



Concept Environmental and Social Review Summary

Concept Stage

(ESRS Concept Stage)

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BASIC INFORMATION

A. Basic Project Data

Country	Region	Project ID	Parent Project ID (if any)
Mozambique	EASTERN AND SOUTHERN AFRICA	P178653	
Project Name	Mozambique Urban Water Security Project		
Practice Area (Lead)	Financing Instrument	Estimated Appraisal Date	Estimated Board Date
Water	Investment Project Financing	12/15/2022	1/19/2023
Borrower(s)	Implementing Agency(ies)		
Ministry of Public Works Housing and Water Resources	National Directorate of Water Resources Management, Water Supply Asset Holding and Investment Fund, Water Regulatory Authority, South Regional Water Administration		

Proposed Development Objective

The project development objectives (PDO) is to increase access to improved water supply services; and to improve service delivery capacity in selected cities.

Financing (in USD Million)	Amount
Total Project Cost	150.00

B. Is the project being prepared in a Situation of Urgent Need of Assistance or Capacity Constraints, as per Bank IPF Policy, para. 12?

No

C. Summary Description of Proposed Project [including overview of Country, Sectoral & Institutional Contexts and Relationship to CPF]



The project is an Investment Project Financing (IPF) of a proposed amount of US\$ 150 million, with Performance-Based Grants (PBG). The project is expected to last for five years as of the WBG Board approval date. The use of PBGs will serve as an incentive for strengthening services and institutions, and for operational performance improvement. The amount will be dedicated to: (i) supporting strategic reforms and institutional strengthening; (ii) developing attractive service delivery models including O&M of water supply; and (iii) earmarked investments to secure water in the source, increase water storage, treatment, transport, and distribution capacity, with high impact in utilities technical and financial performance.

The project will focus on the Greater Maputo Region, complementing remaining, complementing remaining investments from two World Bank financed projects to increase water storage and production to meet the demand in this area. In addition, this operation will support priority investments in WSS serving the Southern Region to improve their climate resilience (reducing their vulnerability to droughts) and improve their efficiency and sustainability.

D. Environmental and Social Overview

D.1. Detailed project location(s) and salient physical characteristics relevant to the E&S assessment [geographic, environmental, social]

The project will be implemented in Southern Mozambique region, specifically in the provinces of Maputo, Gaza and Inhambane, but focused mainly on Greater Maputo area, Xai-Xai, Chibuto, Inhambane and Maxixe cities. In general, the Southern Mozambique climate is tropical, the driest one over all the country with an annual mean rainfall of less than 800 mm, decreasing to 300 mm in the Pafuri region. The annual average temperatures range from 24 to 26 °C. The vegetation is characterized by woodland and savannah inland, and mangroves along the coastline. There are five (5) Protected Areas (PAs): Limpopo, Maputo, Banhine and Zinave National parks and six (6) Important Biodiversity Areas (IBAs) in the region, all of which are located away from the proposed project sites. Likewise, the region is vulnerable to climate change and its related effects on water resources with floods or recurrent or prolonged droughts, which lead to water scarcity in reservoirs and aquifers. Water resources are also unevenly distributed across the country, with great limitations in the most developed Southern part of the country. Groundwater sources for the coastal cities are also affected by saline intrusion. Water supply to the Greater Maputo area is done through a combination of surface water and groundwater sources, being the main sources the Umbeluzi basin, where the Pequenos Libombos Dam (PLD) is located, or the Incomati basin, where the Corumana Dam is located. Xai-Xai city depends on underground source, as the Limpopo River has high salinity levels due to saline intrusion from the sea. Chibuto municipality is supplied from the Jatingue river lagoon, a tributary of the Limpopo River.

Poverty and inequality, which are concentrated in the overpopulated neighborhoods of the southern region, further exacerbate climate change vulnerabilities in the main cities. It is estimated that over 70% of the inhabitants of Greater Maputo live in slums. Likewise, Maputo and other capital cities in the south face many challenges, such as poor transport and drainage infrastructure, poor garbage collection, high numbers of informal settlements amongst others, which have profound implications on people's livelihoods, particularly in informal settlements. There's also increasing pressure on public water services and job creation. As a result, there's high risk of gender-based violence (GBV) in the region, particularly to women and girls with no access to water in the premises, with reports of experiences or fear of GBV when collecting water from public water points.



The project will also support expansion of water production, treatment, transmission, and distribution capacity to keep pace with population and industrial growth whilst improving operations efficiency and water utility financial sustainability.

Priority investments to secure water in the source under component 1 will include among other activities (i) priority repair and dam safety interventions at PLD, without any increment on its footprint (storage volume and inundated area), to secure its safe operation; (ii) construction of additional spillway to the Corumana Dam, to secure its safe operation and enable it to function at its full capacity. Both dams are classified as large dams under the Environmental and Social Framework (ESF)/Environmental and Social Standard 4 (ESS4) Annex A, as they both have more than 5 meters of height from the lowest foundation to crest and impounding more than 3 million m3.

Both interventions on dams will trigger the safeguards policy OP/BP 7.50 on International waterways, hence riparian habitats will be notified prior to project appraisal.

The Corumana dam is located on the Sabié River, immediately downstream of the border with the Republic of South Africa. The NWRDP's (P107350) flagship activity was the completion of the Corumana Dam to augment bulk water supply, while the downstream intake, water treatment, and conveyance system would be supported by the GMWSP (P125120).

