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ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN SUMMARY

KISMAYO AND BAIDOA WATER AND SANITATION PROJECT

FEDERAL REPUBLIC OF SOMALIA

REPORT PREPARED

BY

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ACRONYMS

AfDB	: African Development Bank
AWD	: Acute Watery Diarrhea
CBO	: Community Based Organization
CSO	: Civil Society Organization
EA	: Environmental Assessment
ESMP	: Environmental and Social Management Plan
FGS	: Federal Government of Somalia
IOM	: International Organization for Migration
ISO	: Integrated Safeguards Operations
MoE	: Ministry of Environment
MoEWR	: Ministry of Energy and Water Resources
MoH	: Ministry of Health
MoPH	: Ministry of Public Health
NGO	: Non-Governmental Organization
OS	: Operating Safeguards
PIU	: Project Implementation Unit
RDGE	: Regional Directorate General for Eastern Africa
UNICEF	: United Nations Children Fund
UNIFPA	: United Nations Population Fund

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP) FOR KISMAYU AND BAIDOA URBAN WATER PROJECT

1. GENERAL INFORMATION

Project Title: *Kismayu and Baidoa urban water project*. **Project Number:** *P-SO-E00-003*

Country: *Somalia* **Department:**

Division: *RDGE 4* **Project Category:** 2

Starting date of implementation: *31st December 2018*

Project completion date: *31st December 2022*

Date of operation: *31st December 2018*

Period covered by the plan: *December 2018 – December 2022*

2. INTRODUCTION

2.1. Background

Somalia has experienced cycles of conflict that fragmented the country, destroyed legitimate institutions, infrastructure and created widespread vulnerability since the collapse of Government in 1991. This affected all sectors including water and sanitation. The destruction of and absence of water and sanitation facilities led to upsurge in preventable water-borne diseases such as Acute Watery Diarrhea (AWD). According to UNICEF (2015) only 35% and 24% of the Somali population have access to portable water and improved sanitation, respectively, making Somalia the lowest per capita in world index as relates to water and sanitation. Under-five child mortality rate estimate in Somalia stands at 133 per 1,000 live births with higher number in South-Central, making the country one of the highest in the world. This high child mortality is directly or indirectly related to lack of access to adequate water and sanitation services in the country.

In the last few years, there is a return to normalcy in the country. The private sector and the investor confidence is gaining momentum, however water and sanitation remains a challenge. A joint study by the African Development Bank (AfDB) and the Ministry of Energy and Water Resources (MoE&WR) of the Federal Government of Somalia (FGS) identified the gaps in the water and sanitation as limited governance and institutional capacity.

2.2. Environmental and social circumstances

Climate

The climate of Somalia is both tropical and subtropical depending on the spatial location, and is arid and semi-arid in nature. The mean temperature in the inland areas is about 28^{o} C and can be very cold at night and in the mountainous areas and as high as 47^{o}C along the coast. The average annual rainfall is between 280 mm and 500 mm. The rainfall is bi-modal while cyclic droughts are very common, after every 2-3 years accompanied by devastating floods particularly in the south western regions. The floods occur when the *Shabelle* and J*ubba* rivers, whose origin is the Ethiopia highland, burst their banks and in the process cause displacement and destruction of properties.

Hydrogeology

Pre-Cambrian rock and sandy limestone from the Cretaceous and Jurassic periods constitute the main sources of sandy soil that occur widely throughout Somalia. This rock formation influences soil type, vegetation, aquifer type and productivity (availability of water) and the livelihood systems in Somalia. Generally, there are about ten aquifers in Somalia, which influence groundwater site selection. Major sources of water in the South-Central region are boreholes and shallow wells. Most of the boreholes are deep and saline while the shallow wells are susceptible to contamination since they are not well protected. The two main rivers *Shabelle* and *Juba* flow through the region and are the main source of water for public use and irrigation. As such groundwater forms an essential source of water in most parts of Somalia and is accessed through boreholes, shallow wells and temporary springs.

