FEDERAL REPUBLIC OF SOMALIA
MINISTRY OF ENERGY AND WATER RESOURCES

BUILDING RESILIENCE TO CLIMATE CHANGE THROUGH WATER SANITATION AND HYGIENE IN DOOLOW, SOUTH GALKACYO, AND QARDHO DISTRICTS IN SOMALIA

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT REPORT AND ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN FOR SHIMBIRALLE VILLAGE IN QARDHO DISTRICT

March, 2024

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Furthermore, the undersigned, hereby declare that this ESIA/ESMP report represents the facts pertaining to the proposed project for Building Resilience to Climate Change Through Water, Sanitation and Hygiene (WASH) in Qardho, District in Somalia.

ON BEHALF OF THE MINISTRY OF ENERGY AND WATER RESOURCES

Director General, Mr. Abdullahi Hassan Aden

Sign: ……

Date: March 30, 2024

DETAILS OF EXPERT WHO CONDUCTED THE ESIA

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Date: March 25, 2024

TABLE OF CONTENTS

ACKNOWLEDGEMENT ii

ACRONYM AND ABBREVIATIONS viii
LIST OF FIGURES ix
EXECUTIVE SUMMARY x
1.1 Background 1
1.2 Project Objective 2
1.3 Components of the project 2
1.4 Justification 3
1.5 Purpose of the ESIA and project categorization 3
1.6 Scope of the ESIA 3
1.7 ESIA process 4
1.8 Study Methodology 4
1.8.1 Kick-off Meeting 4
1.8.2 Desk Review 5
1.8.3 Reconnaissance Survey 5
1.8.4 Community Consultation 6
1.9 Report Structure 6
2.0 POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK 8
2.1 Policy Framework 8
2.1.1 Federal Level 8
2.1.2 State Level 9
2.2 Legal Framework 10
2.2.1 Federal Level 10
2.2.2 State Level 11
2.3 Institutional Arrangement 12
2.4 African Development Bank Safeguard Standards 12
2.5 International Conventions and Agreements 15
3.0 PROJECT DESCRIPTION 18
3.1 Project Location 18
3.1.1 Qardho 18
3.2 Project Design and Status 18
3.3 Project Phases 19
3.3.1 Pre-construction Stage 19
3.3.2 Construction Stage 19

3.3.3 Operation and Maintenance Stage 20
3.4 Equipment and materials 20
3.5 Waste streams 21
3.6 Project Schedule and Implementation Cost 21
4.0 BASELINE ENVIRONMENTAL AND SOCIAL CONDITIONS 23
4.1 PHYSICAL ENVIRONMENT 23
4.1.1 Location 23
4.1.2 Climate 23
4.1.3 Geology and Soils 25
4.1.4 Topography and Landscape 26
4.1.5 Water Resources and Hydrology 26
4.2 BIOLOGICAL ENVIRONMENT 27
4.2.1 Flora 27
4.2.2 Fauna 27
4.2.3 Rangelands 27
4.2.4 Climate Change 28
4.3 SOCIO-ECONOMIC CONDITIONS 28
4.3.1 Governance and Administration 28
4.3.2 Access to Education and Health Services 29
4.3.3 Water and Sanitation Conditions 29
4.3.4 Gender 30
4.3.5 Grievances Redress Mechanism 31
4.3.6 Labour 31
4.3.7 Land ownership 31
4.3.8 Land Use 32
5.0 ANALYSIS OF ALTERNATIVES 33
5.1 The No Project Location 33
5.2 Alternative Project Location 33
5.3 Alternative Transmission Line Routes 33
5.4 Alternative Water Sources 33
6.0 IMPACT PREDICTION AND ANALYSIS 34
6.1 Impact Identification and Analysis 34
6.1.1 Impact Identification 34

6.1.2 Impact Analysis 35
6.1.3 Impact Significance Rating 36
6.2 Positive Environmental and Social Impacts at all Phases 38
6.2.1 Improved Quantity and Quality of Drinking Water 38
6.2.2 Improved Health and Sanitation Services 38
6.2.3 Improved Protection of Women and Girls 38
6.2.4 Improved Disputes over Water Competition 38
6.2.5 Mitigation of Greenhouse Gas Emissions 38
6.2.6 Employment Opportunity 39
6.3 Negative Impacts and Mitigation Measures 39
6.3.1 Impacts on Physical Environment During Construction Phase 39
6.3.2 Negative Impacts on Biological Environment During the Construction Phase 40
6.3.3 Negative Impact on Socio-economic Environment During the Construction Phase 40
6.3.4 Impacts on Physical Environment during Operation Phase 41
6.3.5 Impact on Biological Environment during Operation Phase 41
6.3.6 Impacts on Socio-economic Environment during Operation Phase 41
6.3.7 Decommissioning Phase 42
7.0 PROPOSED MITIGATION MEASURES 43
7.1 Introduction 43
7.2 Physical Environment 43
7.2.1 Topography and Landscape 43
7.2.2 Geology and Soils 43
7.2.3 Climate and Air Quality 44
7.2.4 Water Resources 44
7.2.5 E-Waste 44
7.3 Biological Environment 45
7.3.1 Vegetation Clearing Impact 45
7.4 Socio-economic Environment 45
7.4.1 Disruption of Activities 45
7.4.2 Impact on Public Health 45
7.4.3 Impact on Occupational Health and Safety (OHS) 46
7.4.4 Solid waste generation impacts 46
7.4.5 GBV/SEA/SH 46

7.4.6 Child Labour 46
7.4.7 Disease Spread (Communicable Diseases) 47
7.4.8 Labour Influx 47
7.4.9 Chance Finds/cultural heritage 47
8.0 ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLANS 48
8.1 Introduction 48
8.2 Purposes 48
8.3 Roles and Responsibilities of Institutions 48
8.4 Environmental and Social Management Plan 49
8.5 Environmental and Social Monitoring Plan 54
8.6 Estimated Costs for Implementing the ESMMP 56
9.0 PUBLIC CONSULTATIONS AND STAKEHOLDER ENGAGEMENT 58
9.1 Introduction 58
9.2 Objectives 58
9.3 Stakeholder Identification and Analysis 58
9.3.1 Stakeholder Identification 58
9.3.2 Stakeholder Analysis 59
9.4 Stakeholder Engagements 60
9.5 Consultation Meetings with the Government Stakeholders 60
9.5.1 Consultation with Line Ministries at Federal and State levels 60
9.5.2 Consultation with IDPs residents and vulnerable host communities 61
9.6 Consultation with Communities 61
9.7 Consultation with Water Operators 61
9.8 Consultation Outcomes from Stakeholders 62
9.9 Stakeholder Engagement Plan 65
9.10 Grievance Redress Mechanism 66
9.10.1 Introduction 66
9.10.2 Grievance Channel 66
9.10.3 Grievance Management System 67
9.10.4 Grievance Management Process 67
9.10.5 Key Roles of Grievance Redress Committee 67
9.10.6 Gender-Based Violence GRM 67
10.0 INSTITUTIONAL CAPACITY 68

10.1 Introduction 68
10.2 Summary of the findings 68
10.3 Interventions 68
10.4 Training Needs 69
11.0 CONCLUSION AND RECOMMENDATIONS 70
11.1 Conclusions 70
11.2 Recommendations 70
11.2.1 Federal and State Level Ministries 70
11.2.2 Water Operators 70
11.2.3 Contractors 70
12.0 ANNEXES 71
12.1 Bibliography 71
12.2 List of Professionals and Organization Consulted 72
12.3 Records of Consultative Meeting 73
12.4 Maps showing the locations of project interventions 75
12.5 Terms of Reference for Conducting the ESIA 76

ACRONYM AND ABBREVIATIONS

AfDB	African Development Bank
AWF	African Water Facility
CDI	Combined Drought Index
DRR	Disaster Risk Reduction
ESIA	Environmental and Social Impact Assessment
ESMMP	Environmental and Social Management and Monitoring Plan
ESMP	Environmental and Social Management Plan
FAO	Food and Agriculture Organization
FGS	Federal Government of Somalia
FRS	Federal Republic of Somalia
FMSs	Federal Member States
GBV	Gender Based Violence
GDK	Government of Denmark
GRM	Grievance Redress Mechanism
HHs	Households
IDPs	Internally Displaced Persons
ISS	Integrated Safeguard System
MoEWR	Ministry of Energy and Water Resources
NDF	Nordic Development Fund
O&M	Operation and Maintenance
PAD	Project Appraisal Document
PIU	Project Implementation Unit
PMT	Project Management Unit
PSC	Project Steering Committee
PWDA	Puntland Water Development Agency
SWALIM	Somali Water and Land Information Management
WASH	Water Sanitation and Hygiene

LIST OF FIGURES

Figure 1: Annual Distribution of Mean Monthly Rainfall in Qardho 24

Figure 2: Annual Temperature Variations in Qardho 24

EXECUTIVE SUMMARY

Overview of the project

The Ministry of Energy and Water Resources (MoEWR) of the Federal Republic of Somalia (FRS) will implement and coordinate the Climate Resilience Water, Sanitation and Hygiene (WASH) Project in Qardho District and particularly in Shimbiralle village. The main aim of the project is to contribute to improving the living standards of the people living in target village through provision of sustainable water supply and improved sanitation services. The project has four key components, including: 1) rehabilitation and expansion of water supply systems; 2) expansion of sanitation and hygiene facilities; 3) climate-resilient investment studies; and 4) capacity building and institutional strengthening. Under component 2 of the project, target districts will benefit from water and sanitation infrastructures, including development of shallow wells; construction of water tanks; rehabilitation of existing boreholes, and construction of communal water points, latrines, and water mains. Upon completion, the project is expected to serve for underserved people who are internally displaced and vulnerable host communities.

Description of Project Site

The proposed project sites are located in Shimbiralle village in Qardho District. The Camp is located approximately 3 km south of Qardho town. The village is hosting 4000 households of vulnerable communities who were affected by the recurrent climate shocks and civil unrest in the country. The project will improve the access to social services, especially water by rehabilitating one existing borehole through installation of rising main, provision of submersible Grundfos pump, on-site elevated water tank, construction of four communal water points and 35 household latrines, provision on polar power system and generator, and water transmission line for approximately 3 kilometers in Shimbiralle village to supply water to the host community.