D. 2. Borrower's Institutional Capacity

The project will be implemented by the Ministry of Public Works, Housing and Water Resources (MOPHRH), through National Directorate of Water Resource Management (DNGRH), Water Supply Asset Holding and Investment Fund (FIPAG), Water Regulatory Authority (AURA) and South Regional Water Administration (ARA-Sul). DNGRH and ARA-Sul will jointly implement the Water Resource Management (WRM) activities of the project. FIPAG and AURA on the other hand, will implement the water supply related activities of the project. DNGRH, FIPAG and AURA have acquired considerable experience and developed capacity in managing complex Bank-funded operations. DNGRH and ARA-Sul have recently overseen the implementation of the Water Resources Development Project (Corumana Dam -P107350) while FIPAG and AURA handled the Greater Maputo Water Supply Expansion (GMWSP - P125120) and the ongoing Water Service & Institutional Support II (WASIS II - P149377). Both Corumana and GMWSP projects closed with overall environmental and social safeguards performance consistently rated Moderately Satisfactory (MS) during much of the project implementation phase and at project closure while WASIS II is rated as MS as per latest ISR (November 2021). Implementing these operations enabled all these institutions with adequate ability to work in fragmented implementation arrangements, manage complex operations. While all projects were compliant E&S requirements, capacity challenges were noted, mainly due to the insufficient E&S specialists. Moreover, the novelty of the ESF will likely pose add challenges in the E&S capacity. While the proposed fragmented institutional arrangement will require an extra supervision effort, particularly in ensuring systematic monitoring and reporting across all agencies and at provincial agencies. Notwithstanding, the MOPHRH is implementing two WB funded operations; Rural and Small Towns Water Security Project (P173518) and CERRP (P171040) with similar fragmented arrangements. Under the RSTWSP (P173518), a long-term capacity building program was created to establish an Environmental and Social Management Systems (ESMS) similar to the International Standards Organization (ISO) 14001:2015 (Environmental Management) and ISO 9001:2015 (Quality Management). The procurement of this activity is at final stages, and it is being overseen by AIAS, but it will be extensive to the whole water sector program within the MOPHRH. Additionally, specific improvements and institutional strengthening measures will be further assessed as part of the Environmental and Social Management Framework (ESMF), but will include among others: (i) the creation of an environmental and social management area within the different Project Implementation Units (PIUs), both at central and local levels; (ii) creation establishment of inter-institutional agreements and working groups for adequate project implementation



with detailed procedures and standards as well as an ideal structure for an effective E&S risk management for both pre-construction and construction project phases in a manner consistent with ESSs and the good international industry practices (GIIP). Finally, a Third-party Monitoring (TPM) will be engaged by the project to assess the status and performance of the entire project, its compliance status, or emerging issues, while making recommendations for improvement, as necessary.

II. SCREENING OF POTENTIAL ENVIRONMENTAL AND SOCIAL (ES) RISKS AND IMPACTS

A. Environmental and Social Risk Classification (ESRC)

Substantial

Environmental Risk Rating

Substantial

While proposed project is mostly brownfield and relying on known technologies to improve water supply services and strengthen water resources management, the proposed environmental risk rating is Substantial. The proposed classification is owing to: (i) potential risks and impacts that will span across the project's large geographical footprint including the respective indirect areas of influence, and within sensitive riparian habitats; (ii) proposed physical interventions related with the repair works in the Pequenos Libombos and Corumana dams (without any increment on its footprint or storage capacity), to secure its safe operation and enable them to function at their full capacity, and expansion of the existing Sabie Water Treatment Plant (WTP) including permanent pipe-bridge and installation or refurbishment of water pipelines, intakes, storage facilities which are medium in magnitude, but with significant community health and safety risks; and (iii) untested capacity of the borrower to manage E&S risk under the ESF. As mentioned before the project will finance the remedial works for the Pequenos Libombos Dam and an additional spillway in the Corumana dam, all of which, classified as large dams under the ESS4 (Annex A). The remedial works include safety enhancement measures to upgrade these dams to an acceptable standard of safety. Notwithstanding, preliminary screening suggest that the proposed remedial works are rated as Substantial, from the combination of the likelihood of dam failure and magnitude of downstream consequences. For the existing Dams, the proposed risk classification was based on the risk concept, which is the product of two factors: i) likelihood of failure and ii) consequence of failure, coupled with the fact that proposed interventions on both dams are very specific and aimed at improving the dam's safety and efficiency. It is thus expected that the likelihood of extensive damage or failure is substantial. Anticipated environmental impacts and risks will mainly occur during construction phase and include: (i) deterioration of natural habitats due to changes in the water flow caused by reduction in water quantity in the watershed for consumption; (ii) reduction in water quality due to sedimentation and surface water pollution; (iii) overall nuisances to the communities and health and safety issues due to noise and vibration, dust, increased road traffic and integrity of infrastructures caused by natural hazards; (iv) generation and disposal of hazardous and non-hazardous waste; (v) occupational health and safety concerns such as physical, chemical and biological hazards to contracted workers. During operation and maintenance phases of the water infrastructures (components 1 and 2) potential risks and impacts include: (i) deterioration water ambient quality (temperature, pH levels) during operation of the dams; (ii) uncontrolled water pressure and leakages in water supply network and generation of waste (sludge) that could pose significant public health concerns; (iii) occupational health and safety risks (physical and chemical hazards) from storage, handling and use of disinfection chemicals in water treatment facilities by maintenance workers. The project will also support Technical Assistance (TA) activities under Component 4 including (i) feasibility studies for future dam investments (Type 1 TA) to increase capacity of services in the Greater Maputo Region, Chibuto, Inhambane and Maxixe; (ii) development of policies and strategies (Type 2 TA for protection of the Inco-Umbeluzi water sources; and (iii) Capacity building (Type TA 3) institutional capacity and improvement of the water