Demography

The last official census of Somalia was in 1975, when the population was estimated at 3.2 million people. Currently the population is estimated at 10.5 million. The average population density is estimated at 167 people/km^2 with 61.4% percent of the people living in the rural areas and about 38.6% in the urban. Population growth is estimated at 3.1 percent per year for the period of 1995-2000 mainly because of the internal conflict, which caused many to flee the country to neighbouring countries. As a result of the prolonged civil war and cyclic droughts about 1.1 million Somalis have become internally displaced (UNIFPA 2014) and are living in major urban centers. Almost all proposed project sites are faced with excess population compared to existing water and sanitation services demand and most of them live in squalid and dangerous conditions.

Education

The education system in Somalia collapsed with the central authority in 1991 and it has so far not been revived. Many learned people fled the country and for the last two and half decades the humanitarian organisations' efforts have not achieved much in the education sector. In the process few individuals have initiated private primary, secondary and tertiary education with no regulatory oversight. This means the education system operating in the country is commercial orientated and not designed to address the prevailing socio-economic needs of the country. Parallel to the private-managed schooling system is the informal school system based on the Islamic faith, which is popular with families who cannot afford the private schools. In some regions more so those controlled by insurgent there is complete shutdown of formal schooling system.

The Kismayo water supply

Kismayo town was previously served by a conventional water treatment system located in Yontoy. This system draws water from the Juba River which is then supplied to the coastal city by gravity. The treatment plant has been out of operation since the civil war and the pipes have been destroyed some of which were vandalized or looted. As such the population depends entirely on shallow wells dug within the town. Several attempts have been made to rehabilitate the station but failed due to the high capital costs for replacing the damaged or missing parts of the pipeline as well as the fragile situation in this part of the country.

There is limited data available on Kismayo wells and this information gap has also impeded the improvement of this source of water. In 1994 the ICRC launched a survey to assess the quality of the wells protected under its water and sanitation programme, surveying about 125 wells. This survey covered public wells only as access to privately owned wells was restricted. Due to the persisting water shortage and the increasing demand, some private actors invested in drilling

of boreholes and supplying water to parts of the Kismayo city at a fee. This is an indication that PPP approach can be explored to ensure sustainable water supply to the city.

The Baidoa Water Supply

Somalia has been affected by frequent droughts hence diminishing water supplies. Baidoa town is one of the most affected areas, and currently holds one of the highest numbers of IDPs in Somalia. According to the International Organization for Migration's (IOM) Displacement Tracking Matrix, across 21 sites, there are over 243,000 people who have migrated to the area between November 2016 and September 2017. Following extensive and continued drought in the regions around Baidoa, emergency water trucking was launched for in collaboration with International Committee of the Red Cross, other development partners in partnership with the Federal Government of Somalia and the South West State (SWS) authorities cater for the high population that includes more than 230,000 internally displaced people who moved into makeshift settlements around Baidoa from rural areas. Because of the bad water supplies, Baidoa was at the centre of an outbreak of Acute Watery Diarrhea/ Cholera with over 12,000 cases reported in 2016/7.

Previously, Baidoa Town Water Supply source was from springs called "isha Baidoa". In 2008/9, UNICEF and other development partners drilled 11 deep boreholes in Baidoa vicinity, equipped them with generators and channeled the water from these boreholes into tanks through piping and installed complete reticulation system forming the Baidoa town water supply system. Public Private Partnership (PPP) institution called "Warjinay" company was formed by the Ministry of Energy and Water Resources representing public interest and private investors who bought shares. UNICEF has since handed over the water supply infrastructure to the company to manage. As of 2015, Warjinay Water Company served 5,700 household connections and 9 communal water kiosks. The 11 boreholes and the spring can only produce 1,500m^3 per day which is less than the demand, hence the need to explore more water sources for the fast growing town.