An assessment of the environmental and social baseline conditions of the project area was conducted and this was considered the following conditions under the area of influence: climate, topography and landscape, water resources and hydrology, flora and fauna, access to social services, gender, land ownership and use, and climate change.

Institutional and Legal Framework

The table below underlines the key institutions or agencies that are closely involved in water and sanitation services in Somalia. This is essential for joint planning, implementation and coordination of different activities related to the proposed project.

Key institutions and agencies relevant for the project

Institution	Roles and Responsibilities
Ministry of Energy and Water Resources (MoEWR), Federal Government of Somalia	• Develop and reviews water and sanitation laws, policies, and legislations; • Coordination and integrations of sectoral plans; • Monitoring and evaluation of water supply and management initiatives; and • Mobilize more resources for provision of water.

Ministry of Energy and Water Resources, Puntland State	• Develop and review water and sanitation sub-sector laws, policies and strategies; • Close collaboration and coordination with national level line ministry; • Protection and preservation of surface and groundwater resources, including rivers.
Municipal Authority of Qardho	• Improvement of water and sanitation services; • Empower community engagement in water and sanitation services; • Coordinate with state level ministries on issues relating to water and sanitation • Support in initiation and/or development of by-laws relating to water and sanitation services; and • Manage and resolve disputes
Water Operator in Qardho	• Provision of clean and safe water to all residents, including the IDPs; and • Operation and maintenances of water supply systems.

For better and effective implementation of the project and realization of its intended objectives, the project will operate under various policies and legal frameworks. These include, laws and policies of the Federal Republic of Somalia (FRS), as well as the African Development Bank's (AfDB's) Integrated Safeguards System (ISS), international conventions, environmental laws with the intention of promoting the positive impacts of the project, while minimizing the negative effects. Specifically, the various policies and laws were reviewed in relation to the proposed project and among them include:

No.	Policies, Legal Frameworks, and International Conventions and Agreements
National Level Policies	
1	National WASH Sector Policy, 2019
2	National Environmental Policy, 2019
3	National Climate Change Policy, 2020
4	National Water Resources Strategy, 2021-2025
5	National Gender Policy, 2016
National Level Legal Frameworks	
1	Constitution of the Federal Republic of Somalia, 2012
2	The Labour Code of 1972
3	Penal Code, 1962
State Level Policies and Legal Frameworks	
1	Puntland Environmental Policy, 2014
2	Puntland Solid Waste Management Policy, 2016
3	Constitution of Puntland State of Somalia, 2012
4	Puntland EIA Act and Regulation, 2016
International Conventions and Agreements	
1	United Nations Convention on Biological Diversity, 1992

2	United Nations Convention to Combat Desertification, 2002
3	African Convention on Conservation of Nature and Natural Resources, 2003
4	Convention on International Trade Against Endangered Species (CITES), 1986
5	United Nations Framework Convention on Climate Change (UNFCCC), 1992
6	Vienna Convention on the Protection of the Ozone Layer, 1985
7	Basel Protocol on Liability and Compensation on Damage Resulting from Transboundary Movement of Hazardous Waste and Other Disposals, 2010

Applicable African Development Bank's Operational Safeguard Standards (OSs)

The applicable OSs to this project are listed below, while more details on their relevance for the project interventions are highlighted in Table 2.4.

No.	Description
1	OS 1: Environmental and Social Assessment
2	OS 2: Labour and Working Conditions
3	OS 3: Resource Efficiency and Pollution Prevention and Management
4	OS 4: Community Health, Safety and Security
5	OS 5: Land Acquisition, Restriction on Access to Land and Land Use, and Involuntary Resettlement
6	OS 6: Habitat and Biodiversity Conservation and Sustainable Management of Living Natural Resources
7	O2 7: Vulnerable Groups
8	OS 8: Cultural Heritage
9	OS 9: Financial Intermediaries (***Not Applicable***)
10	OS 10: Stakeholder Engagement and Information Disclosure

Impacts and Mitigation Measures

The study has shown that the project will have both positive and negative impacts on the physical, biological and human environment from the construction and operation of activities. Key positive impacts envisaged will include: improved quantity and quality of drinking water, improved health and sanitation services; improved protection of women and girls; reduced communal disputes over water competition; and provision of employment opportunities. However, the development of the project will also bring negative impacts. The table below summarizes the key significant negative impacts and proposed mitigation measures.

Issue/Impact	Mitigation Measures
CONSTRUCTION PHASE	
Physical Environment	
Impact on Aesthetic value	• Limit vegetation clearance for the water pipelines to the required work strip; and • Restoration of construction sites to their natural state (pre-construction condition)
Soil erosion	• Use of excavated materials for backfilling of the trench section around the pipes; and

	• Spoiled earth/rock should be disposed of in the appropriate approved areas.
Air pollution	• Use protective clothing like dust masks for construction workers; and • Regularly spray water on construction sites to control dusts.
Water pollution	• Prevent run-off loaded with sediment and other harmful materials from the site from discharge to river. • Water containing pollutants such as cement, concrete, chemicals and fuel shall be removed from site where applicable
Noise pollution	• Workers should be provided with adequate PPE item such as ear muffs as appropriate; • Works should be performed during day hours.
Biological environment	
Vegetation clearing	• Vegetation clearing should be minimized as much as possible • Limit vegetation clearing for water pipelines to the required work strip; and • Use only indigenous plant species for re-vegetation.
Socio-economic Environment	
GBV/SEA/SH	• The Contractor's code of conduct should be translated into Somali language and each worker should be sensitized and signed prior to the commencement of works; and • Train all workers on existing laws and policies on GBV and other sexual offences.
Child Labour	• The Contractor will ensure to register all workers by checking their birth certificates and/or identity cards; and • Confirming that children and minors are not employed directly or indirectly on the project.
Disease Spread	• Conduct awareness campaigns on hygiene and sanitation and how diseases spread; and • Information dissemination about the danger of STDs to the community will be done throughout the period of the project.
OPERATIONAL PHASE	
Physical Environment	
Impacts on aesthetic value	• Sensitize the community to plan trees around the water tank, borehole and other suitable areas.
Soil erosion	• Implement soil conservation mechanism within and around borehole and water tank. • Ensure livestock and other animals are not watered around the borehole area.
Air pollution	• Ensure that the generator should be regularly serviced

Water pollution	• The drilled borehole should be raised by building earthwork to prevent the flooding water and other substances to accumulated around it. • Built proper drainage system around the borehole in order to avoid water stagnation that may lead to water borne diseases.
E-Waste	• Implement waste management plan • Establish mechanisms to handle e-waste from the solar power.
Socio-economic Environment	
GBV/SEA/SH impacts	• Establish effective mechanisms that safeguards women and girls collect water from the tanks • Undertake continuous sensitization and awareness raising programs on GBV/SEA/SH prevention and protection of vulnerable and minor groups.
Disease Spread	• Avoid contaminating surrounding environment of the water tank and/or borehole. • Conduct community awareness campaigns on promotion of sanitation and hygiene

The impact rating has shown that the Shimbiralle village sub-project will have few and limited adverse impacts compared with significant social and health benefits. The above-mentioned adverse impacts can be avoided or minimized by adhering to the suggested mitigation measures.

Consultations

Consultation meetings and discussions were held at two levels: federal/national, state, and local level. The ESIA team had meetings with the officials of the federal MoEWR, local government authority, and representatives from village committee. A total of 29 individuals (of which 21 of them were IDP residents and vulnerable host communities) participated in the consultation meetings. Generally, all stakeholders consulted were supportive of the project, but request MoEWR and local government authority to increase employment of local community during implementation. There were also requests to extend project interventions beyond Shimbiralle IDP camp, where new displaced households recently resettled. Key institutional stakeholders consulted included:

Level	Stakeholder	Date
Federal/national	Ministry of Energy and Water Resources	July 18, 2023
State	Ministry of Energy and Water Resources of Puntland State Puntland Water Development Agency (PWDA) Qardho Local Government Qardho Water Operator	July 27, 2023
Local	Shimbiralle IDP residents and vulnerable host communities	March 21, 2024

Environmental and Social Management Plan (ESMP)

The Project's ESMMP shows both management and monitoring measures to ensure that regulatory compliance can be checked and recorded during implementation, frequency, indicator and responsible parties. During construction phase ESMMP implementation shall be monitored by the Federal Ministry of Energy and Water Resources together with the State level Ministry of Energy and Water Resources, and local government authority. The contractor will also be required to customize this ESMP and develop C-ESMP.

Environmental and Social Management Plan (ESMP)

Impacts	Mitigation Measures	Deadline of completion	Key performance indicators	Implementation responsibility	Monitoring oversight
CONSTRUCTION PHASE					
Physical Environment					
Visual impact on topography and landscape	• Limit vegetation clearance for the water pipelines to the required work strip; and • Restoration of construction sites to their natural state (pre-construction condition)	Throughout the project period	Number of removed shrubs or trees; Extent of restoration works. Coverage of replanted vegetation or trees	Contractor	MoEWR
Soil erosion	• Limit vegetation clearing as much as possible; • No clearing of vegetation shall be undertaken outside of marked areas; • Use of excavated materials for backfilling of the trench section around the pipes; • Spoil earth/rock should be disposed of in the appropriate approved areas; • Areas where the construction activities have been completed and where no further disturbance would take place are rehabilitated through re-vegetation; and • Ensure the construction workers are aware of remaining vegetation which must not be damaged; and implement water and soil conservation practices.	Throughout the project period	Evidence of soil conservation plan.	Contractor	MoEWR
Air quality	• Use protective clothing like dust masks for construction workers; • Regularly spray water on construction sites to control dust; and	Throughout the project period	Presence of a Dust Management Plan and logistics plan Number of dust-related complaints.	Contractor	MoEWR