supply system operational efficiency. The TA activities will generate negligible environmental impacts, however when the outcomes of such TA activities are implemented in the future, they may lead to substantial downstream direct, indirect, and cumulative environmental impacts which will require E&S considerations.

Social Risk Rating

Substantial

The project social risk rating is classified as substantial. The overall project will have positive impacts as it will provide access to water supply services for more Mozambicans and time saving benefits for households, other consumers, and operators of the piped water system. The project will also likely result in improved efficiencies in the operation of the targeted systems and operators, improved health and reduced associated costs, especially for time costs for women, and in greater security of supply because of diversification of water supply assets. The Project will also create an enabling environment for safe schools for pupils and particularly girls that are forced to stay at home during menstrual time, by providing toilets and water supply facilities (WASH). However, there are potential adverse social risks and impacts attributable to activities under Component 1 and 2, mainly related to: (i) extension and modernization of the surface and groundwater, priority repairs, dam safety interventions, and construction of new infrastructure both in water and sanitation sector, which might result in land acquisition, involuntary resettlement and labor influx and cultural heritage issues; (ii) risks of GBV/SEA/SH specially for women without access to water in the premises; (iii) workers and community health and safety; and (iv) social inclusion issues related to water accessibility. Civil works supported by the project under components 1 and 2 are expected to result in involuntary resettlement, economic displacement, and temporary induced impacts on public and private assets, including disruptions to residents and local economic activities in the greater Maputo region and cities. The exact extent of land to be acquired and its resettlement impacts are not yet clear but due to the project urban setting, these impacts are expected to be substantial. These interventions are expected to use direct, contract and primary supply workers. Labour influx risks and impacts, including sexually transmitted infections (STIs), school dropout, teenage pregnancy, early marriage and child labor. Components 3 and 4 will also pose social risks and impacts related to technical assistance, institutional support, and capacity building. Given that there are a range of stakeholders who may have different interests, the project will require substantial efforts to ensure stakeholder engagement and regular community awareness activities, including the establishment of a Project Grievance Redress Mechanism (GRM) sensitive to GBV/SEA/SH risks and impacts throughout the project cycle. The project will be implemented in the southern provinces of Mozambique, out of the areas with security concern, which are currently verified in the Northern Mozambique regions, facing challenges that includes historical legacies of conflicts and violence, and in the latest years escalating armed and violent insurgencies. These conflicts have contributed to widespread poverty, infrastructure damage and limited delivery of essential services.

Public Disclosure

B. Environment and Social Standards (ESSs) that Apply to the Activities Being Considered

B.1. General Assessment

ESS1 Assessment and Management of Environmental and Social Risks and Impacts

Overview of the relevance of the Standard for the Project:

This standard is relevant.

The project will support priority investments, specifically under Components 1 aimed at securing water in the source that will involve medium to large scale civil works, such as the priority repair and dam safety interventions at Pequenos Libombos Dam and the construction of an additional spillway to the Corumana Dam, all of which to be



carried out within areas of sensitive riparian ecosystems and on international river basins that would trigger OP/BP 7.50 on International Waterways. While both interventions will be essential to secure the dams safe operation and enable them to function at their full capacity, they will not lead to changes in the respective inundation areas or storage capacity. These activities may generate direct, indirect and cumulative adverse environmental and social impacts including: (i) significant occupational health and safety risks from increased exposure of contracted workers to physical and chemical hazards; (ii) degradation of sensitive riparian habitats and the ecosystem that rely on them due to changes in the water flow; (iii) reduction in water quantity in the watersheds for consumption that may cause water conflicts amongst different users; (iv) reduction in water quality due to sedimentation and surface water pollution; (v) public nuisances related to the communities and health and safety issues due to noise and vibration, dust and increased exposure to natural events associated with the integrity of infrastructures; (vi) increased road traffic congestion and accidents along community roadways owing to increases in transport activity in a project's area of influence and around the ancillary facilities, (vii) in-migration for employment opportunities; (viii) Interference with migratory routes of aquatic species.

Project activities to be supported under component 2 related with the expansion of the water treatment and transport capacity to enable downstream utility-led investments in the distribution network to extend the services in the Greater Maputo Region and five cities from the Southern Region (Xai-Xai, Chokwe, Chibuto, Inhambane and Maxixe) may generate low to medium scale, direct, indirect and cumulative environmental and social impacts such as: (i) occupational health and safety risks related to exposure to physical, chemical and biological hazards; (ii) degradation of natural habitats and soil erosion due to land clearing for construction works; (iii) soil and surface water pollution from construction debris or spillage lubricants; (iv) community health and safety concerns related with dust, noise and vibration emissions as well as increase in road traffic congestion accidents; (v) impact on water usage and quality due to multiple abstractions, generation and disposal of construction waste, occupational health and safety concerns to workers; (vi) loss of assets and sources of livelihoods within direct and indirect areas of project influence; (vii) increased migration for work opportunities.

