisfactory to the WB, which will be submitted to the WB within 45 days after the end of the quarter to which they relate. The DPOP in Nampula and Zambezia will submit their financial reports to the DNAAS for consolidation within 15 days after the end of each calendar quarter. The formats will be similar to those in use currently for ongoing projects. The preparation and submission of IFRs may be delayed due to COVID-19 as some activities will be implemented at provincial level. However, these implementing agencies will make use of Internet solutions to mitigate this challenge. At the end of each fiscal year, the agencies will also produce separate annual PFSs in accordance with Financial Reporting under Cash Basis of Accounting. In addition, the PFSs' components will be outlined in the ToR for audit of this proposed project.

Disbursement

13. **Funds Flow.** Three Designated Accounts (DAs) in US. dollars to be managed by the DNAAS and AIAS will be opened at the Bank of Mozambique (Central Bank) to receive funds from IDA. In addition, a separate DA in US. dollars to be managed by the DNAAS will also be opened at the Central Bank for grants under Component 2 as there will be disbursement conditions; the use of a separate DA for this purpose is useful. For the DA to be managed by the DNAAS, funds will be transferred to the separate bank accounts in Meticals to be opened at the Central Bank and managed by the DPOP in Nampula and Zambezia. Funds from these accounts will finance project activities at provincial level. Payments of eligible project expenditures will be made from the DAs to contractors, suppliers, consultants, and small grants. All payments to local suppliers and consultants will be made strictly in local currency in compliance with Mozambique exchange control rules and regulations. The figure below shows funds flow mechanism for the project activities.

Figure A1.2. Arrangements in funds flow mechanism for the project activities



14. **Disbursement arrangements.** Disbursements of IDA funds will be done on a transaction basis. An initial advance will be made into each DA upon the effectiveness of the Financing Agreement.

15. The option of disbursing the IDA funds through direct payment, reimbursement, and special commitment will also be available. To facilitate the payments of contractors, suppliers, and consultants, a lower minimum threshold for the use of direct payment and reimbursement methods of disbursement will be applied for this operation. The World Bank will issue the Disbursement and Financial Information Letter which will specify the additional instructions for withdrawal of the proceeds of the IPF.

16. **Auditing.** The Administrative Tribunal (the country's supreme audit institution) is mandated to audit all government funds, including donor-financed projects. As such, the PFSs of the components to be implemented by the DNAAS (including the project financial transactions at provincial level) and AIAS will be audited by the tribunal in

accordance with International Standards of Supreme Audit Institutions issued by the International Organization of Supreme Audit Institutions The ToRs for audit will explicitly require the auditors to conduct physical verification and auditing grant activities. These ToRs will be reviewed by the World Bank FMS and discussed with The Administrative Tribunal within one month after the project effectiveness. The audit report together with the Management Letter will be submitted to the World Bank within six months after the financial year-end.

17. **Implementation support plan.** Based on the current overall FM risk of this operation, the project will be supervised twice a year. In addition to desk-based reviews, the FM will perform field visits to ensure that the project's FM arrangements operate as intended. The World Bank FM team will provide remote support to the project through internet solutions and phone calls during this time of the COVID-19 pandemic.

C. Procurement

18. **Applicable procedures.** Procurement will be carried out in accordance with the 'World Bank Procurement Regulations for IPF Borrowers', dated November 2020, and the provisions stipulated in the Financing Agreement. Moreover, the 'Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants', dated October 15, 2006, and revised in January 2011 and July 2016, will apply.

19. **Procurement Strategy for the project.** A PPSD has been prepared jointly by the proposed implementing agencies and approved by the WB as well as the Procurement Plan for the initial 18 months. The PPSD captured the key contracts to be financed by the project for the initial 18 months and recommended the most suited approaches for the implementing agencies to implement a fit-for-purpose procurement, achieving value for money with efficiency. Recommendations of the PPSD will be incorporated in the Procurement section of the PIM. These will guide the implementing agencies in carrying out procurement in accordance with WB Procurement Regulations. The PPSD, in addition to informing the initial Procurement Plan, will enable the implementing agencies to create the activities in the World Bank's STEP system and initiate procurement implementation.

20. **The procurement activities for the project will be centrally managed by the AIAS and DNAAS.** These agencies have considerable exposure and experience in the implementation of World Bank-funded operations, including the ongoing MUSP (P161777). In addition, the project envisages the establishment of decentralized implementing units in the DPOP of Zambezia and Nampula. The available capacity for the implementation of the project was reviewed and deemed adequate for the central level; however, it will require oversight and handholding at the provincial level for the proper day-to-day management of the future project, which includes the availability of qualified capacity in procurement, in a manner satisfactory to the World Bank. This responsibility will be entrusted to the AIAS and DNAAS. Furthermore, the PIM will detail the relationship between these levels and the need, specifically, for the provincial level to secure concurrence from the central level at various stages of the procurement processing, before advancing to the next stage, until such time the established capacity in the DPOP is considered adequate.

21. **WB support and additional implementation arrangements.** The WB, as part of the implementation support, will carefully monitor the implementation of the project and provide support and guidance, as required, throughout its implementation. No later than 30 days after effectiveness, the AIAS and DNAAS will jointly develop the PIM which will include a section on procurement, the Procurement Manual. The Procurement Manual will detail the applicable procurement arrangements for the project and help the agencies and project beneficiaries carry out procurement in

accordance with the WB Procurement Regulations, in addition to providing a clear division of roles throughout the procurement processing and management. The WB will continue to offer support to ensure adequate and timely implementation of agreed activities and will encourage the implementing agencies to leverage the use of technology, while limitations are being imposed by COVID-19, through promoting streaming of opening of bids and proposals and the possibility of submission of bids/proposals through electronic means.

22. **Procedures for the selection of consultants.** Quality- and Cost-Based Selection will be the main method for the selection of consulting firms, including design of water supply systems and rehabilitation needs, supervision of the sanitation marketing and hygiene promotion, and supervision of the construction and/or rehabilitation of water supply and sanitation systems. Occasionally, consulting services may be procured through Selection Based on the Consultants' Qualification and Least-Cost Selection procedures, whenever its complexity and cost of the assignments justify the adoption of such methods in accordance with the PPSD.

23. **Procedures for goods and non-consulting services**. Goods and non-consulting services will be procured as recommended by the PPSD, with the Request for Bids as the main method, including for the procurement of FSM equipment, supply of IT equipment, supply of photovoltaic systems, supply of solar-powered water pumps, supply of furniture, among others. The Mozambique Procurement Regulation (Decree 5/2016 of March 8, 2016) can be used under the project as it has been assessed and generally meets the WB core procurement principles. For the procurement of solar panels, the Borrower will use World Bank standard procurement documents with specific requirements for solar panel procurement and requires that goods are accompanied by two declarations from bidders: (i) a Forced Labor Performance Declaration, which covers past performance, and (ii) a Forced Labor Declaration, which covers future commitments to prevent, monitor and report on any forced labor, cascading the requirements to their own sub-contractors and suppliers. In addition, the Borrower will include enhanced language on forced labor in the procurement contracts. The Bank will prior review procurements of solar panels and components to ensure that enhanced provisions are used by the Borrower.

24. **Procedures for works.** Works will be procured as per the procedures recommended by the PPSD, with the Request for Bids as the main method, including for the procurement of construction, rehabilitation, and expansion of water systems; construction and rehabilitation of on-site sanitation systems; construction and rehabilitation of small towns; and construction and rehabilitation of school sanitation facilities, construction solar-powered mini-systems for rural water supply, construction of solar-powered water supply schemes, among others. The Mozambique Procurement Regulation (Decree 5/2016 of March 8, 2016) can be used under the project as it has been accessed and generally meets the WB core procurement principles. The solar powered water schemes will meet the solar panels provisions, indicated above.

25. **Use of technology.** With the limitations being imposed by COVID-19 and with the aim of fostering competition, the DNAAS, AIAS, and the World Bank will assess the use of virtual tools (such as Skype, Zoom, Webex) to increase the participation of bidders in bid opening and pre-bid meetings or site visits, as required, and allow the electronic submission (e-mail) of bid/proposals.

26. **Procurement Plan.** A Procurement Plan for activities to be conducted during the first 18 months of project implementation has been finalized and approved as part of the PPSD. The processing of these activities will be done in

real time through the WB's tracking system—STEP. Both the AIAS and DNAAS at the central level and the DPOP of Zambezia and Nampula will operate the STEP system individually, and dedicated access will be established.

27. **Review by the WB of procurement decisions.** The table below indicates the initial values for prior review by the WB. All activities estimated to cost below these amounts shall be treated as post review and will be reviewed by the WB during implementation support missions under a post procurement review exercise. Direct Contracting/Single-Source Selection will be subject to prior review only for contracts estimated to cost equal to or more than the amounts indicated in table below. The WB may, from time to time, review the amounts based on the performance of the implementing agencies.

Table A1.3. Value thresholds for prior review

Procurement Type	Prior Review (US$) DNAAS and AIAS	Prior Review (US$) DPOP Zambezia and Nampula
Works	5,000,000	5,000,000
Goods and non-consulting services	1,500,000	1,500,000
Consulting Services (Firms)	500,000	500,000
Individual consultants	200,000	200,000

28. **Assessment of national procedures.** The Mozambique Procurement Regulation, approved by Decree 5/2016 of March 8/2016, has been assessed, as required under the WB's Procurement Framework. The assessment indicated that the country's regulations are generally consistent with international best practice for the following reasons: (a) there is adequate advertising in national media; (b) the procurement is generally open to eligible firms from any country; (c) contract documents have an appropriate allocation of responsibilities, risks, and liabilities; (d) there is publication of contract award information in local newspapers of wide circulation; (e) the national regulations do not preclude the WB from its rights to review procurement documentation and activities under the financing; (f) there is an acceptable complaints mechanism; and (g) there is maintenance of records of the procurement process.

29. **Bidding process.** The Request for Bids/Request for Proposals document shall require that bidders/proposers present a signed acceptance at the time of bidding, to be incorporated in any resulting contracts confirming application of and compliance with the WB's Anti-Corruption Guidelines, including without limitation the WB's right to sanction and the WB's inspection and audit rights.

30. **Use of local procedures.** With the incorporation of the above provision, the Mozambique Procurement Regulation will be acceptable to be used under those procurements not subject to the WB's prior review, as per the thresholds indicated in the above table or any updates indicated by the WB in the Procurement Plan that has been created in STEP.