Impacts	Mitigation Measures	Deadline of completion	Key performance indicators	Implementation responsibility	Monitoring oversight
	• Undertake regular maintenance for generators.				
Water pollution	• Prevent run-off loaded with sediment and other harmful materials from the site from discharge to river; and • Water containing pollutants such as cement, concrete, chemicals and fuel shall be removed from site where applicable.	Throughout the project period	Evidence of management of waste water.	Contractor	MoEWR
Noise pollution	• Workers should be provided with adequate PPE item such as ear muffs as appropriate; and • Works should be performed during day hours.	Throughout the project period	Records for PPE items supplied	Contractor	MoEWR
Biological Environment					
Vegetation Clearing Impact	• Vegetation clearing should be minimized as much as possible; • Limit vegetation cleaning for water pipelines to the required work strip; • Use only indigenous plant species for revegetation; • Tree planning program shall be planned and implemented in partnership with local stakeholders; and • Establish awareness campaigns and enforcement of worker's code of conduct for the protection of biodiversity.	Throughout the project period	Evidence of trees planted.	Contractor	MoEWR
Socio-economic Environment					

Impacts	Mitigation Measures	Deadline of completion	Key performance indicators	Implementation responsibility	Monitoring oversight
Disruption of activities	• Use/build culverts to cross pipes and avoid breakage in the future; and • Collaborate with local government authorities and water services providers.	Throughout the project period	Records of depth excavated for the pipes.	Contractor	MoEWR
Impacts on Public Safety	• Close open trenches as quickly as possible to reduce risks; • Ensure notification (signages) at ongoing construction activity sites; and • Disseminate traffic management plans in the project areas through campaigns in IDP camp and host community and public.	Throughout the project period	Establishment safety signage shall be installed at all establishment sites A nominated service provider shall be hired	Contractor	MoEWR
Occupational Health and Safety	• Ensure compliance to occupational health and safety plans; • Provide information, instructions and trainings to enable employees to work without risks; • Make awareness campaigns for workers about the safety issues related to their activities, hence ensure provision and usage of PPE; and • Ensure safe and good working conditions for all workers	Throughout the project period	First Aid Kits and PPEs procured and being used; OSH training program prepared and training reports in place; OHS provisions integrated in works Method Statements;	Contractor	MoEWR

Impacts	Mitigation Measures	Deadline of completion	Key performance indicators	Implementation responsibility	Monitoring oversight
Solid waste generation impacts	• Burning of waste on-site shall not be allowed; • Waste collection bins will be provided at appropriate place of the site for temporary waste storage; Collaborate with a waste collection company in the district; • Segregate wastes in accordance to their types (i.e organic, inorganic, etc); • Avoid unnecessary soil erosion at the community water sources; and • Provide initial and continuous construction workforce training in handling with wastes segregation and appropriate waste disposal.	Throughout the project period	Presence of solid wastes on site Records of complaints from the nearby households Record of wastes generated	Contractor	MoEWR
GBV/SEA/SH	• The Contractor's code of conduct should be translated into Somali language and each worker should be sensitized and signed prior to the commencement of works; • Train all workers on existing laws and policies on GBV and other sexual offences; and • Collaborate with local GBV service providers to effectively implement related activities.	Throughout the project period	Record of complaints related to GBV, SEA and VAC	Contractor	MoEWR,
Child labour	• The Contractor will ensure to register all workers by checking their birth certificates and/or identity cards; and • Confirming that children and minors are not employed directly or indirectly in the project	Throughout the project period	Evidence of labor registry forms	Contractor	MoEWR

Impacts	Mitigation Measures	Deadline of completion	Key performance indicators	Implementation responsibility	Monitoring oversight
Disease Spread	• Conduct awareness campaigns on hygiene and sanitation and how diseases spread; and • Information dissemination about the danger of STDs to the community will be done throughout the period of the project.	Throughout the project period	No. of hand washing facilities provided No. of workers' and community members sensitization meetings held on STDs prevention	Contractor	MoEWR
Labour Influx	• Develop labour influx management plan; and • Employment opportunities will be offered to local community and hiring of workers from the IDP and vulnerable host community will be encouraged.	Throughout the project period	No. of local community employed.	Contractor	MoEWR
Chance finds/Cultural Heritage	• Develop and implement chance find procedures; and • The contractor shall make sure to inform all workers should any cultural features may be found should be reported by the project team to the local authority.	Throughout the project period	Records of number of staff members informed on importance of cultural sites.	Contractor	MoEWR
OPERATION PHASE					
Physical Environment					
Impacts on aesthetic value	• Sensitize the community to plan trees around the water tanks, shallow wells and other suitable areas	Throughout the project period	Number of trees planted by the community.	Contractor, Local Authority	MoEWR
Soil erosion	• Implement soil conservation mechanism within and around shallow wells and water tanks; and • Ensure livestock and other animals are not watered at the edge of the shallow well/borehole	Throughout the project period	Soil conservation mechanisms established.	Contractor, Local Authority	MoEWR

Impacts	Mitigation Measures	Deadline of completion	Key performance indicators	Implementation responsibility	Monitoring oversight
Air Pollution	• Ensure that the generator should be regularly serviced.	Throughout the project period	Evidence of generator maintenance works.	Contractor, Local Authority	MoEWR
Water Pollution	• The dug shallow wells should be raised by building earthwork to prevent the flooding water and other substances to accumulated around it; and • Built proper drainage system around the shallow well/borehole in order to avoid water stagnation that may lead to water borne diseases.	Throughout the project period	Evidence of structure of drainage system constructed.	Contractor, Local Authority	MoEWR
E-waste	• Implement waste management plan; and Establish mechanisms to handle e-waste form the solar power.	Throughout the project period	Records of e-wastes collected and properly disposed.	Contractor, Local Authority	MoEWR
Socio-economic Environment					
GBV/SEA/SH impacts	• Establish effective mechanisms that safeguards women and girls collect water from the tanks; and • Undertake continuous sensitization and awareness raising program on GBV/SEA/SH prevention and protection of vulnerable and minor groups.	Throughout the project period	Records of effective protection mechanisms for women and girls established.	Contractor, Local Authority	MoEWR
Disease Spread	• Avoid contaminating surrounding environment of the water tank and/or shallow well/borehole; and • Conduct community awareness campaigns on promotion of sanitation and hygiene.	Throughout the project period	Records of community awareness successfully conducted.	Contractor, Local Authority	MoEWR

Grievance Redress Mechanism

A Grievance Redress Mechanism (GRM) has been developed to act as a platform for receiving, processing, and readdressing issues and complaints from both internal and external sources stakeholders. The GRM will work within existing legal frameworks and will adopt two-levels of grievance systems in place at state and federal levels. There will be a separate mechanism within the GRM that will be aimed at ensuring safely and confidentially while receiving complaints related to GBV, SEA, and SEAH at the community level through anonymous complaints mechanism managed by the project management team.

Roles and Responsibilities in the ESMP Implementation

Ministry of Energy and Water Resources will coordinate with other stakeholders on ensuring that environmental and social issues are addressed effectively throughout the lifecycle of the project. Implementation of environmental issues is done through the relevant government institutions across the levels (i.e federal, state, and local). The Ministry will be required to report on a quarterly basis.

Costed Environmental and Social Management and Monitoring Plan

The general indicative budget for ESMMP implementation and monitoring is presented in the table below:

No	ESMMP Requirements	Budget Basis and Assumptions	Total Cost (US$)
1	Capacity building for PIU/PMTs	Training sessions will be held in the country	1,500
2	Stakeholder engagement workshops and meetings in subproject	Continues stakeholder engagement throughout the implementation of activities	1,000
3	Grievance redress mechanism and its functionality	Effective grievance mechanisms for both public and workers in subproject	500
4	Environmental and social impact monitoring	Allocated amounts for E&S plans are prioritized and executed by all stakeholders	11,900
5	Environmental and social audits	An independent environmental and social audit	5,000
		Total Estimated Budget (US$)	**19,900**
		Contingency (5%)	**995**
		Grand Total (US$)	**20,895**

Conclusion

This ESIA has developed an ESMMP to guide the relevant institutions and other stakeholders for construction of water supply and sanitation system for Shimbiralle village in Qardho district. The ESMMP was based on environmental and social baseline conditions and identification of potential impacts of the proposed project with consideration of minimizing adverse impacts before, during and implementation of interventions. With implementation of mitigation measures herein proposed, potential negative impacts of project activities will be alleviated and positive ones enhanced.

1.0 INTRODUCTION

1.1 Background

Somalia has endured conflict, political instability, and climate-related disasters. The civil conflicts have resulted in massive human displacement across Somalia. Internally Displaced Persons (IDPs) were estimated in 2021 to be 1,037,000 due to disasters and 293,000 due to conflict and violence respectively. The government's capacity to deliver WASH services is limited, and access to such services remain inadequate. The influx of IDPs has increased stress on the already scarce and dysfunctional WASH services in the three towns and their peripheries. Inadequate water supply increases the cost of access and time spent collecting water. This takes a toll on women and girls as they shoulder the burden of hauling the water consumed by families.

The Federal Republic of Somalia (FRS) has expressed interest in participating in the African Water Facility's (AWF) Climate Resilience Water, Sanitation and Hygiene (WASH) program for five countries (i.e Burkino Faso, Ethiopia, Mali, Niger and Somalia) within the Sahel and the Horn of Africa (HoA) regions which is supported by the Nordic Development Fund (NDF) and the Government of Denmark (GDK) in order to assist the post COVID-19 pandemic recovery and improve quality of life for poor, marginalized, vulnerable and displaced people in urban and rural communities. The African Development Bank (AfDB) in partnership with the Federal Ministry of Energy and Water Resources (MoEWR) provided funding towards investment planning and intermediate WASH interventions. The partnership initiated a four-year project titled: Building Resilience to Climate Change through WASH. With the support of the AfDB, the MoEWR conducted a rapid situational assessment on WASH in five districts in Somalia, namely Doolow, Dhusamareeb, South Galkacyo, Jowhar, and Qardho. The focus of the assessment was to better understand the status and needs of internally displaced communities living in camps. Based on the findings of the assessment, the most pressing need of the assessed communities across all the districts were WASH related needs. However, Doolow, South Galkacyo, and Qardho towns host an estimated population of 80,000, 305, 000, and 10,000 respectively, while also hosting 14,000, 29,000, and 20,000 IDPs respectively with little WASH facilities. Thus, the MoEWR and AfDB considered these districts as the target districts for the project.