Lack of maintenance and proper operations of water infrastructures may lead to occupational health and safety risks to maintenance workers related with the exposure when storing or handling chemicals for water treatment; community health and safety concerns such as diseases from stagnated water due to water leaks or water quality for consumption. In addition, health risks associated with the spread of COVID-19 pandemic are likely to be a common risk across all project components.

Social risks of the project may include resettlement, mostly economic displacement due to civil works as well as labor issues, GBV/SEA/SH, public health and communicable diseases. The Borrower will develop a stand-alone Resettlement Policy Framework (RPF) by appraisal which will include procedures and approaches for assess the need for land acquisition and will provide guidance for the preparation of site-specific Resettlement Action Plans, to be prepared before the commencement of civil works on specific sub-projects, consistent with ESS5. Labor Management Procedures (LMPs) will be prepared by appraisal to ensure that all workers are provided working conditions in line with Mozambican laws and ESS2. The LMPs will include a worker's GRM. A GBV/SEA/SH assessment and Action Plan (under the ESMF) will also be undertaken by appraisal. A Stakeholder Engagement Plan (SEP) will be prepared by appraisal to ensure that stakeholders are consulted meaningfully. During implementation, Contractors will also develop and implement stakeholder communication mechanisms and maintain an effective GRM on site. The likelihood of additional risks and impacts will be assessed once more information on the components and the scale of interventions needed become available.

The project will support TA activities under components 1 to 4 related with (i) preparation of feasibility studies for future investments and dam safety plans (Type 1 TA); (ii) development of policies and strategies (Type 2 TA); and (iii)



Capacity building (Type TA 3) that may lead to smaller or medium magnitude downstream impacts when the outcomes of such TA activities are implemented in the future. Before Project implementation, the borrower will prepare Terms of References (ToR) to ensure that the proposed TA activities include adequate assessment of environmental and social implications and that the advice provided through the TAs for addressing those implications is consistent with the ESSs 1-6; 8; 10.

While 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, DNGRH, ARA-Sul, FIPAG and AURA E&S safeguards capacity have been long and well-established under the implementation of previous WB funded projects (including Environmental specialist and social specialist). In addition, MOPHRH has experience in managing projects in fragmented arrangements and the project will take advantage of the Environmental and Social Management System (ESMS) being established within the sector.

In order to manage environmental and social risks associated with the project, the borrower will need to develop:

(i) Environmental and Social Impact Assessment (ESIA) for all the activities of which the site-specific and detailed technical information of the proposed interventions are already known. These include the priority repair and dam safety interventions related with the proposed repair works in the PLD and additional spillway for Corumana Dam.

(ii) Given that detailed technical information of most of the proposed project activities are not yet known an Environmental and Social Management Framework (ESMF) will be prepared for the entire project to provide guidance for the preparation of a sub-level Regional Environmental and Social Impact Assessment (ESIA) and or Environmental and Social Management Plans (ESMPs). The regional ESIA and its final products should take full advantage of the existing ESA instruments already developed for the WB supported NWRDP project (P107350) e.g. ESMP, O&M Plan, Emergency Preparedness Plan (EPP), instrumentation plan, as well as social baseline information. The Regional ESIA will provide more integrated view of watershed management strategies for Maputo/Umbeluzi, Incomati and Limpopo basins, while also bringing into the fold other key existing water supply (e.g. Massingir dam) and urban wastewater facilities (e.g. Infulene WWTP). It would be a vehicle for including the key results of the water balance and quality analysis, the technical design studies, and stakeholder engagement to assess and manage direct, indirect, and cumulative impacts of water use on communities and ecosystem services in a manner consistent with ESS3. The Regional ESIA will assess implications of TA activities for dam development (Component 4) the full extent of their future environmental implications including relative benefits of additional, future water storage storage and supply.

Areas where “Use of Borrower Framework” is being considered:

The project will not the borrower framework

ESS10 Stakeholder Engagement and Information Disclosure

The ESS10 is relevant to the project. The project will need to undertake consultations with a range of stakeholders for the purpose of engaging and disclosing project-related information in a consistent, inclusive, coordinated and culturally appropriate manner. Project stakeholders include individuals, government, businesses, and people working in the water sector. Vulnerable and marginalized groups are expected to include women, poor, elders and disabled and child-headed households. Such groups must be targeted through consultations and assessment to ensure their inclusion in the project. To address this, the Borrower will prepare a Stakeholder Engagement Plan (SEP), which will be finalized, consulted upon, and disclosed by appraisal. Women living in areas with no access to water in the premises and school-aged girls were identified as potential vulnerable groups due to their experience or fear to GBV/SEA/SH when collecting water in public areas or the absence of girls in schools due to the lack of adequate sanitation



facilities. The project will develop gender-sensitive approaches and methods targeted at women inclusion and engagement in the project activities, included in the SEP, along with the other stakeholders and other vulnerable and marginalized groups to be identified in the SEP. The SEP will also consider the current World Bank funded projects with the MOPHRH and the existing structures and processes for conducting stakeholder/citizen engagement activities.