3. THE ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

3.1. Objectives of the ESMP

In line with the requirements of the Federal Government of Somalia (FGS) and the AfDB safeguard policies, the proposed project implementation will be guided by an Environmental and Social Management Plan (ESMP). The ESMP aims to bring the project into compliance with applicable national environmental and social legal requirements as well as AfDB safeguards, policies and procedures. This ESMP is intended to achieve the following specific objectives: (i) to bring the project into compliance with applicable national environmental and social legal requirements and the Bank's safeguards policies and procedures; (ii) to outline the mitigating/enhancing, monitoring, consultative and institutional measures required to prevent, minimize, mitigate or compensate for adverse environmental and social impacts, or to enhance the project beneficial impacts; and, (iii) to address capacity building requirements to strengthen the Borrower's safeguards capacities.

3.2. Policies, Legal and Administrative Framework

The constitution of the FGS passed in 2012 is the supreme document that guides all policies and legislations on environment and other social issues such as poverty and unemployment. There are a number of chapters and articles that reflect the wish, aspirations and dreams of the Somalis

when it comes to environment and development related issues. Chapter 2, Article 25(1) give every citizen the right to an environment that is not harmful to their health and well-being, and protect citizen from pollution and harmful material. Article 27 (1) gives citizen right to clean water. Any development activity, which may be injurious to the bio-chemical and social environment and the access to portable water, violates one's human rights. The African Development Bank's Integrated Safeguards System provides the framework that promotes the social and environmental sustainability of the Bank's projects outcomes.

The Bank's Integrated Operational Safeguards (IOSs) will be triggered by the proposed project as shown in the table below.

Table 1: Summary of the Operational Safeguards

Safeguard Policies Triggered	**Yes**	**No**	**To Be Determined**
Environmental and Social Assessment (OS 1)	**X**		
Involuntary Resettlement: Land Acquisition, Population Displacement and Compensation (OS 2)		**X**	
Biodiversity and Ecosystems Services (OS 3)	**x**		
Pollution Prevention and Control, Hazardous Materials and Resources Efficiency (OS 4)	**X**		
Labour Conditions, Health and Safety (OS 5)	**X**		

The OS1 Policy requires Environmental Assessment (EA) of proposed projects for Bank financing to help ensure that they are environmentally sound and sustainable, and thus to improve decision making. The EA is a process whose breadth, depth, and type of analysis will depend on the nature, scale, and potential environmental impact of the proposed investments and leads to the categorization of the project hence determining the level of EA required. The EA process takes into account the natural environment (air, water, and land); human health and safety; social aspects (involuntary resettlement, indigenous peoples, and cultural property) and transboundary and global environmental aspects. **This project was classified as Category 2.**

OS2 Involuntary Resettlement: This OS will not be triggered because the project will not have involuntary resettlement.

OS3 Preservation of Biological Diversity and Conservation of Ecosystems: The Preservation of Biological Diversity and Conservation of Ecosystems Services will be triggered because of the clearing works that will be required in order to lay the water and sanitation infrastructure hence there will be need to avoid or if not possible, reduce and minimize impacts on the identified biodiversity.

OS4 Pollution Prevention and Control, Greenhouse Gases, and Hazardous Materials will be triggered from activities such as excavation works, motorised works that may lead to oil and other petroleum products spills, etc. Other triggers but which are short-term in nature may arise out of dust and air pollution during construction works and transportation of construction materials.

OS5 Labour Conditions, Health and Safety will be triggered because during both development and implementation phases will involve working environments and as such it is important that labour conditions, work environment, as well as health and safety conditions are taken into consideration.

4. KISMAYO AND BAIDOA URBAN WATER SUPPLY AND SANITATION PROJECT

4.1. Objectives of the project

The objectives of the project include: (i) the supply of clean and safe drinking water through rehabilitation, expansion and development of sustainable urban water infrastructure; (ii) to improve water management systems and service delivery through institutional capacity building; and, (iii) to ensure economic development through creation of short-term and long-term job opportunities to project beneficiaries.