Revamping and expanding WASH infrastructure in the three towns will alleviate the effects of post COVID-19 pandemic and speed-up economic recovery. Improved water availability will also boost income generation from agricultural production – a mainstay for the bulk of the population. Given the prolonged drought in the Horn of Africa (HoA) that has decimated livestock, the planned climate-resilience WASH project is timely. Moreover, climate-resilient investment planning and improved integrated water resources management will support efforts towards mobilizing downstream investments to augment the existing WASH infrastructure in Dollow, Galkacyo (South) and Qardho towns.

The target beneficiaries of this investment are the households that live under the circumstances of urban poor, marginalized, vulnerable and internally displaced persons (IDPs) in the target districts. MoEWR is in charge of the overall planning, execution and coordination of the project with close collaboration with the federal member states of Galmudug, Jubbaland and Puntland.

1.2 Project Objective

The main objective of the project is to improve WASH delivery services in Doolow, South Galkacyo and Qardho towns – and their peripheral villages and institutions (i.e markets, schools, mosques, and hospitals).

1.3 Components of the project

The project consists of the following four key components:

i. **Rehabilitation and expansion of water supply systems**: This component will entail rehabilitation, replacement, development and expansion of water and sanitation infrastructure in the three towns (including water infrastructure for Internally Displaced Persons). The target infrastructure includes existing mechanized boreholes, water mains, pumps, generators, storage facilities, shallow wells, among others. It is further proposed that a solar water desalination plant be piloted in South Galkacyo.

ii. **Expansion of sanitation and hygiene facilities**: This project will develop communal/shared sanitation and hygiene facilities for IDPs and vulnerable hosts. Construction of sanitation facilities in public spaces (i.e markets, schools, mosques, and health facilities) will be undertaken. City-level sanitation promotion activities guided by CWIS approach – targeting household improvements – will be concluded. To address water safety planning, filters will be distributed at household level. The project will also procure solid waste collection and transport equipment for each town. The project Implementing Agency will closely collaborate with the Municipalities, Ministries of Health and Education in the three Federal Member States in the delivery of sanitation of public health education activities, with particular attention to awareness creation and promotion.

iii. **Climate-resilient investment studies**: This component will include preparation/review of disaster risk reduction (DRR) informed by gender-sensitive WASH master plans. Water resources assessment, feasibility studies, detailed designs, ESIAs, climatic risk and vulnerability assessments will be undertaken, and tender documents prepared for the water supply and sanitation infrastructure. The project will undertake feasibility studies for solid waste management in the three towns; and

iv. **Capacity building and institutional strengthening**: This component will support the operational and professional training for officers at federal and state levels, and water operators. The training will enhance the capacity of the Federal States to monitor

technical, commercial, and financial performance targets; assist in project management; improve the billing and revenue collection systems; provide logistical support systems and training to water actors in the operation and maintenance of water and sanitation systems. Additionally, a project management team will be constituted and staffed by adequately skilled personnel from the relevant agencies at the FGS and FMS. TA support will be provided to fill the identified skills gaps within the FGS and FMS, with a clear skill transfer strategy to the project counterparts in FGS and FMS.

1.4 Justification

The proposed water supply and sanitation facilities of the project will help to improve the health and living conditions of the people of the targeted districts including the vulnerable and displaced people in IDP camps of target districts. Furthermore, delivery of safe drinking water with improved sanitation facilities for the IDP camps in target towns will contribute to equitable access to safe, affordable, and quality WASH services for all households in the IDP camps. The project will also alleviate the effects of COVID-19 and accelerate economic recovery.

1.5 Purpose of the ESIA and project categorization

The purpose of the ESIA study was to achieve the following purposes:

- To find out and envisage both positive and negative environmental and social impacts by conducting Environmental and Social Impact Assessment (ESIA); and
- To recommend mitigation measures to minimize the negative impacts and enhance the positive impacts by preparing an Environmental and Social Management Plan (ESMP).
- To identify alternatives to addressing the identified challenges.

In reference to the AfDB's ISS categorization of project E&S risk provisions, the proposed project with its sub-projects has been rated as Category 2 - Moderate risk. The proposed interventions are medium scale; thus, the associated environmental and social impacts are manageable and easily reversible.

1.6 Scope of the ESIA

The study has been conducted to evaluate the potential and foreseeable impacts of the proposed rehabilitation of existing boreholes, expansion of water supply pipeline networks and connections, and construction of water storage tanks, and sanitation and hygiene facilities for IDPs and vulnerable host communities. The geographical scope is limited to the proposed districts and their surrounding environments as they may affect or be affected by the proposed interventions of the project. Any potential impacts have been evaluated as guided by the AfDB's Integrated Safeguards System (ISS) and the National Regulations of Somalia. Based on the scope, the boundaries of this ESIA are thus defined in two ways:

- The geographical coverage of the project impact area as defined by the coverage of Dollow (Jubbaland), South Galkacyo (Galmudug), and Qardho (Puntland) towns with the main focus placed on the sites/villages that form Project Areas of Influence (PAI); and
- The boundaries of the specific facilities to be established through the project as defined by the facilities themselves and the area of potential impact adjacent to them.

1.7 ESIA process

The ESIA has been undertaken in accordance with the legislative requirements of the Federal Government of Somalia as well as policy requirements of the African Development Bank and other global good practices on safeguard provisions. Hence, the ESIA process has included the following steps:

- **Scoping**: at this stage, the ESIA practitioner, presented a description of the proposed project, the ESIA procedure, relevant policies and regulatory frameworks, bio-physical and socio-economic characteristics of the project areas, and perceived issues. Key stakeholders, including interested and affected parties were identified during this stage and provided with an opportunity to raise any comments, concerns and questions that they might have had on the proposed project.
- **Environmental, Social and Impact Assessment**: this stage, the ESIA team analysed the potential environmental and social impacts through an in-depth objective study.
- Environmental and Social Management Plan (ESMP): this provides a concise tabular framework of all the high-level mitigation measures, key performance indicators, responsibilities and related project plans aligned with the assessment of environment and social impacts.
- **Stakeholder Engagement:** in this stage, the ESIA team ensured that all stakeholders should be engaged throughout the ESIA process. Key findings from the scoping process have been presented to government officials, local communities, and other interested groups.

1.8 Study Methodology

The ESIA study was conducted in accordance with the AfDB's ISS and Somalia's EIA Regulations (2016). This assessment was aimed in identifying the baseline bio-physical and socio-economic conditions in the project areas, possible interactions with the proposed project activities, and in addition proposes their mitigation and enhancement measures. To achieve that, the following methods were used:

1.8.1 Kick-off Meeting

At the commencement of the ESIA study, a kick-off meeting was held on July 18, 2023 between the ESIA Consultant and the Director General with Technical Team of the Ministry of Energy and

Water Resources (MoWR). The meeting was aimed at getting a detailed understanding of the scope of the study/work, timelines for the delivery of the assignment, and to confirm communication lines and secure available information for ESIA. The meeting participants also agreed on the dates of reconnaissance visits as well as availability of teams from line ministries and/or agencies at state and district authority levels.

1.8.2 Desk Review

To gain a clear insight on baseline parameters and project characterization, various planning, policies and regulatory documents and reports commissioned by the federal and state level authorities were analysed. Also, AfDB's Environmental and Social Safeguard Standards were among the documents reviewed. The following documents have been extensively reviewed:

- National Water Resources Strategy 2021-2025;
- National WASH Sector Policy, 2019;
- National Environmental Policy (2020);
- National Climate Change Policy (2020);
- National Gender Policy, 2016;
- Somali Penal Code, 1962;
- Draft National EIA Regulation;
- Puntland Climate Change Strategy, 2016;
- Puntland EIA Regulation (2016);
- Puntland Solid Waste Management Policy, 2016;
- Galmudug Environmental Law 2020;
- Jubbaland Environmental Protection and Management Code, 2018
- Project Appraisal Document (PAD);
- National Labor Law;
- AfDB's Updated Integrated Safeguards System (ISS), 2023; and
- AfDB's Policy on Water, 2021;
- AfDB's Policy for Integrated Water Resources Management, 2000.

1.8.3 Reconnaissance Survey

A reconnaissance survey covering Shimbiralle village (i.e of the target IDP Camps in Qardho was performed from July 27, 2023. This was a scoping visit to the sub-project. The survey was aimed at gaining an in-depth understanding of the type of land use, structures, nature and type of impacts that are likely to be happened in the project areas. The field visits helped in establishing boundaries of the study areas, evaluating extra data sets, and engaging key project stakeholders in consultations where applicable.

During the survey, the ESIA team hired by the AfDB and state level personnel from the line ministries and/or agencies led the field visits in all sites for Shimbiralle village sub-project in Qardho district. These areas included:

- The sites proposed for rehabilitation of one borehole through installation of raising mains; provision of submersible Grundfos pump; rehabilitation of on-site elevated water tank; construction of four communal water points; provision of one generator; provision of solar power system; and fencing of the borehole.

To get an understanding of various issues, the ESIA team held on-site discussions with the various stakeholders that were representing state and local level authorities, including IDPs communities. Primary data collection was done in all selected sites for rehabilitation works for the proposed water supply and sanitation related interventions in Shimbiralle village. Information on bio-physical, socio-economic, and environmental conditions were collected by engaging key stakeholders, including local communities. The impact was analyzed and categorized using a three steps method which involved: 1) description of baseline conditions; 2) assessment of magnitude of impacts according to duration, likelihood, and extent; and 3) Combination of magnitude with environmental and social values.

1.8.4 Community Consultation

Community consultation with various stakeholders were conducted to get their inputs on issues pertinent to the project. The consultations aimed at highlighting project activities and soliciting their feedback and concerns about the project. The stakeholders were identified according to the level at which they were operating, their interest in the project, their influence, and how they could be impacted by project components. The details of the consultation meetings are outline in Chapter 9.

1.9 Report Structure

The report has been structured into the following chapters:

Chapter 1: **Introduction** – This chapter provides project background, key components, objectives, justification, purpose of the ESIA, ESIA process, and methodology used for the study.

Chapter 2: **Policy, Legal and Institutional Framework** – The chapter describes the Somalia's development vision, policy and legal frameworks across all levels (i.e Federal and State). This chapter also outlines the AfDB's environmental and social safeguards as well as international conventions and agreements.

Chapter 3: **Project Description** – The chapter describes project locations, design, status, phase, resources, equipment and materials to be used, waste streams, project schedule, and implementation cost.