31. **Project risks affecting procurement.** While there is capacity to implement the proposed project, there are risks that may impact implementation of the project and these are summarized below, including the proposed mitigation measures:

Table A1.4. Procurement risk assessment and mitigation measures

Risk Description	Risk Rating	Description of Mitigation	Residual Risk
Availability of qualified personnel to support procurement implementation	High	The DNAAS and AIAS to ensure that qualified personnel under terms satisfactory to the WB are recruited to support the procurement function. This arrangement should be retained throughout the life of the project. The World Bank procurement team will work closely with the DNAAS and AIAS to enhance the available capacity, through hands-on support, as required. The DNAAS and AIAS will support the establishment of the capacity at the DPOP Zambezia and DPOP Nampula and ensure that hand-holding is provided.	Substantial
Lengthy internal procurement reviewing process that may cause project implementation delays. Country procedures for payments abroad may also affect performance of procurement.	Substantial	While these are portfolio-wide issues, the adoption of sound operational procedures for project implementation, with responsibilities and timelines requirements for procurement activities, will reduce the impact.	Substantial
Limited participation of bidders due to COVID-19.	High	The DNAAS and AIAS to assess use of technology/online tools (pre-bid meetings, bid openings, bid submissions, negotiations) to minimize disruption due to the limitations imposed by COVID-19. Provided that technological conditions are met, the DPOP should adopt a similar approach.	High

32. The overall procurement risk associated with the project is **High**.

D. Implementation Support Plan

33. Enhanced implementation support by the WB will be carried out especially during the first year of project implementation. Due to restrictions posed by the COVID-19 pandemic, implementation support missions will be conducted virtually with the use of available technologies to ensure the WB task team is able to provide effective implementation support. Support will focus on the following areas:

a. **Strategic Support:** Virtual implementation support missions are proposed to be held with project implementing agencies as well as other relevant stakeholders with the objective to: (i) review project implementation progress including progress on cross-cutting issues such as M&E, training, communication, knowledge exchange, innovation, dissemination of project results and experiences, and coordination between the relevant stakeholders and (b) discuss strategic alignment between the project and the sector's strategy as well as the project's contributions to the sector's policy and institutional developments given the context of recent reforms.

b. **Technical Support:** Implementation support will focus on ensuring technical quality of procurement documents, ToRs, construction plans, and all other products delivered by consultants. During construction and commissioning, technical supervision will be provided to ensure that contractual obligations are met. When possible, site visits will be carried out during project implementation and will involve technical specialists as needed.

c. **Fiduciary Support:** No later than 30 days after effectiveness, the AIAS and DNAAS will jointly develop the PIM which will include a section on procurement, the Procurement Manual. The Procurement Manual will detail the applicable procurement arrangements for the project and help the agencies and project beneficiaries carry out procurement in accordance with the WB Procurement Regulations, in addition to providing a clear division of roles throughout procurement processing and management. The WB, as part of the implementation support, will carefully monitor the implementation of the project and provide support and guidance to (i) perform desk reviews of project IFRs and audit reports, following up on any issues raised by auditors, as appropriate; (ii) assess the performance of control systems and arrangements; (iii) update the FM rating in the FM Implementation Support and Status Report as needed; (iv) provide training and guidance on carrying out procurement processes in compliance with the Procurement and Anticorruption Guidelines and the PIM; (v) review procurement documents and provide timely feedback to the PIU; (vi) carry out the post review of procurement actions; and (vii) help monitor project progress against the Procurement Plan.

d. **Safeguards Support:** Close collaboration and implementation support will be provided throughout project implementation. This is especially important to ensure that the development of appropriate site-specific Environmental and Social Impact Assessments (ESIAs), Environmental and Social Management Plans (ESMPs) and RAPs and their implementation along with effective mitigation measures for any negative impacts. The WB safeguard specialists will also ensure that appropriate measures are in place for the GRMs and to handle GBV.

ANNEX 2: Economic and Financing Analysis

Economic and Financial Analysis (local benefits only)

ERR: 24 percent
NPV (10% discount rate): US$63.9 million

A – Economic Analysis

1. *Cost-Benefit Analysis*: The economic model uses a cost-benefit analysis methodology and compares the results of the scenarios *with project* and *without project*. The economic feasibility analysis of the project compares estimated economic benefits of the project with its economic costs. As the project costs are given, the primary analytical challenge of this analysis is to estimate the expected benefits that occurred or are likely to occur because of project implementation. In the cost-benefit analysis, benefits were assessed at financial prices due to a lack of data on economic prices. The gross national income (GNI) per capita growth for 2023–2051 was assessed at 5 percent per year on average, which is consistent with the 2010—2018 period. Additional global benefits associated with reduction of GHG emissions are presented in Annex 3.

2. Mozambique has the fifth highest rates of morbidity and mortality from waterborne diseases, including malaria, cholera, and diarrheal diseases, in the region. Mozambique recorded 8.3 million new malaria cases in 2015 compared to 9.3 million in 2010, while 15,000 people died in 2014[88] and more than 6,000 died in 2019 (Source: MOH 2020); more than 30 percent of the population gets acute diarrhea annually, and more than 7,000 cases of cholera were reported in 2019 (or 0.21 percent).[89] Mozambique has one of the highest rates of morbidity and mortality from diarrheal diseases in Africa; diarrheal diseases are the seventh largest death and disability factors in the country.[90] For children under five, estimates from a verbal autopsy study showed that diarrhea is responsible for approximately 20 percent of hospital admissions and is the fourth highest cause of mortality preceded by malaria.[91] Improved WSS associated with handwashing may result in 88 percent reduction in mortality of children under five years of age.[92] Both interventions—in water and sanitation—will also generate significant health benefits for all other population groups, reducing the hazard of epidemics, morbidity, and mortality from diarrheal and other waterborne diseases, which will subsequently result in increased labor productivity of the Mozambiquan society.

3. Both menstrual health and associated school absenteeism among adolescent girls are significant problems for Mozambique. This is in part due to limited attention of schools to menstrual hygiene and lack of proper facilities. School-going girls aged 14–17 reported substantial embarrassment and fear of teasing related to menstruation in qualitative interviews, and said that this together with menstrual pain and lack of effective materials for MHM led to school absenteeism. All policy makers, including municipal staff in both regions, reported poverty and menstruation as the key factors associated with school attendance: school absence in a similar

[88] Clube of Mozambique. 2021. "Malaria Cses Fall in Mozambique." *link*: http://clubofmozambique.com/news/malaria-cases-fall-world-mozambique-Mozambique-account-7/
[89] Reliefweb. 2019. *Mozambique: Cholera Outbreak - Mar 2019*. *link: https://reliefweb.int/disaster/ep-2019-000026-moz*
[90] IHME 2020. *Health Data Mozambique*. *link*: *http://www.healthdata.org/mozambique*
[91] Chissaque, et al. 2018. "The Epidemiology of Diarrhea in Children Under 5 Years of Age in Mozambique." *Current Tropical Medicine Reports* (5): 115–124. *link: https://doi.org/10.1007/s40475-018-0146-6*
[92] CDC (Center for Disease COntrol). 2015. *Global Diarrhea Burden*. *link: http://www.cdc.gov/healthywater/global/diarrhea-burden.html*

environment was reported on 28 percent of period-days, compared with 7 percent of non-period days.[93] This also contributes to early school dropout, teenage pregnancy, and joblessness.

4. Schools generally do not have running water and proper sanitation. In the absence of running water the prevalence of diarrhea exceeds 20 percent, and nearly 65 percent of students have an episode of malaria at least once a year. Schools in Mozambique also report an incidence of ascariasis, guinea worm infection, and schistosomiasis (the latter was reported in nearly 47 percent of incidences in 2017).[94]

5. The project will construct 100 small combined solar/diesel-fed systems for rural facilities, 50 in each of the provinces, and 22 larger solar/diesel-fed systems for rural growth centers (14 in Zambezia and 8 in Nampula). The solar panels will be replaced every 15 years. The cost of replacement is assessed at about 20 percent of initial costs as only the solar panels will be replaced. The O&M cost of combined solar/diesel and plain diesel pumping systems are considered equal.

6. The project estimates for investment costs are based on best available evidence at this time, including from previous donor and nongovernmental organization (NGO) projects for similar investments in the country and in the region. Given the lack of existing practice in Mozambique with some of the specific proposed solutions, the cost estimates will need to be updated as the project progresses, though the current estimates are meant to be conservative. More cost-effective alternatives, including shared sanitation and household co-financing of household facilities, have been considered, but are deemed ill-suited to the GoM's current needs and context. Experiences from previous projects in Mozambique (for example, those led by NGOs and other development partners) have shown that households prefer individual household facilities, as compared to shared household facilities; and to achieve sufficient scale on time, the pilot will not rely on household financing for construction. These decisions/approaches will be reviewed during the community engagement for the master planning processes and a more thorough review will be done to inform how the sanitation service model might be scaled up in other cities following the pilot.

7. *With* and *without scenarios.* The net benefit of the project was estimated as the incremental benefit of two scenarios: *with* and *without project* situations. The *with project* situation includes the proposed investment program under project components including associated number of water connections and constructed latrines. It is also assumed that solar/diesel-powered systems will be constructed (100 in rural areas and 22 in rural growth centers). The *without project* situation assumed the investments were not done and therefore the proposed expansion in the number of connections and latrines will not happen in the absence of available government funding. The 122 diesel-powered systems will be constructed for rural residents and rural growth centers.

8. The proposed investment will give a boost to the AIAS water companies located in the Zambezia and Nampula regions of Mozambique and help them achieve water coverage of up to 25–30 percent. It is expected that the AIAS will delegate operation of the infrastructure to either the public or private sector and continue expanding water and wastewater systems according to the urbanization rate and maintaining coverage rate that was achieved during the project implementation.

9. For water components, the benefit flow comes from increase in connection rate for running water and increase in living standards and associated increase in value of their housing by at least 5 percent to the currently

[93] George Miiro, et al. 2018. "Menstrual Health and School Absenteeism Among Adolescent Girls in Uganda (MENISCUS): A Feasibility Study." *BMC Women's Health* 18 (4).
[94] Augusto, et al. 2009. "Geographic Distribution and Prevalence of Schistosomiasis and Soil-Transmitted Helminths among Schoolchildren in Mozambique." *The American Journal of Tropical Medicine and Hygiene* 81 (5): 799–803. *link: https://www.researchgate.net/publication/38040819_Geographic_Distribution_and_Prevalence_of_Schistosomiasis_and_Soil-Transmitted_Helminths_among_Schoolchildren_in_Mozambique*

unserved population of about 392,000 and 496,000 in urbanized areas of Zambezia and Nampula, respectively. After the installation of the new connections, water consumption will also grow to at least 20 liters per capita a day to support sanitary requirements and a national standard for water supply.[95] Benefits from sanitation investment include reduced coping costs of handling wastewater and increased value of housing with latrines, equivalent to the amount of investment. It is conservatively assumed that the incidence of diseases and their treatment cost are the same as for all Mozambique on average. The economic cost of open defecation is assumed at 2.5 days per person per year practicing open defecation. Open defecation will be eliminated and produce substantial benefits. The project will also increase the value of the housing it will provide with latrines; however, only houses with both water and latrines are included in the analysis to avoid double counting. The cost of new latrines emptying is added as a new cost for households receiving latrines. Both investments into water and sanitation reduced burden from morbidity with malaria and waterborne diseases and associated costs by at least 15 percent. The improved sanitation benefits will become available to new customers from year two onward with full set of benefits starting from year five when all construction works will be completed.

10. Separately calculated economic efficiency of both (a) sanitation component for schools and (b) menstrual health benefits will cover improvement in school sanitation and menstrual hygiene for adolescent girls. These actions are expected to generate the same health benefits as above and reduce girls' absenteeism with drop-out reduced by 30 percent, adding about 0.5 percent of GDP per capita if girls are maintained through secondary education.[96]

11. The benefit for replacement of diesel-powered water pumping systems with combined solar/diesel- powered ones is calculated based on the Bank publication *Solar Pumping The Basics (2018)*.[97] It is assessed that 85 percent of power will be obtained by solar and the rest by the back-up diesel-powered systems. The solar panels replacement will start at the 15th year of installation and will cost about 20 percent of original costs as only solar panels themselves will be replaced.