The project implementing agencies have recently established an effective GRM, including an online platform to register and address issues faced by beneficiaries, system users, stakeholders, affected communities, workers, sensitive to GBV/SEA/SH grievances under the Water Services and Institutional Support project (WASIS II – P149377), that can be assessed. Specific recommendations and guidance will be provided in the SEP to enable the PIU to use the GRM in accordance with the specifications of the stakeholders identified in this project. The GRM will also include ad hoc measures to ethically and safely collect and handle SEA/SH-related cases.

The SEP will be updated throughout the project. Stakeholder engagement activities will support activities under component 3 which will include 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 water schemes. A citizen engagement and feedback process will be established by the project to ensure that any complaints about the project or the performance of the supported utilities can be effectively addressed. This process includes not only dedicated public consultation events, but improved operational customer complaint systems, to be supported under project capacity building. A standardized system of Grievance Redress Mechanism (GRM) sensitive to GBV/SEA/SH risks and impacts will be instituted in key agencies (AURA, DNGRH and FIPAG). This will be an automated system that allows complaints to be recorded and forwarded to the relevant department in time for them to be addressed.

B.2. Specific Risks and Impacts

A brief description of the potential environmental and social risks and impacts relevant to the Project.

ESS2 Labor and Working Conditions

To increase access to improved water supply services, and strengthen water resources management and utilities performance, activities under Component 1 to 2 the project will engage direct, and contracted, and primary supply workers. The expected number for each category of workers is not yet known. Direct workers will include civil servants, consultants and technicians hired to support the implementation of the project in each PIU. Contracted workers will be hired directly by the contractor. The borrower will also contract a firm to conduct the project's supervision, and the contractor is likely to subcontract other companies, all of which are expected to have primary suppliers. The bidding documents for works will include similar contractual obligations for their subcontractors and primary suppliers, both in terms of compliance with labor laws and in a manner consistent with the Bank's ESF to ensure fair labor practices and health and safety of workers throughout the project, the borrower need to take into consideration the Mozambican Labor Laws and comply with the requirements of ESS2 for each type of workers. The Project will not engage child or forced labor, as defined under ESS2. The LMP will include provisions to ensure that women have equal opportunities to get employment in the PIU and includes measures to prevent SEA/H actions against Project Workers, including sexual harassment in the workplace (PIU workers, other direct workers, and contracted workers). The LMP will also set out the procedures and requirements of the Project grievance mechanism required under ESS2, which aims at addressing Project Workers disputes about labor issues.



Occupational health and safety risks associated with the construction and operational phases of water abstraction, treatment and supply activities include among others: (i) physical hazards from repetitive exposure to work activities (noise, electrical and vibration) that can cause accidents and injuries; (ii) chemical hazards due to chronic repetitive exposure to toxic, corrosive, sensitizing or oxidative substances; (iii) biological hazards from exposure agents, to pathogens and vectors that can cause human diseases as well as a combination of all cited hazards that could occur as a result of workers' exposure to natural events such cyclones, flash floods, windstorms or seismic activities.

As such, the borrower will ensure to include in the draft ESIA for the dam repair works, the ESMF and the Regional ESIA measures for the identification and mitigation of project Occupational Health and Safety (OHS) risks in line with the World Bank Group General Environmental, Health and Safety Guidelines (EHSG) including the industry-sector guidelines for Water and Sanitation as well as relevant Good International Industry Practices (GIIP). The ESMF will also provide guidance for the development of sub-level regional ESIA, including detailed provisions to prepare Contractor ESMPs (C-ESMPs), OHS Plans, Covid-19 Prevention Plan and Emergency Preparedness and Response Plans (ERP).

ESS3 Resource Efficiency and Pollution Prevention and Management

ESS3 is relevant to this project.

Resource efficiency.

Energy use: Since proposed project activities will involve water abstraction, treatment and transport, the project is thus classified as of potential significant energy use. Notwithstanding, the project was deliberately designed to integrate incentives to encourage water infrastructure and utility operators to innovate enhanced climate mitigation and resilience aspects into design and operation of their systems. Consequently, the draft ESIA for the dam repair works, the project's ESMF, the Regional ESIA, including the TORs for the TA activities to be prepared by the borrower will include detailed guidance to be considered during the design of these systems to adopt energy efficiency measures, including reduction of non-revenue water, and promotion of renewable energy as a backup solution in case of power cuts from the grid, instead of using fossil fuel powered generators to keep systems running.

Water Use: The project is potentially of significant water use, since the proposed activities aim at increasing access to improved water supply services, and to strengthen water resources management and utilities performance to meet the increasing urban demand. To accomplish this objective the project will rely on the existing key water storage infrastructures and groundwater reservoirs. Consequently, a detailed water balance study and a complete water quality analysis to ensure that the water source is suitable as a drinking water source will be carried out as part of the feasibility and technical design studies. The technical studies will identify all potential water users within the watersheds that may be negatively affected as well as to provide measures for periodic monitoring and reporting on water uses. This provision will be included in both draft ESIA and ESMF and the Regional ESIA to ensure that direct, indirect, and cumulative impacts of water use on communities and ecosystem services are adequately assessed and managed in a manner consistent with ESS3.