Chapter 4: Baseline Environmental and Social Conditions – The chapter describes the existing environmental settings, including physical, biological, and climate change. Also, the chapter

demonstrates the socio-economic aspects of the towns being investigated, including conflict management.

Chapter 5: **Analysis of Project Alternatives** – This chapter contains implementation alternatives considered on a case-by-case scenario for the project and provides justification of the chosen implementation.

Chapter 6: Impact Prediction and Analysis – The chapter summarizes all the potential impacts of the project as assessed and determined while as well as describing the proposed mitigation measures for the identified impacts.

Chapter 7: Proposed Mitigation Measures – This chapter presents mitigation measures to avoid, prevent or reduce adverse environmental and social impacts of the proposed project. It also describes opportunities for enhancement of positive impacts.

Chapter 8: Environmental and Social Management and Monitoring Plan (ESMPP) – The chapter demonstrates robust plans for all potential impacts, proposed mitigation and enhancement measures, responsible project authorities, grievance redress mechanisms, annual audits, and estimated implementation cost of the ESMP.

Chapter 9: Public Consultations and Stakeholder Engagement – This chapter describes the process of the public consultations and stakeholder engagement during the preparation of the ESIA study for the proposed project in the target districts. Stakeholder opinions were sought interviews and focus group discussions. Feedback from these consultations has been taken into account when preparing the ESIA. A summary of issues discussed is given in Section 9.5.

Chapter 10: Institutional Capacity – This chapter describes the institutional capacity needs of different stakeholders that are implementing the environmental and social mitigation measures.

Chapter 11: Conclusion and Recommendations – The chapter briefly presents the environmental and social acceptability of the project, taking into account the impacts and measures identified during the assessment process. Also, the chapter outlines the recommendations to be considered during the implementation of the project.

2.0 POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

This chapter provides an overview of the key policies, laws, regulatory and institutional frameworks relevant to the environmental and social aspects of the proposed water supply and sanitation facilities. It also identifies relevant ministries, agencies, institutions responsible for the implementation, monitoring, and enforcement of the legal requirements specified therein.

2.1 Policy Framework

The Somali territories policy and legislation with respect to the environment and social is nascent, in terms of assessing the potential impact of such policies on the environment and social, or how they could contribute to environmental conservation and sustainable livelihood improvement. A number of international agreements and Multilateral Environment Agreements (MEAs) exist, and although binding on Somalia there has been little progress in implementation due to the chronic conflict.

In recent years Somalia territories have effected constitutional changes that define natural resources, common environmental goods and ecosystem services as protectable public assets and ascertain the right to a clean and healthy environment.

This section presents the policy frameworks related to the project at federal and state levels. Among the Federal Member States (FMSs), Galmudug, Jubbaland, and Puntland will benefit from the project.

2.1.1 Federal Level

National WASH Sector Policy

The overall policy goal is to ensure provision of safe, affordable, equitable, quality and sustainable management of water, hygiene and sanitation for all. The policy provides several policy statements and policy measures on both water and sanitation. One key policy, statement, and measures focus on community well-being through social and environmental considerations. Thus, the statement underlines that service provider and government authorities should prepare environmental and social issues, while at the same time, emphasizing community participation in the sustainability of projects. Communities living in both urban and rural should be encouraged and supported to participate in planning and the project planning and decision-making forums.

National Environmental Policy (2019)

The overall goal of the policy is to improve and enhance the health and quality of life of the Somali people and to promote sustainable development through sound management of the natural resources of the country. The policy states a number of provisions related to Environmental

Impact Assessment (EIA) for all the development projects so that the adverse environmental impacts can be predicted, mitigated or eliminated.

National Climate Change Policy (2020)

The objective of the policy is to guide response measures in addressing the impacts of climate change. Also, the policy promotes and strengthens the implementation of adaptation and disaster risk reduction measures in order to reduce vulnerability to climate change. Investments in climate-resilient and low-carbon development pathways in all economic activities are considered and encouraged by the policy. In terms of relevancy to this ESIA, the policy emphasized the prioritization of community level infrastructure, including berkeds, shallow wells, and ponds.

National Water Resources Strategy

The strategy has three strategic goals for water sector development in the future. They include the following: a) water sector governance frameworks established; b) integrated water resources management improved; and c) provision of water services improved. The last goal has one sub-strategy which is linked to the objective of the project.

National Gender Policy (2016)

The national Gender Policy of 2016 includes strategies to eradicate harmful traditional practices such as female genital mutilation/cutting (FGM/C) and child marriage and to improve services for the management of GBV/SEAH cases.

2.1.2 State Level

State level policies, laws and regulations are slightly advanced for some states and regions like Puntland. Here are some of the existing state level policy and legal frameworks.

Puntland Environmental Policy (2014)

Which provides the overall guiding policies relating to the management of the environment and natural resources. This policy allows a rationalization of administrative regulations and policies to eliminate deficiencies or inconsistencies with other previous policies. The policy promotes the use of appropriate environmental assessment instruments such as the EIA and Strategic Environmental Assessment.

Puntland Solid Waste Management Policy (2016)

The overall goal of the policy is to provide better public health and safety, environmental protection and enhanced economic growth through resource recovery. The specific objectives of the policy are:

i. To improve public health and safety, and protect the local environment;

ii. To develop a waste management system that is effective, robust, equitable and sustainable;
iii. Improve public service in waste collection, transportation, treatment, disposable that is affordable and effective;
iv. To contribute the economic development of Puntland state through resource recovery and effective production system;
v. Promote Public-Private participation in waste management;
vi. Promote public awareness and behavioural change in waste management;
vii. Support research, education and training on sustainable waste management; and
viii. Innovate, domestic and propagate waste management technologies that are affordable, reliable and environmentally friendly.

2.2 Legal Framework

This sub-section presents the legal frameworks that exists at federal and state levels and are relevant to the project.

2.2.1 Federal Level

Constitution[1] of the Federal Republic of Somalia, 2012

The key legal instrument for management of environmental affairs in Somalia is the Constitution, especially **Article 25** ("Environment"), **Article 43** ("Land"), **Article 44** ("Natural Resources") and **Article 45** ("Environment"). **Article 25** of the Constitution states that "[every Somali] has the right to an environment that is not harmful to their health and well-being, and to be protected from pollution and harmful materials." The article proceeds to declare that "[every Somali] has the right to have a share of the natural resources of the country, whilst being protected from excessive and damaging exploitation of these natural resources." **Article 45** (in Chapter 3 – "Land, Property and Environment") exhorts "all people in … Somalia" to "participate in the development, execution, management, conservation and protection of the natural resources and environment." **Article 43**, on its part, provides guidelines on environmental and social safeguards that can be observed. However, there are no standing environmental and/or social safeguards in terms of legislated and or drafted regulations. The Article also affirms that the federal government shall give priority to the protection, conservation, and preservation of the environment against anything that may cause harm to natural biodiversity and the ecosystem.

The Labour Code of 1972[2]

The labour codes stipulates that all contract of employment must include a) the nature and duration of the contract; b) the hours and place of work; c) the remuneration payable to the worker; and c) the procedure for suspension or termination of contract. Furthermore, all contracts must be submitted to the competent labor inspector for pre-approval.

[1] Provisional Constitution, 2012
[2] The Code has recently been revised, but the revisions have not yet been passed and signed into law

In regards to occupational health and safety standards (OHS), the employer is obligated to provide adequate measures for health & safety in protecting staff against work related risks, including the provisions of a safe and clean work environment and of well-equipped, constructed and managed workplaces that provide sanitary facilities, water and other basic tools and appliances ensuring workers' health and safety.

The Labour Code further stipulates that workers have the right to submit complaints to the employer who must give the complaints due consideration. Remuneration must be adequate in view of the quality and quantity of the work delivered, and must be non-discriminatory with regards to age, gender and other work-related aspects. The maximum number of working hours per week is eight (8) hours per day and six (6) days per week.

Some work is considered dangerous and unhealthy and forbidden for women and youth (defined as 15-18 years of age). This includes the carrying of heavy weight or work at night. The Labor Code further forbids work for children below the age of 12, but allows employment of children between the age of 12-15, yet employment has to be compatible with proper protection, health and the moral of children. The Code also recognizes freedom of association. Employers are prohibited from engaging in any kind of discrimination or restriction of the right of freedom of association. Workers are allowed to join trade union.

The Labor Code stipulates right to equal pay for the same work as men, paid maternity leave. Women are entitled to 14 weeks of maternity leave at half pay.

Somali Penal Code of 1962

The Somali Penal Code of 1962 criminalizes rape and other forms of sexual violence as well as forced prostitution. Articles 398-9 provide that 'carnal intercourse' and 'acts of lust committed with violence' are punishable with 5-15 years and 1-5 years of imprisonment, respectively. Abduction for the purpose of lust or marriage is prohibited under Art 401. The Family Code of 1975 sets the minimum age for marriage at 18 for males and females. Females between the age of 16 and 18 can marry with their guardian´s consent. Marriage is based on equal rights and duties.

2.2.2 State Level

Constitution of Puntland

In Article 96, the importance and protection of the environment. Among the key aspects include combating deforestation, soil erosion and pollution. The constitution forbids exportation of

charcoal trading in endangered plant and animal species. Prohibition has been placed too on creating of unsustainable urban-like sprawls in rural settings.

Puntland EIA Act and Regulation, 2016

All projects or activities specified in schedule (1) shall require environmental impact assessment, the scope and extent of the environmental impact assessment report shall be as specified in schedule (2). Also, Schedule 2 of the regulation requires detailed Social and Environmental Impact Assessment of projects before being submitted for approval. This measure is the best way of ensuring that interventions do not exacerbate the fragile conditions of the ecosystems in Puntland.

2.3 Institutional Arrangement

The table below presents the institutional framework related to the project.