12. Additional benefits are expected from Component 3, bringing transparent procurement, performance assessment and fact-based investment decision process in the Mozambique water sector that will reduce risk of mishandling the scarce financial resources and technical expertise (not accounted). Global benefits are expected from the reduction of GHG emissions, nutrients discharge with proper septage treatment, as well as reduction of BOD_5 into marine environment. These benefits, while important, are not to be accounted for and should be calculated separately. See Annex 3 for details.

13. The benefits are calculated for the 30 years from the project start. This corresponds to the 24 years after project completion. The discounting of the financial flows will assume a 10 percent rate, which includes the base 6 percent discount rate suggested by the WB SD Guidelines (2015) and an extra four percentage points based on country-based currency and financial risks. The same rate was used for other projects in Mozambique (for example, the MUSP).

14. The project will not bring an additional financial burden to the beneficiaries as their service costs will be at

[95] All citizens should be able to obtain at least 20 liters of safe water per day from water points situated no more than a 30-minute walk away from their homes. The policy target until late 2010 was that each water point should supply 500 users; this was revised to 300 (PRONASAR 2010).

[96] A World Bank study in 1999 demonstrates through data simulation for a selection of 100 countries that increasing the secondary education of girls by 1 percent results in annual income increase of 0.3 percent per capita. Source: Dollar D., and R. Gatti. "Gender Inequality, Income, and Growth: Are Good Times Good for Women? *World Bank Policy Research Report on Gender and Development, Working Paper Series 1*. Washington, DC: World Bank.

[97] WBG (World Bank Group). 2018. Solar Pumping. The Basics. link:
https://documents1.worldbank.org/curated/en/880931517231654485/pdf/123018-WP-P159391-PUBLIC.pdf

least 60 percent lower than the current coping costs, with some increase in costs related to emptying latrines and reduced use of unprotected surface water.

15. The project will be operating within the local financial environment. While all operational and maintenance costs and benefits are in Mozambique metical (MZN), the project financing is in US. dollars. The estimated economic effects on the benefits and project costs vary based on the exchange rate of the local currency to US. dollar.

16. **Model Result.** The ERR for the project is 24 percent, and the NPV is US$64.2 million. The summary of the Economic analysis is presented in Table A2.1.

Table A2.1 Project Economic Assessment (local benefits only)

Local benefits only	Zambezia, water and sanitation	Nampula, water and sanitation	School Sanitation	Menstrual Hygiene	Solar Pumping	Total
ERR	25%	30%	10%	10%	1%	24%
NPV, 10%	$ 18,483,935	$46,376,969	($66,890)	$18,241	($916,822)	$63,895,434

17. **Sensitivity analysis.** If the costs of the components included in the economic assessment overrun by 30 percent, then ERR will become 20 percent and NPV is US$55 million. The NPV for school sanitation and diesel-solar replacement components, however, will become more negative, however compensated by other components.

18. The project is sustainable to external shocks related to fluctuation of the exchange rate.

B – Financial Analysis

19. The financial benefits of the project were measured in financial terms as the increase of revenue for the sample of four existing systems currently reporting information to the AIAS: Namarroi, Ilé-Errego, Ribaué, and Moma. In addition, two hypothetical cases were defined for new water supply systems planned for greenfield small towns, specifically Inhassunge and Namialo.

20. These six systems are typical for the project investment program (two of them, Inhassunge and Namialo, have no piped connections and customers at this point and people use dispersed water points with hand pumps, rainwater harvesting, and other unprotected ground sources). This sample can be considered representative of 17 small town providers that are included in the investment program representing approximately 35 percent of the current users and roughly 55 percent of users after project completion.[98]

21. Revenues were measured as volume of water billed times the average tariff per cubic meter. Fifteen percent tariff adjustment is expected for 2021, and no further adjustments until 2023. Five percent tariff adjustments were assumed for the financial projections after 2023 until 2030 (time horizon of the financial analysis). New customers will pay 50 percent of the connection fee of MZN 4,300 (US$63) at the time of connection. The increase in revenues will come from the following:

[98] It is expected that small rural POs will recover costs and provide services according to market mechanisms and associated demand. This is not accounted in the financial analysis.

- Increase in water coverage and associated increase in revenue
- Connection fee (50 percent by a newly connected household and 50 percent from the regional funds)
- Increase in individual water consumption from 40 to 60 liters per capita per day on average due to reduction of NRW and providing water 24/7; incremental water consumption of existing connections because of the greater water availability and expected improvements in service quality (such as greater continuity and water pressure)
- The financial costs associated with Subcomponent 1.1 – Construction, Rehabilitation and Expansion of Water Supply Systems in small towns and rural growth poles included in the above financial analysis are about US$49.50 million
- Increase in sanitation coverage, setting appropriate tariffs, and associated increase in revenue

22. Coverage before and after the project is presented in the following table. The number of people served will increase from 12 to 33 percent (on average, weighted by population served). The largest coverage increase is expected in Ribaué and Moma.

Table A2.2 Population served and coverage increase before and after the project in selected towns

Name of the Town	Population served 2020	Coverage 2020 (%)	Population served 2027	Coverage 2027 (%)
Namarroi	2,100	7	11,135	31
Ile Errego	2,366	13	7,894	36
Inhassunge	-	-	5,316	26
Ribaué	10,159	12	36,121	35
Namialo	-	-	5,880	15
Moma	4,374	13	14,494	36
Total	18,999	12*	80,841	33*

Note: * Weighted by population served.

23. The financial analysis of selected towns was undertaken by reviewing the historic financial performance and making financial projections for the next 10 years (until 2030) with the help of financial models. The financial models were built on the data provided in the AIAS and downloaded from the Operators Portal (2020), financial statements, and performance indicators that focused on the financial viability required for adequate O&M—all compiled by the AIAS.

24. Key assumptions to assess the financial situation of the town's providers in the next 10 years are the following: (a) implementation of ongoing increase in water production along with increased coverage gradually in the next five to six years; (b) NRW gradually decreases from 45–50 percent to 30 percent in the next 10 years; (c) the water tariff used for the analysis is on par with the AIAS financial plan: it is expected that tariff adjustment for FY2021 would be 15 percent to compensate for three years with constant tariffs; with the new decree in effect in 2022, the annual tariff adjustment will compensate the inflation and associated increase in costs by 5 percent a year; (d) no depreciation is taken into account; providers will be responsible for depreciation and renewal of the off-grid solutions as they depreciate; (e) collection rate for newly connected properties will remain close to 95–100 percent as they are equipped with smart meters; the investments will be complete by June 30, 2026; and (f) there will be no financial implications to providers related to servicing the investments as these investments are financed by the IDA grant.

25. Summary of financial projections are summarized in the following table.

Table A4.2 Financial projections in selected towns

		2020	2021	2025	2027	2030
Namarroi	Revenues (US$)	931,142	1,108,174	6,173,227	10,164,627	12,026,410
	Costs (US$)	825,253	975,475	4,779,384	8,665,448	11,067,864
	Collection rate (%)	50	50	63	82	92
	Cost recovery (%)	113	114	129	117	109
Ile Errego	Revenues (US$)	524,689	624,444	2,954,100	5,881,337	7,774,028
	Costs (US$)	1,267,187	1,453,340	3,564,174	6,073,590	7,901,930
	Collection rate (%)	50	50	66	84	93
	Cost recovery (%)	41	43	83	97	98
Inhassunge	Revenues (US$)	-	-	2,719,202	4,931,223	5,933,022
	Costs (US$)	-	-	1,855,353	4,061,235	5,523,497
	Collection rate (%)	0	0	82	96	95
	Cost recovery (%)	0	0	147	121	107
Ribaué	Revenues (US$)	1,443,566	1,717,151	12,453,061	25,202,889	30,930,667
	Costs (US$)	3,747,850	4,356,987	14,799,333	25,471,302	29,847,211
	Collection rate (%)	34	34	64	83	94
	Cost recovery (%)	39	39	84	99	104
Namialo	Revenues (US$)	-	-	1,328,921	3,391,692	4,701,118
	Costs (US$)	-	-	1,460,408	2,984,864	3,953,910
	Collection rate (%)	-	-	58	80	92
	Cost recovery (%)	0	0	91	114	119
Moma	Revenues (US$)	1,939,693	2,308,474	8,247,289	12,916,073	14,182,234
	Costs (US$)	1,884,149	2,205,332	6,541,519	11,133,131	13,332,391
	Collection rate (%)	50	50	65	84	94
	Cost recovery (%)	103	105	126	116	106

26. All water providers will be operating sustainably and are expected to operate either at or close to cost-recovery, using the financial surplus for investment into the system development. Some increase in the cost-recovery rate in 2025–2027 is coming from connection fees explained above.

27. Social impact will be minimal, and water cost will range from 0.6 to 1.2 percent of the GNI per capita. Considering, however, that both provinces are among the poorest in the country, water and sanitation services will be affordable by all customers. Even if a one-time connection fee is imposed on a new residential household, it will result in an affordable one-year increase in water costs by 1.2 percent of the GNI per capita (US$6.20 per person) and correspond to a willingness to connect. Table A4.3 below summarizes that.

Table A4.3 Percent of GNI per capita spent on water and sanitation services in selected towns

	2020 (%)	2021 (%)	2026 (%)	2027 (%)	2028 (%)	2029 (%)	2030 (%)
Namarroi	0.6	0.8	1.3	1.4	1.3	1.3	1.2
Ile Errego	0.6	0.8	1.3	1.4	1.3	1.2	1.2
Inhassunge			1.5	1.6	1.3	1.3	1.2
Ribaué	0.4	0.5	1.2	1.3	1.2	1.2	1.1
Namialo			0.9	1.1	1.0	1.0	0.9
Moma	1.2	1.6	1.7	1.6	1.4	1.3	1.3

ANNEX 3: Climate Change Co-Benefits and GHG emissions accounting

Climate Change Co-Benefits: 68%

1) **Climate Change Co-Benefits** are assessed based on data from the economic analysis; population served; population coping cost for boiling of untreated water; and specifically, reduction of charcoal use, GHG emissions from Biological Oxygen Demand (BOD) removal and treatment processes that reduce the methane emissions due to aerobic/anaerobic processes, and replacement of diesel-pumping systems with solar systems. Each of the project components have methane/CO_2 emission reduction objectives in activities related with water treatment and pumping, as well as wastewater, septage, and FSM. As almost all processes proposed for the project related to water treatment, water distribution, wastewater collection, and treatment are small scale and generally based on gravity flow, it is not expected that the project will substantially increase electricity consumption, except for administrative purposes. All calculations cover the period from 2021 to 2051 or 30 years since project start.