4.2. Components and activities of the project

Component 1 – Rehabilitation, expansion and Development of urban water infrastructure

The activities of this component will include the following: (i) Research on The current water supply capacity, quality and usage focusing on existing water supply and anticipating future needs for Kismayo and Baidoa cities. This should consider expansion of desalination water treatment plant in kismayo and groundwater resources (Yontooy and other areas in Kismayo and Bonkay and other areas in Baidao, existing and future well fields); (ii) Research on renewable energy sources for water supply infrastructure; (iii) Strategic Master Plan for Kismayo and Baidao water infrastructure including water sources and distribution system; (iv) develop the design of Kismayo and Baidao water network system; (v) construction and rehabilitation of water infrastructure; (vi) construction of 20 wells each in Baidoa and Kismayo; (vii) exploration of sustainable energy sources to pump water from both in Kismayoand Baidoa using Fossil and renewable energy Hybrid System; (viii) construction of 8 Water Reservoir Tanks three each; and, (ix) Connection of Kismayo and Baidao water Kiosks to the supply network.

Component 2 – Institutional Capacity building

The institutional capacity building component will have the following activities: (i) institutional capacity assessment at the Ministry of Energy and Water Resources at the FGS level and at regional and local levels addressing the implementation capacities and the policy and the strategy of FGS and the federal states to guide the systematic development plan of water supply; (ii) assessment of the availability of the technical, office and logistics equipment for FGS and the federal states to enable the officials deliver water services; and, (iii) assess the training needs and develop the training materials for FGS Ministry of Energy and Water Resources, and Regional Authorities for capacity building.

Component 3 – Economic development, short and long-term job creation

Component 3 will have the following activities: (i) skills and knowledge transfer to 100 people for both Kismayo and Baidao; (ii) creation of short-term employment of 500 people during construction stage; (iii) creation of long-term employment of 200 people for both Kismayo and Baidao; (iv) identification of local businesses distributing water and exploration of PPP agreements; and, (v) development of education and communication strategy for community and partners mobilization and awareness creation and community participation to discuss the proposed billing systems and rates as well as the communities' willingness to pay and the private sectors willingness to invest can be tapped for project sustainability.

5. BENEFICIAL AND ADVERSE IMPACTS

5.1. Potential Positive Impacts

The proposed project will have many positive impacts. Among the positive impacts are: (i) Reduced risk of waterborne diseases including cholera and Acute Watery Diarrhea (AWD) common during periods of water scarcity which have high mortalities, especially in children. The proposed project will create reliable and clean sources of water and reduce periodic outbreak of water-borne diseases in the target project areas of Baidoa and Kismayu; (iii) Increased child survival rate due to control of waterborne diseases through improved access to clean water; (iv) Creation of employment opportunities during both the construction and operation phases of the project; (v) financial generation whereby the project is expected to generate revenue to pay back the PPP investors and dividend to shareholders and capital suppliers.

5.2. Potential Negative Impacts

Like all other development projects, the Kismayo and Baidoa Water and Sanitation Project will have negative impacts. These negative impacts have been categorized into those that will be experienced during the construction phase and those that are anticipated during the operational phase.

5.2.1. Negative Impacts during construction phase

The negative impacts during the construction phase will include: (i) vegetation clearing arising from borehole drilling and installation of a water pump at the intake and laying of pipelines may require bush clearing and cutting of trees. Some of the trees may include indigenous high valued trees; (ii) Pollution from dust, noise and smoke related to the bush clearing by the heavy machinery, particularly during the drilling of boreholes from the use of heavy machinery; (iii) Soil erosion and compaction from using heavy machinery; (iv) pollution from hazardous materials like drilling chemicals, oil and cement material used during construction works as well as oil spills that may pollute the soil and surrounding areas; (v) pollution from liquid effluents from preparation of concrete, sediment dewatering and wastewater from portable toilets or offices may contaminate the environment if it is not handled well; (vi) Dust and emissions from the use of machinery and the construction traffic will generate emissions of fumes and dust; (vii) pollution may lead to infections and health challenges; (viii) health hazards due to poor working environment

5.2.2. Impacts during operation phase

Anticipated negative impacts during the operational phase are those associated with operational risks. They may include: (i) conflicts arising from pipeline siting as a result of disagreements between the farmers and the developers on the project site and the pipeline, and the developers and plot owners on the pipeline passage; (ii) over-abstraction of water may occur in boreholes leading to depletion of ground water.