Table 2.3.1: Institutional Arrangement

Institution	Mandate
Ministry of Energy and Water Resources (MoEWR), Federal Government of Somalia	MoEWR is responsible for water at federal and state levels. Its main functions focus on ensuring that all citizens have access to adequate water services. Also, determines and develop sub-policies, laws and from time-to-time review policies and legislations. The Ministry is responsible for sector coordination and integration, cross-sectoral planning, evaluation of programs for water supply and sourcing adequate funds for water project.
Ministry of Energy and Water Resources, Puntland State	The Ministry is in charge of the protection and preservation of surface and ground water resources, including dry/seasonal rivers.
Municipal Authority of Qardho district	Municipal authority of Qardho district is headed by Mayor who is the political wing. The leader at this level of local administration is closer to residents and therefore important in effective community engagement, sensitization and dispute resolution given that the water supply and sanitation project will serve communities.
Water Operator in Qardho	Water operator in the town is responsible to provide clean and safe water to all residents, including the IDPs. This entity is responsible for operation and maintenances for water supply systems.

2.4 African Development Bank Safeguard Standards

The AfDB's Integrated Safeguards System (ISS) is a guiding principal structure to be followed by all Bank borrowers in projects financed by the Bank. The ISS are aimed at fostering development in a socially inclusive and environmentally sustainable manner. The safeguard standards are a tool for identifying risk s, lowering development costs and improving project sustainability, thus

benefiting affected communities and helping preserve the environment. The safeguards objectives are as follows:

- Avoid adverse impacts of projects on the environment and affected people, while maximizing potential development benefits to the extent possible,
- Minimize, mitigate, and/or compensate for adverse impacts on the environment and affected people when avoidance is not possible, and
- Help borrowers/clients to strengthen their safeguard systems and develop the capacity to manage environment and social risks.

To meet the above-mentioned objectives, the AfDB ensures that projects, activities and initiatives supported through Bank financing comply with the Environmental and Social (E&S) Operational Safeguards (OS).

Table 2.4: AfDB's Operational Safeguards to be triggered by the project

E&S Operational Safeguards	Applicability of the E&S Operational Standards
OS 1: Environmental and social assessment	This overarching safeguard governs the process of determining a project's environmental and social category and the resulting environmental and social assessment requirements. Upon briefly screening of the project by the AfDB, Building Resilience to Climate Change Through WASH project for Qardho was classified as Category 2 project hence and ESIA and ESMP have been developed.
OS2: Labour and Working Conditions	This safeguard establishes the AfDB's requirements for its borrowers or clients concerning workers' conditions, rights and protection from abuse or exploitation. It also ensures a greater harmonization with most other multilateral development banks. Labour condition, health and safety are very crucial during the construction and operation stages. To comply with the safeguard, the project shall ensure that all contractors to be engaged on the project register. The project leaders will consider female workers and given opportunities for work and leadership when recruiting employees, no discrimination and no sexual exploitation and abuse will be tolerated at work place. Thus, the project will ensure no sexual exploitation, abuse and harassment (SEA/SH) at work place. Furthermore, the project will ensure health and safety of workers is adequately complied with through training of workers, provision of personal protective equipment (PPE). To proactively prepare, the project should develop Health and Safety Management Plan to ensure compliance to this safeguard.

OS3: Resource Efficiency and Pollution Prevention and Management	This safeguard covers a wide-range of key impacts of pollution, waste, and hazardous materials for which there are agreed international conventions, as well as comprehensive industry-specific and regional standards, including greenhouse gas accounting, that multilateral development banks follow. To comply with this safeguard, the project ensured that that the design promotes efficient resources utilization and pollution prevention techniques. To prevent pollution, the project ensures that the sanitation and hygiene facilities will be provided across all sub-projects. To enhance compliance to the OS, the project also developed subordinate waste management plan, and pollution control and prevention plan to enhance that the developed project ESMP to meet the safeguard standard.
OS4: Community Health, Safety and Security	This safeguard reorganizes that projects, activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience an acceleration or intensification of impacts due to a project or activities. To fulfill this safeguard, the project confirmed that the existing and project related-activities risks and impact to community health, safety and security have been evaluated and are reported as part of the ESIA/ESMP.
OS5: Land Acquisition, Restrictions on Access to Land and Land Use, and Involuntary Resettlement.	This safeguard consolidates the policy commitments and requirements set out in the Bank's policy on involuntary resettlement and incorporates a number of refinements designed to improve the operational effectiveness of those requirements. To conform with this OS, the people ensured by the project in the project areas will not be physically displaced. This will be achieved by utilizing unoccupied public and/or communal land spaces such as river banks for construction of shallow wells. For instance, where customary land is required, only land will be utilized. To that effect, the project will not need to develop a Resettlement Action Plan (RAP), since there is no land acquisition, displacement and resettlement.
OS6: Habitat and Biodiversity Conservation and Sustainable Management of Living Natural Resources.	This safeguard aims to conserve biological diversity and promote the sustainable use of natural resources. It also translates the commitments in the Bank's policy on integrated water resources management into operational requirements. To comply with this safeguard, the project conducted a detailed ESIA for project which among other things assessed impact on project biodiversity and ecosystems. The ESMP outlined mitigation measures to be implemented to ensure that the project activities do not have

	severe impact on biodiversity and ecosystems. To increase water supply in Qardho, the project proposed to rehabilitate existing borehole (i.e Biyo Cadde) at Shimbiralle village.
OS7: Vulnerable Groups	This safeguard recognizes that the situation of vulnerability groups varies from region to region and from country to country. The particular national and regional contexts and the different historical and cultural backgrounds will be considered as part of the environmental and social assessment of the project. To comply this safeguard, the project ensured that vulnerable groups were identified and consulted during scoping and stakeholder consultation meetings across all sub-projects.
OS8: Cultural Heritage	This safeguard recognizes that cultural heritage is an inherent and essential part of self-identification, and it provides continuity in tangible and intangible forms between the past, present and future. People identify with cultural heritage as a reflection and expression of their constantly evolving values, beliefs, knowledge and tradition. To observe this safeguard, the project guaranteed that there will be no cultural sites that will be adversely affected by the works of the project.
OS9: Financial Intermediaries	This is not triggered by the project.
OS10: Stakeholder Engagement and Information Disclosure	Under this safeguard, the AfDB acknowledges, in its quest to meet its primary objective of assisting African countries to attain economic development and social progress, that the right to effective participation in decision-making is essential for the development of inclusive and just societies.

2.5 International Conventions and Agreements

There are a number of international conventions and agreements that have been signed or ratified by the Federal Republic of Somalia (FRS), which are relevant to the project. These conventions and agreements are aimed at reducing and/or eradicating environmental degradation while enhancing the sustainable use of natural resources through climate change adaptation and mitigation measures.

Table 2.5: International Conventions and Agreements

Type of Convention	Name of Convention	Year Ratified/adopted	Relevance to the Project
Biodiversity	United Nations Convention on Biological Diversity, 1992	2009	The project will involve clearing of vegetation covers, mainly grass

Type of Convention	Name of Convention	Year Ratified/adopted	Relevance to the Project
	United Nations Convention to Combat Desertification, 2002	2002	and shrubs. Mitigation measures must be implemented to minimize cutting of grasses and shrubs around the sub-project sites.
	African Convention on the Conservation of Nature and Natural Resources, 2003	2016	The project proponent will take effective measures to prevent land degradation and adopt measures for the conservation, management, and development underground and surface water resources to sustain both human health and natural resources.
	Convention on International Trade against Endangered Species (CITES), 1986	1986	The project will abide by the fundamental principles of this convention and relevant national regulations that do not allow trade in specimens of species in project locations. Any endangered species in the project areas must be protected from collection and hunting for trading purposes.
Climate Change	United Nations Framework Convention on Climate Change (UNFCCC), 1992	2009	Improving the water supply situation for the people in Qardho may increase their resilience to the adverse effects of climate change.
Hazardous Waste, Chemicals and Ozone Layer Protection	Vienna Convention on the Protection of the Ozone Layer, 1985	2001	All hazardous wastes generated during construction of water supply system project will have to be handled, and disposed of within the target areas.
	Basel Protocol on Liability and Compensation on Damage Resulting from Transboundary Movement of Hazardous Waste and their Disposal, 2000	2010	All imports of chemicals and other additives must comply with national legislation and the applicable international conventions and agreements.
	Stockholm Convention on Protection of Ozone Layer,	2010	The project will take measures to avoid to use chemicals or harmful

Type of Convention	Name of Convention	Year Ratified/adopted	Relevance to the Project
			substances to the environment, particularly air.
Social	The Freedom of Association and Protection of the Right to Organize Convention (1948) No. 87	2014	The project will uphold the rights of the project workers to organize their own association or representatives to present their complaints in work place.
	Convention concerning Forced or Compulsory Labour (ILO No. 29)	1960	The project will comply and execute the international labour laws as well as nation labour code to protect the rights and dignity of all workers. For instance, this will include provision of contracts for all hired workers, timely salary/wages payment, provision of personal protective equipment, and setting up grievance handling mechanisms in order to enable workers channel their concerns, complaints, etc.
	Convention on the Rights of the Child, 1989.	2015	The project will safeguard and protect the rights of children. During community consultations, children's participation and voice will be considered.
	African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa (Kampala convention) 2009	2019	The project will support the primary responsibility for providing protection of and humanitarian assistance to IDPs and vulnerable host community within their camps and/or villages without discrimination of any kind.

3.0 PROJECT DESCRIPTION

The Climate Resilience Water, Sanitation and Hygiene (WASH) project has been designed to provide sustainable water supply and improved sanitation to the communities, especially the most marginalized groups living in target districts such as Doolow, South Galkacyo, and Qardho. The project will support the development, rehabilitation and expansion of existing water supply systems in these towns. Furthermore, the project will improve sanitation services by providing new sanitation facilities such as construction of public latrines, hand washing facilities, and solid waste collection and transport equipment for each district. The project has four crucial components, including: 1) rehabilitation and expansion of water supply systems; 2) expansion of sanitation and hygiene facilities; 3) climate-resilient investment studies; and 4) capacity building and institutional strengthening. The ESIA Consultant assessed the impacts and risks of all project activities outline in the detailed terms of reference (Annex 12.5). The following are the detailed locations, design and status, phases, waste streams, and schedule and implementation cost of the proposed water supply and sanitation project:

3.1 Project Location

Building resilience to climate change through WASH project will target Qardho District in Somalia.

3.1.1 Qardho

Qardho (also known as Gardo) is a historical town in Somalia. It is the capital of Karkar region in Puntland State Somalia. It is located 238 kilometers South of the Port City of Bossaso and 215 km North of Garowe, the Capital City of Puntland State of Somalia.