2) **Reduction of coping cost and use of charcoal.** It is estimated that traditional wood energy (fuelwood and charcoal) emits 1–2.4 Gt of carbon dioxide equivalent (CO_2e) per year for the world, which is 2–7 percent of total anthropogenic GHG emissions. Sub-Saharan Africa accounts for one-third of GHG emissions from wood energy. The high level of uncertainty around the GHG emissions associated with wood energy reflects the wide range of underlying assumptions on wood regeneration rates and charcoal consumption. GHG emissions are generated at various stages of the charcoal value chain, with the sustainability of wood harvesting and the efficiency of charcoal production technologies the greatest determinants of overall GHG emissions. In inefficient operations, the emission of GHGs in charcoal production (including due to forest degradation and deforestation) can be as high as 9kg CO_2e per kg charcoal produced.[99]

3) In project areas, most of the population, especially the low-income households, are almost totally dependent on charcoal (>85 percent) and firewood (slightly less 15 percent)[100] for cooking and space heating.[101] One of the key uses of charcoal is boiling water taken from surface water resources and unprotected wells. It is assessed that about half of the population in project areas in Zambezia and Nampula provinces get water from such sources and then boil it to make it of potable quality. On average, each person needs to boil at least one liter of water. With water connection to a public network or through getting potable water via a standpipe, this will discontinue and save about 80 grams of charcoal per person a day. Table A3.1 presents the number of beneficiaries from reduction in use of charcoal.

Table A3.1. Charcoal reduction in Project Areas

	Zambezia	Nampula
Beneficiary population, urban	200,898	391,878
Beneficiary population, rural	182,250	153,200
Total population having access to treated potable water	250,790	297,913
Reduction is use of charcoal, tons a year	3,454	3,569

[99] FAO (Food and Agriculture Organization). 2017. *The Charcoal Transition: Greening the Charcoal Value Chain to Mitigate Climate Change and Improve Local Livelihoods, by J. van Dam.* Rome: FAO.
[100] Based on Benin report: Evrard Karol Ekouedjen, et al. 2021. *Energy performance, safety and durability of charcoal cooking stoves commonly used in West Africa: Benin case study. AIMS Energy* 9 (1): 68–95. doi: 10.3934/energy.2021005.
[101] FAO. Background to the fuelwood and charcoal. link: *http://www.fao.org/3/x6796e/x6796e03.htm*

4) **GHG reduction due to sanitation services increase.** The project will increase sanitation coverage in both Zambezia and Nampula, and additionally improve sanitation in schools. The project will significantly reduce open defecation that is assessed at 38 percent and 30 percent in Zambezia and Nampula, respectively; construct dry lined latrines and upgrade uncontrolled and wet latrines to dry ones; and construct new water-efficient latrines. The below baseline and final targets for two project locations (Table A3.2).

Table A3.2. Sanitation Baseline[102] and Targets, percent

	Zambezia		Nampula	
Sanitation service	Before	After	Before	After
Simple latrine	57	61	70	73
Latrine connected to a septic tank	5	5	2	2
Dry emptiable latrine	4	20	2	10
Open defecation	35	15	25	15

It is important to note that open defecation reduction may result in some increase in GHG emissions as the use of latrines creates an environment for anaerobic digestion resulting in methane emissions.

5) For schools, assessment was based on implementation progress and project targets for each city school sanitation component that will finance conversion of simple toilets into latrines with regular sediment removal to fertilizer. Nearly 91,250 schoolchildren (both in urban and rural areas) will benefit from such improvement; this also adds to GHG emission reduction by transforming their poorly managed wet latrines into lined ones with regular emptying.

6) More benefits are expected from construction and substitution of existing or planned diesel-powered systems with solar-powered pumping systems for rural growth and small rural systems. The plan is to have the 22 rural growth systems serving 95,450 people to be supplied with water through solar pumping. Additionally, the project plans a solar multiuse system serving another 90,000 people. Water will be pumped from the water table as deep as 50–100 m (65m on average) to fill almost 700 water tanks of $10m^3$ daily. Solar power will allow to further reduce the project carbon footprint.

7) Table A3.3 summarizes parameters and benchmarks used for calculation of CO_2 emissions.

Table A3.3. Benchmarks for GHG Calculations

Benchmark	Unit	Value
BOD* emission per adult	kg/year	13.5[103]
BOD emission per child	Percent to adult	50[104]
BOD emissions per child	kg/year	6.75
Maximum conversion BOD to CH4	Ratio	0.6[105]
MCF** for wet latrines	Ratio	0.7[3]

[102] World Bank. 2017. *Findings of the Mozambique Water Supply, Sanitation, and Hygiene Poverty Diagnostic*.
[103] Reid, et al. 2014. "Global Methane Emissions from Pit Latrines." *Environmental Science & Technology*. *link: https://scholar.princeton.edu/sites/default/files/mauzerall/files/reid.etal_.pitlatrines_est_2014.pdf*
[104] Authors' calculations.
[105] 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.

Benchmark	Unit	Value
MCF for latrines with regular sediment removal for fertilizer	Ratio	0.1[3]
MCF septic system of all kinds	Ratio	0.5[3]
MCF open defecation	Ratio	0[3]
Methane's 100-year GWP	Ratio	25.00[106]
Emission solar CO_2 eq/kWh	gCO_2-eq/kWh	40[107]
Emission diesel CO_2-eq/kWh	gCO_2-eq/kWh	270[108]

Note: *BOD = Biological oxygen demand.
**MCF = Methane conversion factor.
GWP = Global Warning Potentials.

8) The project will generate a net reduction of GHG emissions of 1.57 million tCO_2e during 2022–2051 due to reduction in use of charcoal, improvement of latrines management, closing of some uncontrolled and wet latrines with conversion of them into latrines with regular sediments removal for fertilizer, connection of new people to sewerage network, and use of solar pumping. Using treated sludge as a fertilizer replacement will further reduce emissions (not accounted). The planned use of methane capture and use of biogas at the treatment sites will further limit the amount of methane emitted through anaerobic treatment (not accounted). Table A3.4 summarizes emission reductions from 2019 to 2051.

Table A3.4. GHG net emission reduction (increase) per province

	GHG reduction due to reduction of use of charcoal, tCO_2e	GHG reduction due to sanitation improvement, tCO_2e	GHG reduction due to improvement of schools' sanitation, tCO_2e	GHG reduction due to solar substitution of diesel, tCO_2e	Total, tCO_2e
Zambezia	870,482	(166,224)	76,222	44,062	824,542
Nampula	899,347	(257,964)	76,222	28,341	745,946
Total	**1,769,828**	**(424,189)**	**152,445**	**72,403**	**1,570,487**

9) If GHG benefits are accounted at the Shadow Price of Carbon (SPC) at upper-level corridor of the SPC suggested by the World Bank Climate Change team[109], the project NPV increases to 37 percent to US$107.5 million, its internal rate of return (IRR) increases to 37 percent from 24 percent and climate change co-benefits add 68 percent to the project NPV. Table A3.5 summarizes the economic analysis of the project with and without GHG benefits accounted.

Table A3.5 Summary of project economic assessment and benefits with CC benefits

With CC benefits accounted	Zambezia, water and sanitation	Nampula, water and sanitation	School Sanitation	Menstrual Hygiene	Solar Pumping	Total
ERR	48%	43%	10%	10%	15%	37%
NPV, 10%	US$40,385,585	US$66,328,712	US$137,406	US$18,241	US$614,002	US$107,483,944

[106] IPCC (Intergovernmental Panel on Climate Change). 2018. *Changes in Atmospheric Constituents and in Radiative Forcing (Chapter 2), Table 2.14. link*: https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-chapter2-1.pdf
[107] NREL (National Renewable Energy Laboratory). 2012. *Life Cycle Greenhouse Gas Emissions from Solar Photovoltaics*.
[108] Volker Quaschning. 2021. *Specific Carbon Dioxide Emissions of Various Fuels. link: https://www.volker-quaschning.de/datserv/CO2-spez/index_e.php*
[109] https://worldbankgroup.sharepoint.com/sites/Climate/Pages/Shadow-Price-of-Carbon.aspx

10) Additionally, some indirect GHG benefits may come from potential re-use market (agriculture, biogas, biofuel, and similar) and market demand for bio-products from FSM. The estimated indirect benefit of fertilizer production can be 5,000 kg per year, valued at US$37.59–US$51.15 per 50 kg bag of fertilizer[110] (not accounted).

11) Climate risks and adaptation co-benefits have been considered in the project design as well. According to the *Global Climate Risk Index* (2017),[111] Mozambique was the world's most climate change-affected country in 2015. Climate risks that are relevant to the project include extreme temperatures and precipitation which could lead to increased disease outbreaks and damage to sanitation infrastructure. Heavy rain can cause septic tanks or storage pits to overflow, causing health risks by flushing pathogens and pollutants to the surface and into contact with the population. Heavy rainfall could also lead to standing water in low-lying areas and changes in flow and composition of wastewater. Flood-resilient materials/design for sewers, septic tanks, and other relevant infrastructure will be promoted under the project along with operational health and safety plans for the infrastructure: no new systems will be built in flood-prone zones. The project will also invest in localized canals to improve drainage in selected flood prone areas. It is expected that better wastewater infrastructure will reduce the volume of contaminated water and the chance of malfunctioning sewers and on-site sanitation facilities during extreme weather events, thereby mitigating the impact of floods. These measures coupled with the related institutional capacity strengthening will build resilience to climate risks which will provide climate co-benefits in the future.

[110] Based on: IFDC-AFAP (International Fertilizer Development Center - African Fertilizer and Agribusiness Partnership (AFAP)). 2013. *Mozambique's Fertilizer Assessment*. *link: https://agra.org/wp-content/uploads/2020/08/Mozambique-Report_Assessment-of-Fertilizer-Distribution-Systems-and-Opportunities-for-Developing-Fertilizer-Blends.pdf*

[111] Kreft, Eckstein, and Melchio. 2017. *Global Climate Risk Index 2017*. *link: https://germanwatch.org/en/12978*

ANNEX 4: Detailed Project description

1. The objective of the project is to increase access to improved water supply and sanitation services in selected small towns and rural areas of Mozambique. The project consists of four components, which are each described below with the magnitude of planned interventions with focus on the proposed arrangements for PBC and PBG.

Component 1: Enhancement of Water Supply and Sanitation Services in Small Towns (US$99.5 million equivalent)

2. This component aims at addressing the WSS infrastructure and service gap in 17 small towns in the provinces of Zambezia (7 towns) and Nampula (10 towns) and build incentives to enhance the financial and operational sustainability of the services. In addition, this component will finance additional investments for 22 systems from rural growth centers (8 in Nampula and 14 in Zambezia) to simplify the project implementation and reduce transaction costs by concentrating investments in water supply systems in one PIU. Investments under this component will be packaged into larger works and scheme operations with built-in incentives to attract technically qualified operators with robust financial capacity, promoting the engagement of the private sector in addition to encouraging job creation. Table A4.1 presents the summary cost estimates for component 1. A detailed cost estimates is presented in the PIM.