6. ENHANCEMENT/MITIGATION MEASURES AND COMPLEMENTARY INITIATIVES

The project activities shall be executed on the basis of the legal framework in Somalia especially in compliance with the constitution but also with due consideration of the Bank's requirements and in accordance with other international regulations to which Somalia is a signatory. The ESMP as presented in the table below summarises the enhancement and mitigation measures proposed.

7. THE ESMP

Table 2: Proposed mitigation, monitoring of the potential environmental and social management plan (ESMP) to Improve Water supply in Kismayo and Baidoa

Impact	Mitigation measures	Actor/Responsibility	Monitoring activities	Frequency of supervision
Vegetation clearing	(I) Avoid and minimize clearing of vegetation, particularly of indigenous vegetation (II) Landscape the land where clearing has been done (III) Avoid clearing and construction within sensitive habitats such as wetlands, culturally protected areas, unique and special habitats; and (IV) Buffer the special, sensitive and ecologically important habitats	Ministry of Energy and Water Resources (MoEWR), construction engineers, Ministry responsible for environment, IOM	• Assessment of the construction sites • Assessment of the entire water pipeline • Assess the type of vegetation	Daily
Pollution from dust, noise and smoke	(i) Use protective gears such as masks, sound proofing (ii) Sprinkle water where necessary (iii) Use well-maintained machinery (iv) Use sound proofing systems	Ministry of Energy and Water Resources (MoEWR), construction engineers, Ministry responsible for environment	• Assess air and water quality • Assess the type and quality of machinery and equipment used	Weekly
Soil erosion and compaction from using heavy machinery	(i) minimize heavy machinery and vehicular movements (ii) unnecessary vehicular and machinery movements should be avoided (iii) reclaim and re-vegetate excavation sites once work is completed to reduce run off.	Ministry of Energy and Water Resources (MoEWR), construction engineers, Ministry responsible for environment	• Assess the construction sites to know the extent of damage • Monitor vehicular and machinery movements • Determine the water conveyance pipeline in advance	Daily

Impact	Mitigation measures	Actor/Responsibility	Monitoring activities	Frequency of supervision
Pollution from hazardous materials like drilling chemicals, oil and cement material	(i) Control the quality of chemicals used (ii) Control the quality of petroleum products used (iii) Ensure proper maintenance of machinery and vehicles used	Ministry of Energy and Water Resources (MoEWR), construction engineers, Ministry responsible for environment, Ministry responsible for chemical control	• Assess the quality of chemicals and petroleum products used • Assess the functional worthiness of the machinery and equipment	Monthly
Conflicts arising from pipeline siting	Training beneficiaries on conflict resolution and management mechanism; using existing traditional conflict mechanism	Ministry of Energy and Water Resources (MoEWR), Community elders	• Public awareness and education • Community meetings • People trained • Training materials developed • Conflicts resolved	Regular basis
Occupational health hazards due to poor working environment	(i) Provision of appropriate protective gears such as masks and clothes (ii) Regular watering of work site (iii) Provision of first aid kits and equipment	Contractor, MoEWR, Public Health Department	Routine inspection of worksites	Regularly
Over-abstraction of water may occur in boreholes leading to depletion of ground water	(i) Conduct proper hydro-geological studies to determine yields (ii) Control water wastages to minimize water drawing from the boreholes and wells. (iii) Public education and awareness	MoEWR, the Private Company to be involved	Monitoring level of recharge and abstraction	Monthly

8. ENVIRONMENTAL AND SOCIAL MONITORING PROGRAMME

Monitoring aims to ensure that mitigation and enhancement measures are implemented to feed into the normal project reporting and evaluation of the project, which determine the success, failure and lessons learnt. This should be done regularly to ensure compliance with the ESMP as well as ensuring compliance with environmental standards and procedures including relevant policies and legislations.