Pollution Prevention. The borrower will develop pollution prevention measures as part of the draft ESIA, ESMF, the Regional ESIA and TORs for the relevant TA activities to: (i) ensure there is no soil, water, and/or air contamination



from the construction and operation of project-related components, including the proposed Pequenos Libombos and Corumana Dams repair works, expansion and operation of the Sabie water treatment plant as well as the investments in the water networks system in the Southern region. Such measures will include adequate handling and disposal of hazardous and non-hazardous waste, hazardous substances, managing spills, dust, vibration and noise emissions and other contingencies in line with the General EHS, specifically the Sector Industry Guidelines for Water and Sanitation. Any needs for construction materials from quarries or borrow pits will be done through licensed operators. Similarly, transportation and disposal of waste will be done in accredited sites.

For the existing Sabie WTP, sludge handling and storage site is compliant with the Regulation of Waste Management (Decree 13/2006 of June 15, 2006) and GIIP. The sludge from the purges of clarifiers is passed to an equalization sludge tank and pumped to the gravity thickeners. At the thickener entrance a specific polymer is added, for the purpose of increase the capture of the sludge solids in suspension. The thickened sludge is pumped to a drying bed and afterwards transported by a tipper truck to a storage site located in an area adjacent to the WTP. The sludge storage site and drying bed is around 10 ha. The site was designed and implemented to include measures to prevent soil and groundwater aquifers pollution. The site was lined with a plastic UV resistant membrane and fitted with a drainage and leachate detention system. Given the proposed WTP expansion, other uses of the sludge are being considered and could be as soil conditioner for agricultural purposes or to use the dried sludge for co-incineration in cement or steel factories.

While proposed project investments are not expected to generate significant GHG emissions, GHG accounting and reduction will be included as an economic benefit in the economic analysis of the project.

ESS4 Community Health and Safety

ESS4 is relevant to the project.

The project proposed project activities, mainly under components 1 and 2 will potentially generate significant community health and safety risks.

Traffic and road safety: The construction, rehabilitation and repair work phase will require the movement of vehicles, equipment and materials potentially through urban settings resulting in increased road congestion, incidents to pedestrian and other road users. The Greater Maputo area and the Southern region of Mozambique, present a sensitive socioeconomic and demographic context; hence, special attention will be given to traffic management plans and road safety during construction phase, largely because of inadequate infrastructure to safely manage large traffic flows and insufficient road signs.

Community health and safety issues include exposure to nuisance from dust emissions, noise, and vibrations as well as public health concerns from air, soil and water contamination caused by construction or rehabilitation works. These hazards are mostly common and typical to works sites and ancillary facilities.

During operation phase communities may also be exposed to structural safety issues in event of structural failures due to natural hazards or inadequate operation and maintenance of dams, water treatment plants and other water supply systems. There are also issues related with poor water quality supplied to the community that could lead to outbreaks of cholera, diarrhea and typhoid which could be harmful and potentially fatal to vulnerable individuals especially the elderly, persons with immune compromise and young children. Leaks from poorly maintained infrastructure can lead to stagnant water which become a breeding ground for mosquitoes that transmit diseases



such as malaria and dengue fever. Risks and impacts on the community could also relate to the design and safety of infrastructures associated with the proposed TA activities. As a result, the Borrower will be required to undertake an assessment of the direct, indirect, and cumulative risks and impacts of the project on the affected communities. The Draft ESIA/ESMP for the dams repair works and the ESMF will include detailed guidance and provisions to prepare Community Health and Safety Plans (CHS Plans), Traffic Safety Plans (TSP), Workers Campsite Management Plans (WCMP) and C-ESMPs that will be binding to the contractor's contract in a manner proportionate to the likely risks and impacts and consistent with ESS4, the EHSg for Water and Sanitation as well as GIIP.

While Dam safety is intrinsic part of the project design, natural hazards, such heavy rains / landslides/debris flow, etc., can happen and potential risk of accident and incidence do exist during rehabilitation and operation stages of the dams leading to potential risks and impacts to the ecosystem services and result in public safety issues. As part of the subproject draft ESIA/ESMP, detailed dam safety risk assessment will be undertaken in a manner commensurate with potential risk of the dams and complexity of remedial works. Such assessments will be based on two factors: i) likelihood of failure and ii) consequence of failure and it will thereafter inform the preparation of the Draft ESIA and should be carried out covering hydrological, geological/geo-technical, seismic, and other operational risks in manner consistent with ESS4 and the GIIP. The outcome of dam safety /risk assessment as well as adequacy of proposed remedial works and quality of construction works should be periodically reviewed and approved by qualified engineers. Furthermore, the borrower will engage one or more independent dam expert to: (a) inspect and examine the safety status of the dam and appurtenant structures and its performance history; (b) review and evaluate the owner's operation and maintenance procedures; and (c) provide a report on findings and recommendations for the proposed remedial works and the new spillway to an acceptable standard of safety as per ESS4 and GIIP. For the construction of an additional spillway for Corumana Dam, all dam safety measures were recently reviewed and approved by the Bank and were inclusive of the risks and impacts of the proposed construction of emergency spillway. Nonetheless, a brief dam safety assessment will be carried to propose any adjustments as necessary as per ESS4.

Detailed measures for watershed and sediment management to reduce groundwater depletion and mitigate the deterioration of water quality and reduction to be supported under component 1 are not fully defined. Nevertheless, they will involve extension and modernization of surface and ground monitoring network in aquifers serving the main urban centers in the region that rely on groundwater to meet urban demand, whilst also mitigating the potential for excessive depletion and saline water intrusion in coastal aquifers to reduce public health concerns, especially during dry years.