Table A4.1. Cost estimates for Component 1

No.	Project Activities	Unit	Quantity	Unit Cost (US$ million)	Estimated cost (US$ million)	CONSULTANCIES /SERVICES & GOODS	WORKS
1	**Enhancement of Water Supply and Sanitation Services in Small Towns**				**$ 99.50**	**$ 19.75**	**$ 79.75**
1.1	**Construction, Rehabilitation and Expansion of Water Supply Systems for small towns and rural growth centers**		**17**		**81.00**	**13.07**	**67.93**
1.1.1	Rehabilitation and expansions of WSS for small towns		11		28.00	4.20	23.80
1.1.2	Construction of new WS systems for small towns		6		16.50	2.48	14.03
1.1.3	Constrution of new WSS for rural growth centers		22		32.35	4.85	27.50
1.1.4	Safeguards implementation (RAP & ESMP) including technical assistance	LS	1	3.73	3.73	1.12	2.61
1.1.5	Resettlement Costs covered by the Land Memo	LS	1	0.42	0.42	0.42	-
1.2	**Sanitation investments in small towns**				**13.50**	**1.68**	**11.82**
1.2.1	Development of Sanitation Services				6.68	0.48	6.20
1.2.2	Sanitation Marketing and hygiene promotion		17		2.72	0.41	2.31
1.2.3	Upgrade of school sanitation facilities		29		2.90	0.44	2.47
1.2.4	Safeguards implementation (RAP & ESMP) including technical assistance	LS	1	1.20	1.20	0.36	0.84
1.3	**Design and roll-out performance-based contracts for private operators**				**5.00**	**5.00**	**-**
1.3.1	Design of Contract Models	LS	1	0.26	0.26	0.26	-
1.3.2	Independent verification agent	Semester	6	0.04	0.24	0.24	-
1.3.3	Implementation of PBC contracts	LS	1	4.50	4.50	4.50	-

PBC TRANSACTION PLAN

3. **Background.** The AIAS has recently concluded a process of reviewing the first generation of delegated management contract model for small towns water supply, with support from the USAID WASHFIN (WASH Financing) Project, with a view to enhance the incentives for improving access to high quality and financially sustainable water services. The review of the contracts which were used for the last 10 years addresses the following key issues: (a) no clear definition

of investments needs and responsibilities for the lessor and the lessee, (b) short duration of five-year contract that limits the possibility of recovery and capital gains from the PO investment, (c) unrealistic and unreachable performance goals which does not take into consideration the specific baseline of each system, (d) unpredictability of tariff adjustments, (e) absence of incentives for good performance and penalties for low performance, and (f) no clear mechanism to reinstate the economic and financing equilibrium for significant changes to occur in the operations context.

4. Therefore, the AIAS would like to implement this second generation of lease contract model where the private company will be given a cluster of systems to operate and maintain during with built-in incentives for expanding coverage and improving operational efficiency. Key features of a second generation PBC model include: (a) extended contract duration of 10 years for POs to recover investments made in the systems and capital gains; (b) risk sharing mechanisms to address issues of unpredictability of tariff adjustments; (c) clarifying the share of investments for each specific system during the contract duration; and (d) contract and performance monitoring and reporting responsibilities. Seven existing systems run by the SDPI and six new water supply systems will be grouped in packages to achieve economies of scale and attract quality operators. The transaction support will start with an initial rapid assessment to assist the AIAS in making a final determination of the small towns clusters schemes suitable for a PBC and surrounding rural growth centers that can be integrated in clusters of systems. This approach is expected to provide accelerated and affordable access to water services through optimization of lifecycle costs and strong incentives for operational efficiency.

5. This section summarizes the key principles, structure, and institutional arrangements for the PBCs to improve water services in small towns in line with the second generation of delegated management contracts for small towns. A detailed transaction design will be prepared by a consultant to be engaged by the AIAS during the first year of the project. It is expected that the PBCs will first target the POs already in place in the two provinces to push them to expand access and level of services to enable them to have a quick impact on the ground, and then (new) POs will be recruited through the second generation of contract model with greater focus on performance goals and incentives.

6. **Overview.** The AIAS will engage a capable private entity to operate and maintain a fully functioning cluster of water supply systems within a designated service area and make investments for the extension of the service to a defined target population, during the 10-year contract duration. The O&M costs will be covered 100 percent through the collected tariffs and connection fees.

7. The full investment cost for the extension of the service will be prefinanced by the operator, who will recover 75 percent of it through: (a) a performance-based payment (estimated 50 percent of the investment cost) upon completion of fully functional extended components of the system and (b) a performance-based payment (estimated 25 percent of the investment cost) upon successful continuity of service for beneficiaries of the extended network for at least six months. The AIAS will fully finance the key investments needed to increase water production and storage (water intake, treatment plant, and distribution centers). In the final instance, it is expected that the PO will finance 25 percent of the investment to be covered via billing and collection.

8. The evaluation criteria for award of the contracts will be the sum of the performance-based payments required by the PO to undertake the required works and service provision, given the predefined tariffs, connection fees, and contract duration. The contractual framework includes an investment plan for extension of the service. The O&M contract is signed between the contractor and the AIAS and is co-signed by the local government.

9. The operator's renumeration consists of (a) tariffs and connection fees and (b) performance-based payments from the AIAS to support extension of the services and other investments to improve the service. A jointly held escrow account will provide all parties with the necessary comfort and mitigation of risks. Details are outlined below:

    - The AIAS will finance the performance-based payments using the proceeds of the IDA credit. The payments will be made against two outputs: (a) 50 percent against the independently verified completion of a functioning new system and HCs and (b) 25 percent against six months of service provision as verified by billing records.
    - An independent verification agent (IVA) will verify the completed system components and HCs before the AIAS makes the payments.
    - During the operational phase, the contractor will invoice the monthly tariffs directly to customers in the service area and bulk water customers (if any).
    - These customers will pay the invoiced amounts into an operation account held by the PO. The contractor shall have the right to disconnect customers in case of non-payment after giving the customer due opportunities to rectify the non-payment.
    - At the end of each month four-fifths (estimate) of the accumulated amount in the operations account will be used for payment of operations costs (salaries, energy costs and chemicals, applicable water abstraction and regulation fees, lessor fee, and financing costs) and one-fifth (estimate) will go to a maintenance and reinvestment escrow account jointly held by the AIAS and the contractor.
    - The accumulated amount in the maintenance and reinvestment escrow account will be available for maintenance, repairs, and reinvestments, subject to a joint agreement between the AIAS and the contractor. The AIAS may also make additional (future) contributions for major rehabilitation works when needed.
    - The operators profit margin range will be indicated in the proposal. The contract will include provision to secure that half will be paid to the operator on satisfactory fulfilment of basic obligations under the contract, including timely monthly performance monitoring and minimum share of women to be employed by the system. The other half will be adjusted based on the operations performance, based on the score achieved on the O&M scorecard. The O&M scorecard will have five indicators: (a) coverage of services, (b) hours of service, (c) water quality, (d) NRW ratio, and (e) collection efficiency.

10. **Investment plans.** The AIAS will initially roll out the PBC in 13 systems (6 greenfield schemes and 7 operated by the SDPI) and extend to an additional 4 systems at the end of the ongoing contracts, ending between 2 and 3 years. Under the PBC, an investment to establish 9,000 connections serving an additional 47,000 people is planned. Further details on technical scope and costs will be confirmed as part of the transaction design.

11. **Tariffs.** Customers shall pay a connection fee, the cost of the connection (excluding the meter which is a part of the project investment), and the tariff for consumption. Tariff payments shall be based on volumetric measurements. The minimum tariffs necessary for financial viability shall be determined as part of the transaction design. The initial tariffs determined shall be fixed parameters at the time of issuing the tender and be indexed annually with relevant indices, following the recently approved mechanism for tariff adjustment.[112] The contract shall contain a compensation mechanism for non-compliance with the agreed adjustment mechanism.

12. **Procurement and contract strategy.** Towns will be tendered in clusters to ensure sizeable volume of business and to

[112] Decree 41/2021: Average reference tariffs indexing and adjustment mechanisms for public water supply services.

attract strong bidders. A clustering methodology will be developed as part of the detailed transaction design. The tender documents will include (a) a set of fixed commercial parameters: contract duration (10 years); (b) approved tariff regime; (c) mandatory minimum investment plan per year (network extension and connections); and (d) operational key performance indicators to be met, with a bonus-malus formula to incentivize the PO to meet these performances. The award criteria will be the minimum investment contribution required or viability gap financing. The AIAS will sign the contracts with selected POs.

13. Existing POs in 4 of the 17 small towns (see Table A4.5) that will be supported by the project will continue to operate their systems until the end of their current contracts, and can bid to operate the clusters of systems that will integrate new and schemes at present run by the SDPIs. The transaction support for the PBC will propose the decision criteria to assess the engagement of existing POs beyond the end of their contract, based on their current performance, and considering the ultimate objective of engaging strong operators for intervened systems.

14. **Risks.** Although a recent mechanism for water tariff adjustment has been approved and its implementation is planned for the last quarter of 2021, its existence does not guarantee by itself that tariff adjustments occur. Tariff adjustments are less likely to occur during electoral years.[113] To address this risk, the PBC must explicitly indicate compensation mechanism for the PO for years when a tariff adjustment is needed but does not occur. A second risk is associated with the potential use of the investment portion of the revenues for operations costs. To mitigate that risk the PBC arrangement advances with a model of a jointly held escrow account to which investment funds must be channeled.

15. **Monitoring and verification.** Payment of the investment contribution is conditional upon the delivery of predetermined outputs. Each payment will therefore be linked to a verified output and the supporting evidence will be an Output Verification Certificate (OVC). The AIAS will procure on a competitive basis a suitably qualified IVA for the approval of the contractor design and for the monitoring and verification of outputs until the time of physical completion of the works. The outputs are: (a) an extended distribution network, (b) installation of a predetermined number of metered connections, and (c) functionality of connections after six months of operation. The IVA will verify the first four outputs and issue Output Verification Reports (OVRs) and OVCs, one for each output. Table A4.2 shows the baseline performance indicators.

Table A4.2. Baseline performance indicators for 2020

Small town	Operator	Population in the service area	Coverage [%]	Average supply time [hours]	NRW [%]	Collection rate [%]	Compliance with drinking quality indicators [%]	Staff		
								Ratio [per 1,000 connections]	Tot.	Women
Nampula										
Rapale	**Greenfield**	21,600	-	-	-	-	-	-	-	-
Namapa	Public - SDPI	47,898	3	4	n/a	n/a	n/a	40	6	0
Moma	Public - SDPI	33,645	13	2	30	n/a	n/a	20	3	0
Nacaroa	Public - SDPI	33,500	8	3	n/a	30	n/a	20	3	0
Mecuburi	Public - SDPI	25,600	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ribaué	Private (Sociedade Técnica)	84,660	12	24	7	34	n/a	7	7	0
Malema	Private (ECOGEP)	43,308	29	12	42	93	n/a	10	14	6

[113] The last tariff adjustment for primary systems (from the FIPAG) and secondary systems (from the AIAS) happened in 2018. The regulator claims that the 2018 tariff adjustment also covers 2019 which was an electoral year, and that the 2020 tariff adjustment did not occur because of the disruptions caused by the COVID-19 pandemic.