The Project Implementation Unit (PIU) will be response for the overall management of implementation of the ESMP. The PIU will work under the direct supervision of the implementing Agency, the International Organization for Migration (IOM) working with the Ministry of Energy and Water Resources (MoEWR) who is the executing agency, Ministry of Environment (MoE), Ministry of Public Works, and Ministry of Public Health and Hygiene (MoPH). The contractor(s) will be accountable for the implementation of the mitigation measures to the PIU during the construction and initial operation phases. The contractor(s) will also responsible for preparing site specific construction ESIAs which they will include in their schedule of works. It is also expected that the contractor must have a designated personnel to monitor environmental, safety and health matters during construction works, and report regularly to PIU and IOM.

Due to capacity challenges, it is anticipated that an environmental expert (consulting firm) shall be appointed as part of the project to provide advice on the implementation and monitoring of environmental and social measures and will be responsible for supervising and reviewing the works as regards environmental and social requirements, safety, and quality assurance systems and plan the supervision functions to ensure that works are implemented while protecting the social and environment aspects.

9. CONSULTATIONS

Communities and stakeholders were engaged to help identify and discuss environmental and social impacts anticipated. Stakeholders were identified and consultative meetings held. Additional consultations will be carried out prior to the commencement of the construction works. At that time additional consultations will be carried together with the donor agencies, FGS and the relevant government institutions, local authorities, private companies, local and international NGOs, CSOs, CBOs, religious groups, learning institutions, business communities among other locally based stakeholders. The consultative meetings will aim to develop a social inclusion strategy for community mobilization, sensitization and education aimed at ensuring effective participation.

10. RESPONSIBILITIES AND INSTITUTIONAL ARRANGEMENTS

In addition to the roles and responsibilities discussed in sections 5 and 10, there will be a capacity needs assessment undertaken to identify the strengths, weaknesses, opportunities and threats to the water sector institutions. Training tools and programs will be customized to match the capacity needs identified. Capacity building will be through training and participation in the project implementation process. There will also be sessions for technology transfer to the relevant authorities who will be charged with the responsibility of implementing future water supply projects.

11. ESTIMATED COST

Implementing cost for the environmental and social mitigation measures, monitoring/supervision and capacity building is estimate at USD0.273 million.

Table 3: Estimated cost breakdown for the Implementation of the ESMP

No.	Activity	Timeframe	Cost (US$)	Responsibility
01	Mitigation Measures	Construction and Operation phase	150,000	Contractor, IOM, MoEWR
02	ESMP Monitoring			
	• Regular supervisions	Entire project period until hand-over	5,000	Contractor, IOM, MoEWR,
	• Control missions	Quarterly and Annually during project period	5,000	IOM, MoEWR & AfDB
03	Capacity Development to address ESMP implementation capacity gaps at the MoEWR, MoE and IOM.	Prior to project works	50,000	IOM, MoEWR and AfDB
	Total		260,000	
	5% contingency		13,000	
	Grand Total		273,000	

12. IMPLEMENTATION SCHEDULE AND REPORTING

The project Implementing Agency, International Organization for Migration (IOM), in collaboration with the Ministry of Energy and Water Resources (MoEWR), Ministry of Environment (MoE), Ministry of Public Works, and Ministry of Health (MoH) and community members will ensure compliance with the environmental and social monitoring aspects of the project. The yet to be identified environmental consulting firm will monitor implementation of the mitigation measures.

13. CONCLUTIONS:

Given that there exists water supply system in the project areas and that ground water development and exploration has been earlier conducted, the assessment and the literature review revealed that the project has no major environmental and social impact and that the few concerns raised can be addressed as suggested in the ESMP framework in the report. However, there is a major gap is the lack of human capacity and skill within the Federal and Federal member state ministries to run the project after it is completed. As such there will be great need for both short and long term training programs to build capacity within the government.

Improving Access to Water in the two urban areas of Somalia will bring immense benefits to the water sector including strengthening the Federal Government of Somalia particularly the Ministry of Energy and Water Resources

REFERENCES AND CONTACTS

This ESMP summary was prepared based on information contained in the detailed project documents provided by the client, MoEWR.

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