The Draft ESIA/ESMP as well as the TORs for the related TA activities will include detailed Dam Safety Plan (DSP) measures for each dam that will comprise: (i) a plan for construction supervision and quality assurance; (ii) an instrumentation plan; (iii) an operation and maintenance plan; and (iv) an emergency preparedness plan. The ESIA/ESMP will include provisions to the Borrower to require that the proposed dams repair works, and new spillway are designed, and their construction is supervised by a firm comprising competent professionals including a dam engineer.

Proposed project activities, mainly under components 1 and 2 may result in an influx of workers and contractors from outside of the community which may result in conflict situations and potential health issues. Influx of workers,



including contracted workers or job seekers, could add to the potential introduction and spread of communicable diseases and COVID-19 within the community, if not managed. In the absence of appropriate mitigation measures, GBV/SEA/SH and the spread of sexually transmitted and communicable diseases, may occur or be exacerbated by the presence of a migrant workforce. The project will therefore require a risk assessment and Action Plan for Gender Based Violence (GBV) / Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH), prior to appraisal. The contextual risk of SEA/SH is assessed as Substantial. A SEA/GBV/SH Risk Assessment and Action Plan will be prepared by appraisal as part of the ESMF. Specific risks are posed by (i) labor influx (ii) increase in disposable income for local communities leading to increase in transactional sex (iii) greater tolerance among rural communities for violence against women (iv) lack of awareness and sensitization on SEA/SH (v) situations where often men are in a position of power over women for providing employment or training and (vi) lack of experience among contractors on managing SEA/SH risks.

Civil works, community interventions, technical support, and any other activities involving face-to-face interaction also face the risk of spread of infectious disease in a COVID-19 crisis. A COVID-19 protocol will also be prepared as part of the ESMF to be disclosed by appraisal to avoid or minimize the spread of the disease. The Project will also support information and awareness-raising measures in the community on COVID-19 risks that could be exacerbated by the project and that need to be addressed at the community level through responsible action.

At this stage, it is not anticipated that military personnel or police forces will be deployed in this project. However, should the use of other forms of security forces be identified for any of the project activities, the PIU will prepare and implement a Security Personnel Management Plan (SPMP) consistent with ESS4.

ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

The ESS5 is relevant for the Project as the proposed interventions under Components 1 and 2, have the potential to lead to land acquisition, restrictions on land use, involuntary resettlement, physical and economic displacement. Potential social risks and impacts are expected to include economic impacts on Project Affected People (PAP) due to temporary or permanent land acquisition, and the implementation of project infrastructure interventions under component 1 and 2 of the Project, which may result in small scale resettlement impacts both in rural and urban areas. This Standard is relevant given the foreseen civil works. Small to medium-scale physical resettlement, land acquisition, and adverse impacts could occur from the expansion of water supply infrastructure. Except for Pequenos Libombos and Corumana dam, the specific investments in selected cities will not be known before the project implementation phase. The proposed activities in both dams are not expected to require land, and a change of footprint that may result in large concentrated impacted areas. On the other hand, the proposed expansion of water distribution system under the Improvement resilience of water production and transport infrastructures in the Greater Maputo Region may result in dispersed smaller physical and economic displacement and is expected to be limited and avoided as much as possible. The types of economic displacement impacts induced by the project will likely result from i) temporary interruption of economic activities during construction activities; and ii) impacts on mobile vendors. The proposed site for phase 2 of expansion of Sabie water treatment plant has already been secured and compensated under the GMWSP (P120125). Land acquisition is not expected for two dams' interventions, although a RAP has been recently concluded for Corumana dam under the (P107350). Under the WASH facilities the Project will put in place a community selection criterion and where applicable the communities will donate land for the Project following all the Voluntary Land Donation Protocol (VLDP). Included in the ESCP, the Borrower will



develop a Resettlement Policy Framework (RPF) that will be prepared, cleared by the Bank, finalized, disclosed, and consulted upon by appraisal. The RPF includes procedures and approaches for land acquisition and provides guidance for the preparation of site-specific Resettlement Action Plans (RAPs), as required once the sites are determined after the completion of final technical designs before the commencement of civil works. No civil works will commence prior to the preparation and implementation of appropriate risk management instruments. Resettlement related expenditures will be financed by the government.

ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

At this stage the exact locations of the sub-projects investments mainly under component 2, are not known. The project will support repair works for Pequenos Libombos Dam, construction of additional spillway for Corumana Dam including expansion of the water treatment and transport capacity, construction of the second phase of the Sabie Water Treatment Plant, as well as groundwater reservoirs water abstraction infrastructures. All those activities will require site clearance for construction purposes, the establishment of the contractor’s campsite, material laydown area and earthworks consisting of excavations, trenching, or submerging equipment to surface and ground water sources. These activities have the potential to cause, soil erosion, degradation, and contamination (oil and fuel leakage), overexploitation, hydrological flow changes, nutrient loading, pollution leading to direct, indirect, and cumulative impacts and degradation of the riparian habitats. Healthy riparian zones are important to capture and filter sediment, excess nutrients, and pollution from surface runoff providing critical habitat for insects, amphibians, and other wildlife. The dams’ repairs works under component 1 could generate significant risks of cumulative increases in sediment loads on both watersheds or increased erosion that could lead to temperature fluctuation and favoring algae bloom. Such conditions could adversely affect sensitive species due to changes in water quality and decreased oxygen levels. In addition, changes in water quality and quantity could indirectly interfere with migratory routes or wildlife movement in the entire river basin which extends to South Africa and Eswatini.