Small town	Operator	Population in the service area	Coverage [%]	Average supply time [hours]	NRW [%]	Collection rate [%]	Compliance with drinking quality indicators [%]	Staff		
								Ratio [per 1,000 connections]	Tot.	Women
Namialo	**Greenfield**	32,000	-	-	-	-	-	-	-	-
Mutuali	**Greenfield**	38,300	-	-	-	-	-	-	-	-
Nametil	Private (PB Construções)	62,245	25	14	41	70	100	12	6	2
Zambezia										
Namacurra	Public - SDPI	71,903	5	4	30	100	100	42	5	2
Namaroi	Public - SDPI	29,995	7	12	45	100	100	8	1	0
Gilé	Public - SDPI	28,292	5	7	35	100	100	25	3	0
Luabo	**Greenfield**	7,966	-	-	-	-	-	-	-	-
Inhassunge	**Greenfield**	17,089	-	-	-	-	-	-	-	-
Chinde	**Greenfield**	20,686	-	-	-	-	-	-	-	-
Ilé-Errego	Private (Mala Consultoria)	18,202	13	5	3	35	100	23	6	1

16. **Sustainability.** Although project funds will not be available after its closure to contribute up to 75 percent of the investment's costs for extension of the service, a virtuous practice of having the PO dedicating a portion of the revenues for such purpose will be followed. With the implementation of this model, it will provide evidence to the operator that investing in service extension and improved profit can result in increased profits from the system. Additional resources can be channeled by the contracting agency, AIAS, to improved access in service areas with low access.

Component 2: Enhancement of Water Supply and Sanitation Services in Rural Areas (US$33.5 million equivalent)

17. Investments under Component 2 will contribute to increased access to improved WSS among the rural population of the two most populated and underserved provinces of Mozambique, Nampula and Zambezia. It will equally contribute to improve planning, investment, and monitoring capacity at provincial and district levels and strengthen the role of the local governments and community groups through capacity building program and financial incentives (BGs), aiming to contribute to improve quality and sustainability of WSS services in the rural space. It is expected that 210,000 people in rural areas will be able to benefit from improved access to water supply and 181,000 from improved sanitation from the project's interventions. Table A4.3 presents the summary cost estimates for component 1. A detailed cost estimates is presented in the PIM.

Table A4.3. Cost estimates for Component 2

No.	Project Activities	Unit	Quantity	Unit Cost (US$ million)	Estimated cost (US$ million)	CONSULTANCIES /SERVICES & GOODS	WORKS
2	**Local level support for improved water and sanitation service delivery in rural areas**				**33.50**	**12.86**	**20.64**
2.1	Nampula	Districts	11		16.00	6.35	9.65
2.2	Zambézia	Districts	11		16.00	6.35	9.65
2.3	Pre-positioning allocation for IDP needs response	LS	1		1.50	0.16	1.34

18. Aligned with the PRONASAR decentralized WASH implementation strategy, project interventions will focus on the following six building blocks for enhanced local capacity proposed by Rudge (2019)[114,115] to address key challenges identified during the mid-term review and final report of phase I of this program:

    (a) institutional arrangements and coordination, aiming to strengthen subnational governance and accountability;

    (b) service delivery infrastructure, aiming to expand coverage and secure sustainability of services;

    (c) monitoring, aiming to support decentralized capacity to collect, monitor, and analyze WASH data and its linkage with national and sub-national processes;

    (d) planning, aiming to strengthen district multi-sector planning processes and strengthen the role of community consultative committees in WASH planning;

    (e) finance by increasing the percentage of funds spent at the district and provincial levels; and

    (f) regulation and accountability increasing focus on gender equity at the community level and within district, province, and national institutions.

19. The project will adopt to a great extent the implementation strategies and approaches for water supply, sanitation, community participation and district planning and monitoring, gender equity and climate change defined in the PRONASAR 2019–2030 program document[116] and operations manual,[117] which results from the long experience of implementation of projects in the rural space by the government and active development partners in this new ground for the WB in Mozambique.

GRANT SCHEME

20. **Problem.** Elected PGs were assigned with the responsibility of delivering WSS services in the rural space in coordination with district units. However, they lack basic capacity to deliver on their rural WSS mandate.

21. **Objective.** To strengthen the capacity of PGs and district units in planning and delivery of rural water WSS services.

22. **Grant manager.** The DNAAS will act as the grant manager, on behalf of the MOPHRH. The MOPHRH will sign a grant agreement with the PEC –PGs for the grant to be allocated to support the DPOP.

23. **Grant recipients.** PGs from Zambezia and Nampula—who will ultimately use funds for the benefit of target project districts. Project districts were selected based on current levels of access to safe WSS for 2020 provided by the DPOP, and open defecation rates from the Census 2017. Access rates and open defecation rates were standardized to reduce values to a scale from 0 to 1 (low to high access for safe services and high to low for open defecation). The final scoring was obtained attributing a weight of 50 percent for safe water supply (*P_water*), 25 percent for safe sanitation (*P_san*), and 25 percent for open defecation *(P_od*). In each province, 11 districts with the lowest access rates to safe water and sanitation and high open defecation rates were selected to benefit from a wider project

[114] Rude. 2019. "Performance-based Financing and Capacity Building to Strengthen WASH Systems in Mozambique: Early Findings." *All System Go! WASH Systems Symposium*. *link: https://snv.org/assets/explore/download/20190314-lisa-rudge-dfid-abstrat-capbldgassessement-pbr-mozambique-allsystemsgo.pdf*

[115] Huston, and Moriarty 2018. "Building Strong WASH Systems for the SDGs Understanding the WASH System and its Building Blocks." IRC Working Paper.

[116] MOPHRH (Ministry of Public Works, Housing, and Water Resources). 2019. *National Rural Water and Sanitation Program Document (Volume 1)*.

[117] MOPHRH (Ministry of Public Works, Housing, and Water Resources). 2019. *National Rural Water and Sanitation Program – Operations Manual (Volume 2).*

intervention. The PIM details the results of application of the mentioned selection criteria.

24. **Grant design.** The BG will be available from the first year onwards and linked to MACs for each year.

25. **Performance incentives.** Through the MACs, the PGs are incentivized to address critical institutional capacity gaps in the planning, implementation, and delivery of rural WSS services. Table A4.4 shows the agreed MACs. For the first cycle, MACs #1 to #5 will be assessed, whilst during the subsequent years only the MACs #5 to #7 will be assessed, as MACs #1 to #4 are supposed to be met once and for all if met at the onset. To access the BG, PGs must meet all applicable MACs at the beginning of the financial year. Failure to meet one or more MACs means the PG cannot receive the grant that year.

Table A4.4 MACs for the grant funds applicable for PGs

1st year
1. PG/DPOP signs grant agreement with the DNAAS
2. PG/DPOP maintains a special bank account for all project-related expenditure
3. PG/DPOP appoints staff to a PTU including a project manager to head the PTU
4. PG/DOP signs grant Memorandum of Understanding (MoU) with all target districts describing grants allocations, responsibilities, and performance assessment
5. PG approves workplan and budget for the grant for the project implementation period
Added MACs from 2nd year onwards
6. Timely reporting to the DNAAS on activities and use of funds
7. Proper use of the grant, that is, within the eligible set of activities and for the intended purposes

26. To keep their eligibility for the BG's funds, the 22 project districts beneficiaries of the BGs must meet MACs #8 to #10 from the second year onwards, and MAC #11 from the fourth year onwards (see Table A4.5).

Table A4.5 - MACs for keeping district eligibility for grants funds

Added MACs from 2nd year onwards
8. District participatory annual plan for WASH elaborated with community representatives and at least one-third of female participants
9. Percentage of project-supported water points operational and with updated information on the SINAS monitoring database - 90 percent
10. Percentage of schools' toilets operational and with updated information on the SINAS monitoring database - 95 percent
Added MACs from 4th year onwards
11. Percentage of procurement processes conducted at district level - 50 percent[118]

27. The DNAAS will verify the accuracy of the data provided by each PG and respective districts to evaluate the achievement of applicable MACs. The performance of each PG will be jointly reviewed by the Recipient and the Association who will determine the continued eligibility of the province and districts in the next year. Performance criteria will be reviewed at project mid-term.

28. **Grant size and allocation.** The total funding of the Provincial Grant will be US$33.5 million (Nampula: US$16.0 million; Zambezia US$16.0 million), disbursed in quarterly tranches. An additional allocation of US$1.5 million will be available for IDP response needs in the two provinces. Table A4.6 presents the estimated costs for grants eligible activities

[118] During the first phase of the PRONASAR only 5 percent of the procurement processes were run by districts, against 85 percent by the DPOP and 10 percent at central level by the DNAAS.

benefiting the eligible districts that will be further detailed in the PIM.

Table A4.6. Cost estimates for the BGs with projected allocation per covered investments

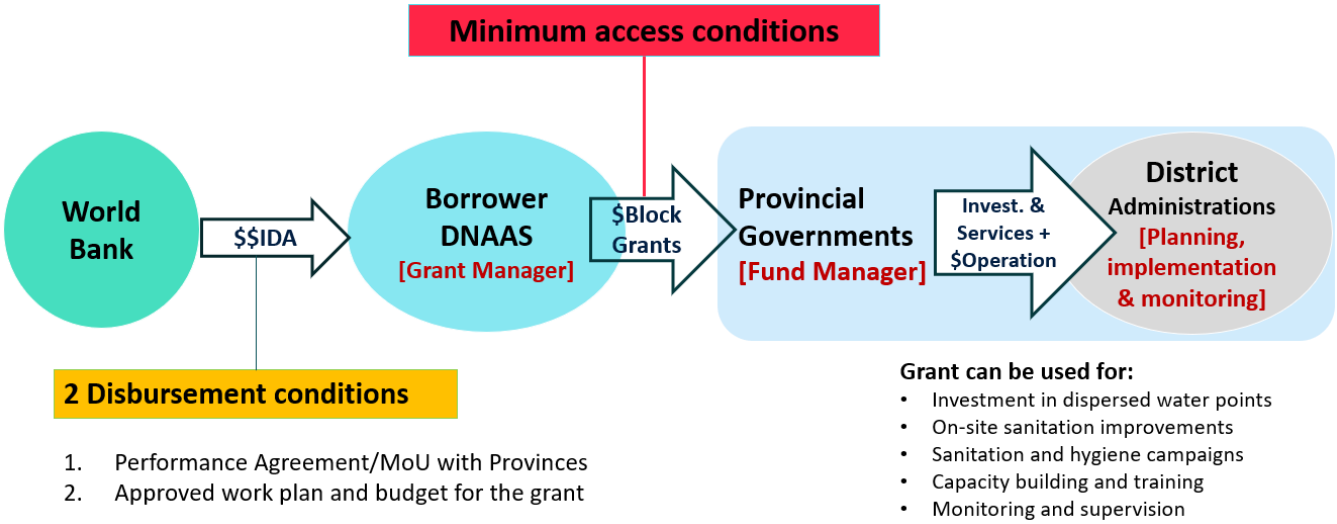
No.	Project Activities	Unit	Quantity	Unit Cost (US$ million)	Estimated cost (US$ million)	CONSULTANCIES /SERVICES & GOODS	WORKS
	Project Province	**Districts**	**11**		**16.00**	**6.35**	**9.65**
1	Capacity building program for districts staff	Year	5	0.10	0.50	0.50	-
2	Capacity building program for private operators	Year	5	0.10	0.50	0.50	-
3	Construction of multiuse solar powered mini-systems	Systems	50	0.04	2.00	0.30	1.70
4	Construction of boreholes equipped with handpumps	Water points	200	0.01	2.00	0.30	1.70
5	Energy efficiency for existing rural water supply systems	LS	1	0.50	0.50	0.08	0.43
6	Upgradde of School Sanitation Facilities	Schools	75	0.06	4.50	0.68	3.83
7	Subsidized household resilient toilets through local private sector services	HH	10,000	0.00020	2.00	-	2.00
8	Sanitation and hygiene promotions activities for households and schools	Districts	11	0.15	1.65	1.65	-
9	Monitoring and supervision support	Districts	11	0.05	0.55	0.55	-
10	Safeguards implementation (RAP & ESMP) including technical assistance	LS	1	0.30	0.30	0.30	-
11	Technical assistance and incremental project management support DPOP Nampula				1.50	1.50	

29. The budget line TA and incremental project management support for the DPOP will finance TA activities to support the DPOP in achieving their obligations under the performance agreement, as well as incremental project management costs for Technical Units at provincial level. TA activities to be supported will include: (a) preparation of provincial water and sanitation plans and reports; (b) strengthening of the service monitoring system; (c) incremental project management costs for provinces; and (d) on-demand technical support on operational and maintenance aspects. This budget line will also support necessary equipment (for example, computers, software, and other goods), capacity building (training), and incremental staff to allow the PTU to carry out their responsibilities.