In Qardho town, the project, particularly component one will support the rehabilitation and expansion of water supply systems in two (i.e Shimbiralle village and Shabelle IDP camp) areas. This ESIA is focused on the proposed project activities with associated environmental and social risks and impacts at Shimbiralle village.

3.2 Project Design and Status

Building Resilience to Climate Change Through WASH Project has been designed to provide adequate safe drinking water and improved sanitation to more than half a million IDPs and vulnerable host communities. In the short term, the project will involve the rehabilitation of existing shallow wells and/or boreholes, and expansion of water supply systems. Currently, the project is at the appraisal of the completion stage that will start once the AfDB's Board approves the final assessment, probably in November, 2023.

Some of the key preliminary activities that have been undertaken include the following:

- **Rapid situational assessment**: a needs assessment on WASH was conducted in five districts across Somalia.

- **Selection of target areas**: based on the findings of the rapid needs assessments, the MoEWR and AfDB selected districts with most needs as the project target.
- **ESIA and ESMP:** studies on environmental and social impact assessment on the proposed project activities was undertaken, and appropriate environmental and social management plans was developed.

3.3 Project Phases

The project will be undertaken in three major phases namely: i) pre-construction; ii) construction; and iii) post-construction. The ESIA team noted and highlighted the required resources, works and measures to be taken during each stage of the project execution.

3.3.1 Pre-construction Stage

3.3.1.1 Land acquisition

The project will support rehabilitation works through installation of rising main; provision of grundfos pump, transmission pipe, distribution line, on-site elevated water tank, construction of fiber/plastic onsite water tank, four communal water points and 35 latrines at Shimbiralle village. Hence, during the field visit, the ESIA team noted that there will be a minimal land uptake which is envisaged to be used for project ancillary facilities (i.e camp site, material yard, etc) that will be located in a communal land. The local government authority stated that campsite and/or material yard will be designated in a suitable area before the implementation of project activities. Furthermore, there will be no land acquisition and displacement associated with the proposed project activities at Shimbiralle village in Qardho district. However, the ESIA team recommends a sperate ESIA for the campsite and material yard to be undertaken.

3.3.1.2 Mobilization

The stakeholders of the project will make sure that the resources will be mobilized, including human, construction material, and equipment. Also, the establishment of a temporary camp site and a storage yard will enable the stakeholders to successfully implement their components of the project and finalize the works.

3.3.2 Construction Stage

All activities under this stage are supposed to be carried out within the boundaries of the identified project site at Shimbiralle village without disturbing or obstructing the neighbors. Upon the completion of mobilization activities, actual construction of water and sanitation facilities will involve the following.

Table 3.3.2: Proposed activities in Shimbiralle village

#	Proposed activities	Specifications	Location
1	Installation of rising main	2.5" UPVC pipe with a length of 210 meters	**Well:** 9° 29'47" N 49° 4'30.77" E
2	Provision of submersible Grundfos pump	18.5Kw	
3	Rehabilitation of onsite elevated water tank		
4	Construction of four communal water points	4	
5	Construction of household latrines	35 latrines	
6	Provision of one generator	65kva	
7	Extension of water pipeline	3" UPVC piple, approximate in a length of 2 km.	
8	Provision of solar power system		
9	Fencing of the borehole		

These activities are considered as a package for Shimbiralle village. The distance between the borehole and the Yemani refugee residents and vulnerable host communities in Shibmiralle village is approximately 3 and 2 km respectively. These locations are within the town and there is no vegetation cover. The communal water points will be constructed in nearby to households to ease water collection for the residents.

3.3.3 Operation and Maintenance Stage

After the rehabilitation works, the Contractor will demobilize the sites. This will involve the removal of temporary structures such as camp sites, signages, and restoration of sites.

In terms of sustainability of the sub-project, the water operator and municipal authority of Qardho will operate the facilities. The operational activities will include:

- Water abstraction and storage;
- Distribution of water to households, mosques, schools, health facilities, etc;
- Collection and disposal of solid wastes; and
- Maintenance of equipment and infrastructure.

3.4 Equipment and materials

Some of the equipment and materials to be used for the rehabilitation of the borehole and water tank and construction of latrines and communal water points (kiosks), include but not limited to:

i) excavators; ii) roller; iii) dump truck; iv) water pumps; v) concrete mixer; vi) front end loader; vii) water trucks.

In terms of materials, the following materials will be used during the construction stage:

- Sand, aggregate, and cement;
- Nails, timber, and steel;
- Steel valves, fittings and chambers;
- PVC and steel pipes; and
- Water, fuel, and paints.

The civil works will not require the establishment of barrow pits or quarries for materials. All construction materials will be obtained from the local suppliers.

3.5 Waste streams

The construction activities of the project are expected to produce waste and spoil. The following are some of the wastes foreseen during the construction stage:

- Spoil from land clearing and excavation works – mostly grass, bush, etc;
- Construction debris such as nails, bricks, concrete, steel, scrap materials, plastic materials, wood, etc; and
- Hazardous waste such as cement residue, oils, gases, paints.

3.6 Project Schedule and Implementation Cost

The project will be implemented over a period of 30 months (expected to start July 2023). The AfDB will monitor the implementation of the project through regular supervision missions undertaken at least twice a year. The tentative implementation plan for the project is as follows:

Table 3.6.1: Project Schedule

Activity	Target Date
Project Appraisal	March-April, 2023
Approval by the AfDB Board	November/December, 2023
Start of Project	January, 2024
Mid Term Review	December, 2024
Project Completion	December, 2025

The project will be financed with a 6.2 million Euro grant from the African Water Facility (AWF) to the Federal Republic of Somalia under the NDF/DK program. The estimated project cost by component is presented in the table below:

Table 3.6.2: Project Components

No.	Component	Euro (million)
1	Rehabilitation and expansion of water supply systems	1.28
2	Expansion of sanitation and hygiene facilities	1.205
3	Preparation of climate-resilient investment studies	2.365

4	Capacity building and institutional strengthening	1.35
	TOTAL	**6.20**

The MoEWR will establish and host a Project Implementation Unit (PIU). The PIU team will comprise a Project Manager, Engineer, Sociologist, Accountant, and Procurement Specialist. This team will be responsible for the daily management and coordination of the project. Furthermore, state-level Project Management Teams (PMTs) will be established in the three sub-project areas. Each PMT will compose of Project Coordinator, WASH Resident Engineer, and a Sociologist. In terms of ensuring effective collaboration, coordination and donor alignment, Federal-level Project Steering Committee (PSC) will be formed. The PSC will comprise members from the line ministries such as MoEWR, Ministry of Health, Ministry of Education, Ministry of Women, Human Rights and Development.

4.0 BASELINE ENVIRONMENTAL AND SOCIAL CONDITIONS

This section describes the preferred alternatives that have been considered in light of those that were rejected. Furthermore, the analysis of alternatives aimed at developing a proposed action that is both technically and financially viable, which minimizes environmental and social impacts to as low as rationally feasible.

4.1 PHYSICAL ENVIRONMENT

4.1.1 Location

Somalia is located in the Horn of Africa where it lies between latitudes 2°S and 12°N, and longitudes 41° and 52°E. The country is bordered by Djibouti to the northwest, Kenya to the southwest, the Gulf of Aden to the north, Indian Ocean to the east, and Ethiopia to the west. Somalia has a total land mass area of 637,655 km² and a total coastline of 3,333 km (2,071 mi).

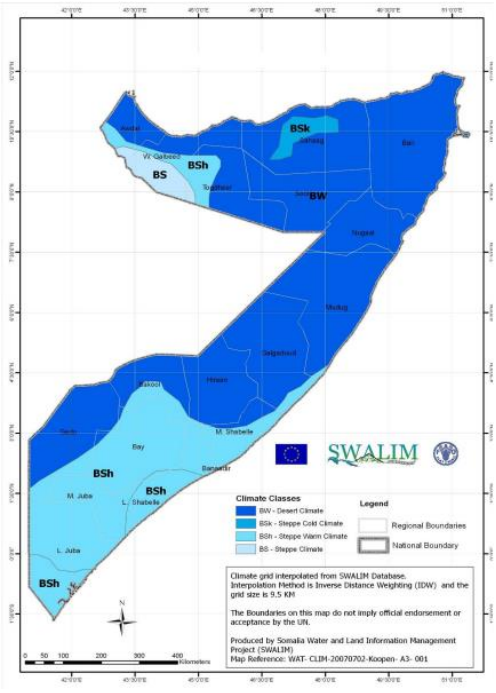
Qardho is located in the region of Karkar. Qardho is approximately located at 197 km South of Bosaso City Port. The distance from Qardho to Somalia's Capital City of Mogadishu is approximately 925 km.

Table 4.1.1 Location of Target District

District Name	Location/Coordinates	
	Latitude (N)	Longitude (E)
Qardho	9° 30' 02"	49° 05' 31"

4.1.2 Climate

Somalia's terrain consists mainly of arid and semi-arid plateaus, plains, and highlands. Most of the country is flat, rising in the southern and central regions to a few hundred meters above sea level near the Ethiopian border. Somalia's Arid and Semi-Arid Lands (ASALs) make up more than 80 percent of the country's landmass and are characteristically prone to extreme weather conditions, including high mean surface temperature, periods of extended drought, and highly erratic rainfall and strong winds (UNDP/ICPAC, 2013).



The county has an average annual rainfall of about 250 mm. However, there are variations in spatial distributions of rainfall, with about 500 mm recorded annually in the northern highlands and between 300 and 500 mm in the southern regions. The coastal plains register only between 50-150 mm. A few small areas along the coastal strip of Somalia are

classified as sub-humid. Rainfall in Somalia has great spatial and temporal variability. Seasonal rainfall is dominated by the north and south movement of the Inter-Tropical Convergence Zone (ITCZ), delineated into four seasons:

i) *Jiilaal*: dry season from December to Marh. The north-east monsoon is in dominance and conditions are generally dry and warm/hot. The northern parts of the country experience some cool and dry air during this season, while the central and southern parts experience very hot conditions.

ii) *Gu*': rainy season starts from April to June. Relatively wet and hot conditions prevail, with Gu' considered as the major rainy season in the country. The southern regions receive more rains than the north. Occasionally, the Gu' season extends into June or July because of the *Xagaa* rains, which are produced by the onset of the moist onshore winds.

iii) *Xagaa:* dry season is from July to September. The south-west monsoon dominates, bringing relatively cool conditions, with showers along the coast, but dry inland.

iv) *Deyr*: rainy season is from October to November. The rainfall received in this season is less than that of the Gu' rainy season.