The draft ESIA/ESMP and the ESMF will include criteria and procedures to allow for screening of any sensitive ecosystems and services, to ensure that the investments are designed and implemented in ways that avoid damage to sensitive areas or critical habitats. The need to prepare a Biodiversity Management Plan (BMP) will be addressed in the draft ESIA and ESMF including screening criteria to avoid impacts on critical habitats and of the high biodiversity value areas, setting out the principles, rules, guidelines, and procedures to assess the impacts, define eligible activities, propose mitigation measures, and monitor biodiversity related implications of all project components. The specific borrower requirements related to natural habitats and biodiversity will be detailed in the Regional ESIA to be prepared for all subproject level investments to be financed under Component 2 and the C-ESMPs thereafter.

ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities

There are no known Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities in the project area.

ESS8 Cultural Heritage



ESS8 is classified as relevant to the project as the investments include aspects such as site clearing, and earth works that could have an impact on tangible and intangible cultural heritage features located within the project footprint and underground. Cultural property may be impacted by activities under components 1 and 2. For civil works activities under Component 2, the project will seek to preserve heritage sites. Proposed investments financed under

Component 2 include aspects such as site clearing, earth works and excavations for the installation of traffic management systems and signage that could have an impact on tangible and intangible cultural heritage features located within the project footprint and underground. Although the project will not finance activities that will affect cultural heritage resources, “chance find” procedures will be implemented in construction activities. A Chance Finds Procedure will be outlined in the Draft ESIA/ESMP and the ESMF including in any subsequent ESIA/ESMP. Contractors will be expected to comply with Chance Find Procedures.

ESS9 Financial Intermediaries

The ESS9 is not considered relevant to the Project activities at this stage. No plans of engaging Financial Intermediaries are expected in the Project.

B.3 Other Relevant Project Risks

Furthermore, common risks across all project components include health risks due to COVID-19 pandemic that are expected in crowded situations during civil works. The overall delivery of the project will have a positive impact in the receiving community by providing safe access to water services and improving service delivery, but there are potential social inclusion issues related to water user rights and accessibility.

C. Legal Operational Policies that Apply

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

III. WORLD BANK ENVIRONMENTAL AND SOCIAL DUE DILIGENCE

A. Is a common approach being considered? No

Financing Partners

At this stage, the project is not expected to involve Financing Partners.

B. Proposed Measures, Actions and Timing (Borrower’s commitments)

Actions to be completed prior to Bank Board Approval:

The relevant Environmental and Social instruments that need to be prepared, approved, and disclosed before project appraisal are:



1. A Draft environmental and social impact assessment (ESIA) and a Draft environmental and social management plan (ESMP) for the (i) Dam repair works in Pequenos Libombos and (ii) additional spillway in Corumana Dam;
2. Environmental and Social Management Framework (ESMF) for the entire project;
3. Draft Dam Safety Plans;
4. Labor Management Procedures and Grievance Redress Mechanism for Workers;
5. Stakeholder Engagement Plan (SEP) for the entire project, and;
6. A draft Environmental and Social Commitment Plan (ESCP).
7. Resettlement Policy Framework (RPF)
8. GBV/SEA/SH Risk Assessment
9. Chance Finds Procedure (CFP)
10. Covid 19 Protocol.

Possible issues to be addressed in the Borrower Environmental and Social Commitment Plan (ESCP):

The draft ESMP should contain the following as a minimum:

1. Finalize the ESIA/ESMP for the Dams Repair Works;
2. Finalize the Dam Safety Plan for the dam repair works

Preparation of the subprojects Regional ESIA/ESMP be completed and disclosed prior subproject commencement.

3. Terms of Reference in line with the ESF, for undertaking Technical assistance (TA) activities for Bank review and approval;
4. Prepare and finalize the Dam Safety Plans;
5. Prepare and finalize the GBV Action Plan;
6. Prepare C-ESMP including guidance for contractors Community Health and Safety Plans and OHS Plans;
7. Prepare site specific RAP/ARAPs (if needed);

C. Timing

Tentative target date for preparing the Appraisal Stage ESRS

20-Nov-2022

IV. CONTACT POINTS

World Bank

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Borrower/Client/Recipient

Borrower: Ministry of Public Works Housing and Water Resources

Implementing Agency(ies)

Implementing Agency: National Directorate of Water Resources Management



Implementing Agency: Water Supply Asset Holding and Investment Fund

Implementing Agency: Water Regulatory Authority

Implementing Agency: South Regional Water Administration

V. FOR MORE INFORMATION CONTACT

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VI. APPROVAL

Task Team Leader(s):	Pierre Francois-Xavier Boulenger
Practice Manager (ENR/Social)	Africa Eshogba Olojoba Recommended on 03-Aug-2022 at 12:04:44 GMT-04:00
Safeguards Advisor ESSA	Ning Yang (SAESSA) Cleared on 04-Aug-2022 at 16:04:8 GMT-04:00