30. **Disbursement arrangements.** Indicative grant allocations will be made known to each district at the outset of the project for a four-year period. An approved allocation for each year, taking into account the districts complying with the MACs, will be defined by October of the preceding year for incorporation in district budget process. This approach balances the need to provide longer-term predictability in allocations with the uncertainty implicit in a performance-based grant mechanism. Grant allocations will be advanced in tranches to provinces, with subsequent disbursements based on demonstration by provinces of expenditures against the approved Grant Investment Plan and Budget, as discussed in the Financial Management section below. Detailed procedures for the release of installments to the DPOP will be provided in the Grants Manual and governed by project covenants. Provinces must maintain eligibility for each annual grant disbursement and compliance with all grant requirements during each year.

31. An overview of the process for planning, approval, disbursement, and reporting of the annual cycle of the BG follows. Further details will be included in the PIM.

Figure A4.1. Disbursement arrangement and flow of BG funds



32. **Conditions for use of grant funds.** The proceeds of grant funds may only be utilized to fund eligible activities and investments detailed under grant allocation (Table A4.12). Consulting services related to the design or supervision of eligible grant finance capital investments may also be financed.

33. Grant-funded investments must remain compliant with IDA social and environmental safeguards (using a screening checklist detailed in the ESMF for Component 2) and procurement procedures as specified in project agreements and provincial grant participation agreements, with detailed procedures defined in the PIM Grants Section. The negative list will stipulate that no grant funds may be used for any of the following: payment of salaries, wages, allowances, or any other benefits to provincial and district public staff, administrators, or assembly members, except travel and per diem expenses linked to monitoring and supervision activities of project interventions and attendance of training events organized under the project; recurrent costs for the purchase of non-durable goods or services; expenditures on vehicles (excluding equipment for the PTU and for service delivery and support mobility during supervision and hygiene promotion and education campaigns at district level—for example, tractors, motorbikes, and bicycles); any construction or maintenance of residential buildings; and investments in loans, other micro credit schemes, and other securities.

34. **Reporting, assessment, and oversight procedures.** Provinces will be required to submit a quarterly progress report to the DNAAS PIU. A reporting format will be provided in the PIM Grants Section and will include information of progress with sub-projects relative to procurement plans and compliance with the ESMF. Compliance with this requirement will be a trigger for the release of subsequent grant installments. Both provinces will be subject to an on-site annual audit. In addition to performing a standard financial audit, this activity will: (a) verify annual eligibility for the grant; (b) review performance against defined MACs; and (c) verify compliance with grant conditions. Should any provinces spend grant funds on an ineligible expenditure, it shall lose eligibility for additional access to project-financed grants until all funds for ineligible investments are reimbursed to the DNAAS' project account. Once such reimbursements have been received and certified by the DNAAS, province eligibility will require clearance by IDA of the DNAAS' proposal for reinstatement of eligibility.

Component 3: Institutional Development and Project Management Support (US$17.0 million equivalent)

35. This component will finance TA for capacity development and project implementation support for central-level implementing institutions (AIAS and DNAAS), and extension of the regulatory role for the rural space and its strengthening in small towns. It will also finance a set of activities that will support the development of the sector, building on the findings of the PIR and PER, and the Water Supply and Sanitation Law.[119] Through this component the project will also finance a set of activities for women in water empowerment to enhance the capacity of and attract qualified female technicians to work in the management and operations of small towns schemes.

Table A4.7. Cost estimates for Component 3

No.	Project Activities	Unit	Quantity	Unit Cost (US$ million)	Estimated cost (US$ million)	CONSULTANCIES /SERVICES & GOODS	WORKS
3	**Institutional and Project Management Support**				**17.00**	**15.82**	**1.18**
3.1	**Support for the development of the sector**				**7.00**	**6.32**	**0.68**
3.1.1	Development of water supply and sanitation regulations from the Water and Sanitation Law	LS	1	1.00	1.00	1.00	-
3.1.2	Financing of key preparatory studies for the next generation of WSS investments	LS	1	2.50	2.50	2.50	-
3.1.3	Develop a results-based financing framework	LS	1	0.20	0.20	0.20	-
3.1.4	Technical assistance for developing district planning framework	LS	1	0.20	0.20	0.20	-
3.1.5	SINAS database extended support for on-demand user reports facility	LS	1	0.20	0.20	0.20	
3.1.6	Women in water initiative	LS	1				-
3.1.6.1	Training packages and targeted recruitment programs for young female technicians	LS	1	0.50	0.50	0.50	
3.1.6.2	Business development support grant for female water enrepeneurs	Kits & training	50	0.01	0.50	0.50	
3.1.7	Expansion of the regulatory action				1.90	1.22	0.68
3.2	**Technical Assistances and Project management support for DNAAS**				**3.50**	**3.50**	**-**
3.3	**Institutional and Project Management support for AIAS**				**6.50**	**6.00**	**0.50**

Component 4: Contingent Emergency Response Component (CERC) (US$0 million)

36. This component will provide immediate response to an Eligible Crisis or Emergency, as needed. This will finance emergency works in the case of another disaster event by including a "zero-dollar" CERC. This will help recover damage to infrastructure, ensure business continuity, and enable early rehabilitation. In parallel, following an adverse event that causes a major disaster, the GoM may request the WB to channel resources from this component into an IRM. The IRM will enable the use of up to 5 percent of uncommitted funds from the overall IDA portfolio to respond to emergencies. This IRM has already been established for Mozambique and is now operational

.

[119] The MUSP is financing the draft of the new Water Supply and Sanitation Law.

ANNEX 5: Priority reforms identified in the WSS PIR and PER

1. This annex describes the priority reform areas identified from the WSS PIR diagnostic assessment and proposed activities under the project, and main challenges and recommendations from the water sector PER.

2. The WB's Water Global Practice provided TA to inform design of PIR incentives in this project through implementation of a WSS PIR diagnostic assessment with the objective of identifying priority reforms to respond to the sector's main challenges and bottlenecks. The PIR assessments were led by the WB in consultation with the GoM. The following is a summary of the validated priority reform areas, during the consultation meeting with key government sector institutions, proposed to be supported through this project:

   (a) **Strengthen planning, monitoring, and governance of the WSS sector**, with the objective of establishing an effective sector planning and monitoring framework and empowering and promoting civil society participation to strengthen accountability and promote inclusive, responsive, and sustainable service delivery. This reform area seeks to improve availability and quality of data to enable investment planning and prioritization and performance management; and enhance participation of district governments and local community groups in investment planning and performance monitoring. The following activities are proposed to be financed under this project: (i) creation of an integrated management information system (MIS) and (ii) development of a monitoring framework for local groups to assess sector performance and enable participatory planning.

   (b) **Improve funding and financial sustainability of the WSS sector**, with the objective of improving financial sustainability and attracting more funding and private sector financing. Key reform areas include enhancing financial sustainability and profitability of WSS systems and optimizing tariff design and application to ensure that established tariff and tax revenues provide both sustainability and competitiveness to the public and private entities. This reform area addresses a significant bottleneck identified in the diagnostic assessment pertaining to low tariffs below cost recovery levels, poor billing and collection rates, and management mechanisms that are unable to meet sector financing and investment needs; for example, lack of O&M investment and service expansion and the high dependency on unpredictable sources of external funding influenced by the financiers' agendas and priorities. The following activities are proposed to be financed under this project: (i) implementation of a results-based financing grant and (ii) development of delegated management contracts to secure a higher allocation of collected tariffs for reinvestments in the systems.

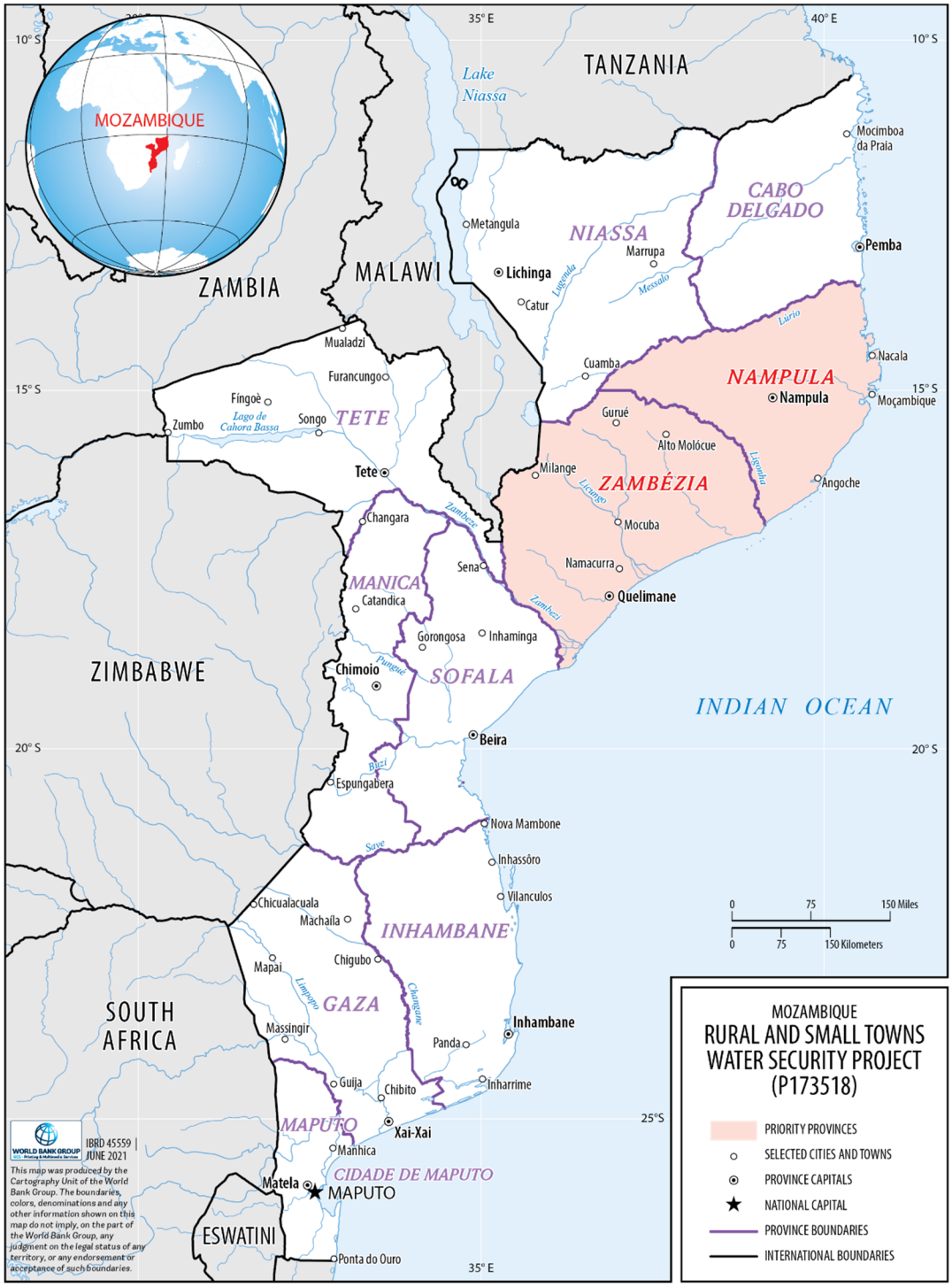
   (c) **Promote PSP**, with the objective of improving sustainability, resilience, and efficiency of WSS services and to build the technical capacity of POs to scale up their operations and improve services. This reform area addresses challenges identified in the diagnostic assessment pertaining to the design of private sector contracts, including imbalanced risk sharing between the lessor and the lessee for delegated management contracts; reduced duration of contracts; licenses which limit willingness to invest and prevent access to the commercial finance markets; and lack of business and asset management skills as well as technical skills between smaller operators. The following activities are proposed to be financed under this project: (i) develop contracts and project performance risk assessment matrix and (ii) develop a capacity building program for POs in WSS systems operations and management, and business development.

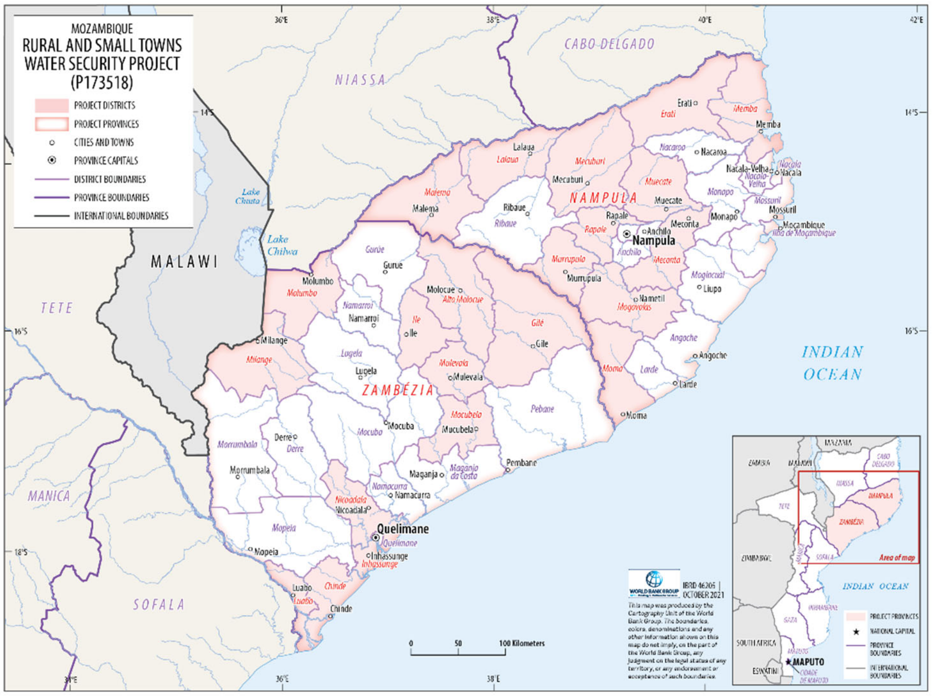
3. In parallel, the WB's Water Global Practice conducted PERs of the water sector in Mozambique covering the period 2010 to 2018, with great focus on WSS subsector. The PER revealed similar conclusions to the PIR, but also the following challenges and recommendations relevant to this lending operation described below.

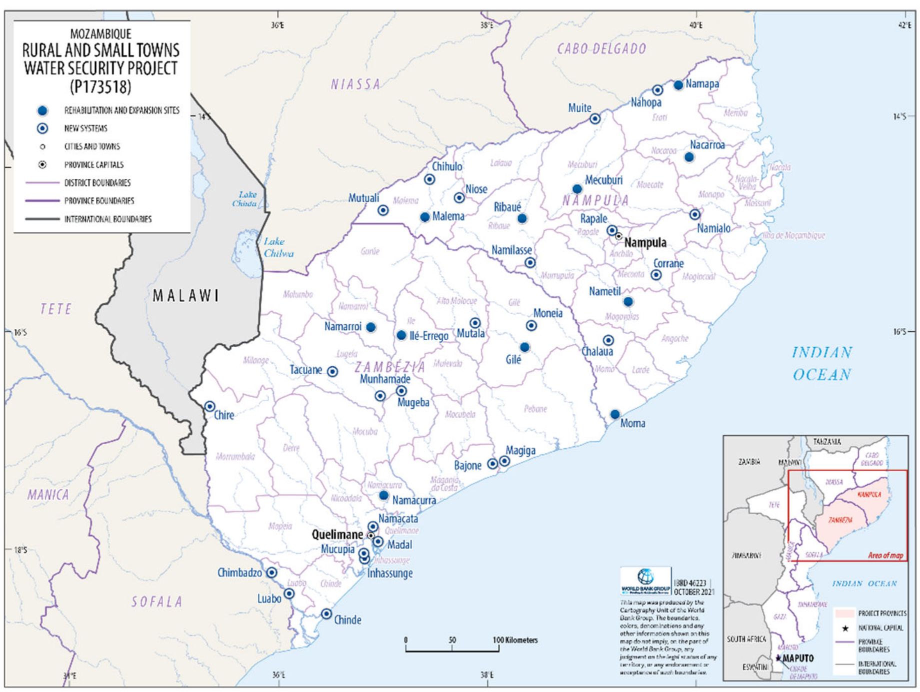
(a) **Inequitable Funding in the WSS Subsector**, with the concentration of funding in the urban WSS sector (roughly 80 percent between 2010 and 2018) by extension results in expenditures on average being more likely to benefit the non-poor. This is because the poor (40.2 percent of Mozambique's population) disproportionately live in rural areas. They are statistically more likely to rely on unimproved sources of WSS. Proposed actions to address this issue include: (i) more transparent and criteria-based flow of sector funds and associated subsidies with earmarked investments for areas that lag the most in terms of access to WSS and (ii) develop service delivery models that can address the challenge of consistently collecting user fees in areas where affordability is a problem or in communities too small to be financially viable, considering that a substantial challenge in rural WSS provision is sufficient funding for operations and capital maintenance.

(b) **Inadequate Funding Relative to Policy Objectives**, with the water sector lacking sufficient funding to meet sector goals by 2030, and the GoM facing substantial fiscal constraints as the country endured serious macroeconomic shocks such as the two tropical cyclones in 2019 and COVID-19 in 2020. Non-disbursement and a strong reliance on donor funds have also impacted budget execution and sector progress. Proposed actions to address this issue include: (i) tariff increases for services–especially for water and sanitation services which absorb most of the fiscal allocations in the sector, with an understanding of the cost of providing service as well as customer willingness and ability to pay and (ii) untap the potential of PPPs with greater predictability via long-term service contracts and transparent formula-based tariff revision protocol.

ANNEX 6: MAPS


MOZAMBIQUE
TANZANIA
ZAMBIA
MALAWI
ZIMBABWE
SOUTH AFRICA
ESWATINI
INDIAN OCEAN
Lake Niassa
CABO DELGADO
NIASSA
NAMPULA
ZAMBÉZIA
TETE
MANICA
SOFALA
INHAMBANE
GAZA
MAPUTO
CIDADE DE MAPUTO
Mocimboa da Praia
Pemba
Metangula
Lichinga
Marrupa
Catur
Mualadzi
Furancungo
Fingoè
Zumbo
Lago de Cahora Bassa
Songo
Tete
Changara
Cuamba
Nacala
Nampula
Moçambique
Gurué
Alto Molócue
Milange
Mocuba
Namacurra
Quelimane
Angoche
Sena
Catandica
Gorongosa
Inhaminga
Chimoio
Beira
Espungabera
Nova Mambone
Inhassôro
Vilanculos
Chicualacuala
Machaila
Mapai
Chigubo
Massingir
Panda
Inhambane
Inharrime
Guija
Chibito
Xai-Xai
Manhica
Matela
MAPUTO
Ponta do Ouro
35° E
40° E
10° S
15° S
20° S
25° S
0 75 150 Miles
0 75 150 Kilometers
IBRD 45559 | JUNE 2021
This map was produced by the Cartography Unit of the World Bank Group. The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of the World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.
MOZAMBIQUE
RURAL AND SMALL TOWNS WATER SECURITY PROJECT (P173518)
PRIORITY PROVINCES
SELECTED CITIES AND TOWNS
PROVINCE CAPITALS
NATIONAL CAPITAL
PROVINCE BOUNDARIES
INTERNATIONAL BOUNDARIES


MOZAMBIQUE
RURAL AND SMALL TOWNS WATER SECURITY PROJECT (P173518)
PROJECT DISTRICTS
PROJECT PROVINCES
CITIES AND TOWNS
PROVINCE CAPITALS
DISTRICT BOUNDARIES
PROVINCE BOUNDARIES
INTERNATIONAL BOUNDARIES
NIASSA
CABO DELGADO
MALAWI
TETE
MANICA
SOFALA
NAMPULA
ZAMBÉZIA
INDIAN OCEAN
Lake Chilwa
Nampula
Quelimane
IBRD 46206 | OCTOBER 2021
0 50 100 Kilometers


MOZAMBIQUE
RURAL AND SMALL TOWNS WATER SECURITY PROJECT (P173518)
REHABILITATION AND EXPANSION SITES
NEW SYSTEMS
CITIES AND TOWNS
PROVINCE CAPITALS
DISTRICT BOUNDARIES
PROVINCE BOUNDARIES
INTERNATIONAL BOUNDARIES
NIASSA
CABO DELGADO
MALAWI
TETE
MANICA
SOFALA
NAMPULA
ZAMBÉZIA
INDIAN OCEAN
Namapa
Nahopa
Muite
Nacarroa
Chihulo
Niose
Mutuali
Malema
Ribaué
Mecuburi
Rapale
Nampula
Namialo
Namilasse
Corrane
Nametil
Moneia
Namarroi
Ilé-Errego
Mutala
Gilé
Chalaua
Tacuane
Munhamade
Mugeba
Chire
Moma
Bajone
Magiga
Namacurra
Namaçata
Quelimane
Mucupia
Madal
Inhassunge
Chimbadzo
Luabo
Chinde
IBRD 46223 | OCTOBER 2021
0 50 100 Kilometers