The Figures (fig 1 & 2) below shows the distribution of the average monthly rainfall and temperature in the project's target districts. The dry seasons lasts for seven (7) months, from Dec to March and from July to September, with an average daily high temperature above 40°C and the hottest month of the year is March, with an average high of 44°C and July, the lowest with an average low of 36°C. The wet seasons lasts for about five (5) months, from April to June, and from October to November, with an average daily high temperature below 28°C, whereas the coldest month of the year is January. The climate of Somalia is classified as "arid and semi-arid". Hence, the climate is generally harsh. Specifically, the climate of Qardho is mostly hot and semi-arid conditions.

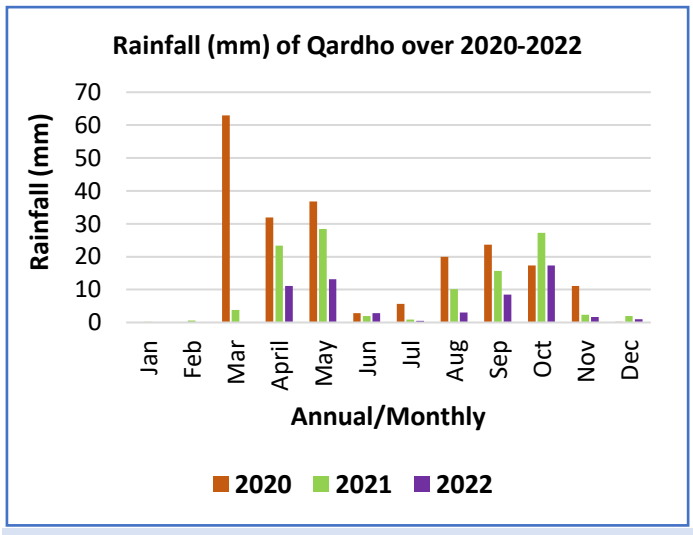


Figure 1: Annual Distribution of Mean Monthly Rainfall in Qardho

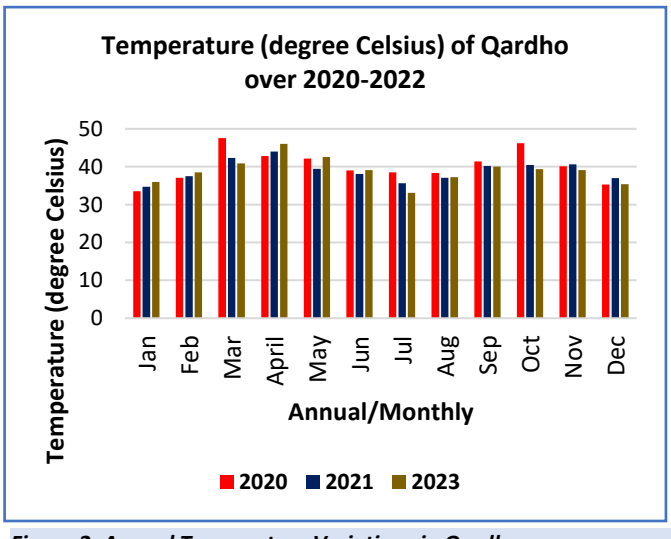
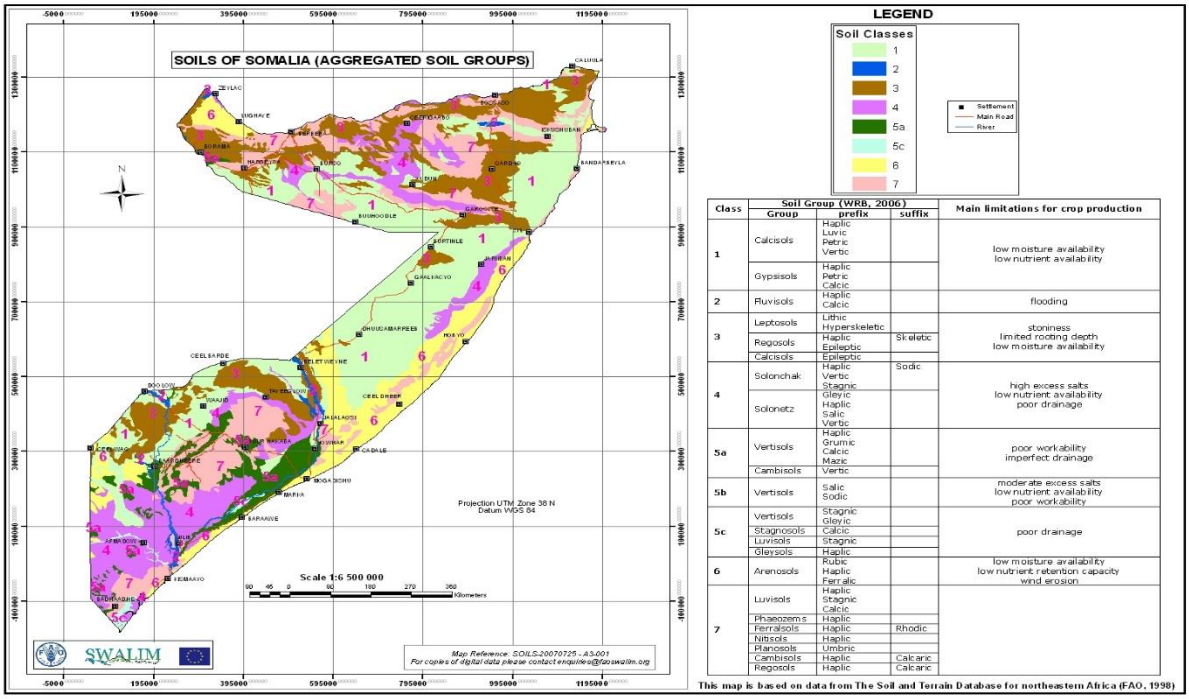


Figure 2: Annual Temperature Variations in Qardho

Source: FAO/SWALIM, CDI, 2023

4.1.3 Geology and Soils

The geological formations in Somalia include alluvium from the Pleistocene to Holocene period whose general characteristics show Older Pleistocene alluvial sediments and recent alluvium including sandy clay with lenses of sand and fine gravel to coarse gravels and boulders.



Class	Soil Group (WRB, 2006)			Main limitations for crop production
	Group	prefix	suffix	
1	Calcisols	Haplic Luvic Petric Vertic		low moisture availability low nutrient availability
	Gypsisols	Haplic Petric Calcic		
2	Fluvisols	Haplic Calcic		flooding
3	Leptosols	Lithic Hyperskeletic		stoniness limited rooting depth low moisture availability
	Regosols	Haplic Epileptic	Skeletic	
	Calcisols	Epileptic		
4	Solonchak	Haplic Vertic Stagnic	Sodic	high excess salts low nutrient availability poor drainage
	Solonetz	Gleyic Haplic Salic Vertic		
5a	Vertisols	Haplic Grumic Calcic Mazic		poor workability imperfect drainage
	Cambisols	Vertic		
5b	Vertisols	Salic Sodic		moderate excess salts low nutrient availability poor workability
5c	Vertisols	Stagnic Gleyic		poor drainage
	Stagnosols	Calcic		
	Luvisols	Stagnic		
	Gleysols	Haplic		
6	Arenosols	Rubic Haplic Ferralic		low moisture availability low nutrient retention capacity wind erosion
7	Luvisols	Haplic Stagnic Calcic		
	Phaeozems	Haplic		
	Ferralsols	Haplic	Rhodic	
	Nitisols	Haplic		
	Planosols	Umbric		
	Cambisols	Haplic	Calcaric	
	Regosols	Haplic	Calcaric	

In some areas there are fine sands forming dunes and red soils and calcerites. Quanternary unconsolidated sediments are mostly found in the southern coast and the riverine areas of Southern Somalia. The Northern part of the country is dominated by terciary sedimentary rocks from the Eocene period. On the Southern side of the country, the Jowhar formations consisting of gypsum, marls and dolomites. In the middle parts of Galkacyo of the Mudug Region rock formations are found, in which comprises of marly, biogenic limestones, calcarenites, and sandstones. While, the Luq-Dolow area has mixture of Fluvisols, Calcisols, and Leptosols. Also, the Karkar rock formations are constituted of fossiliferous, bedded limestone, marly limestones, and white marls.

Southward the mountains descend, often in scraped ledges, to an elevated plateau devoid of perennial rivers. This region of broken mountain terrain, shallow plateau valleys, and usually dry watercourses is known to the Somalis as the Ogo.

In Qardho, several hills are surrounding the city, which is constituted of stratified limestone of the Karkar Formation. The bottom of Qardho Valley is covered by alluvial deposits, a gypsum-anhydrite crust, probably of rather recent lacustrine origin, which also covers the valley.

Although short term impacts could affect soils during excavations of pipeline, construction of water tank, communal water points, and latrines in Shimbiralle village in Qardho, these impacts are expected to be minor and temporary in nature and will generally be addressed through engineering designs.

4.1.4 Topography and Landscape

The terrain of Somalia is mostly flat. In the north, parallel to the Gulf of Aden coast is a maritime plain varying in width from roughly twelve kilometers in the west to as little as two or three kilometers in the east. Scrub-covered, semi-arid, and generally drab, this plain, known as the *Guban* (burnt land), because of its heat and dryness during much of the year. It is crossed by broad, shallow watercourses that are beds of dry sand except in the rainy seasons. Inland from the gulf coast, the plain rises to the precipitous north-facing cliffs dissected by highlands. These form rugged mountain ranges that extend from Somalia's northwestern border with Ethiopia, eastward to the tip of the Horn where they end in the sheer cliffs of Caseyr.

4.1.5 Water Resources and Hydrology

Somalia has both surface and ground water resources. The Jubba and the Shabelle are the only two perennials in Somalia. They run from their headwaters in Ethiopia through Somalia and discharge water into the Indian Ocean near Kismayo. The Jubba River flows southward passing to the west of the Bay region. The Shabelle flows almost parallel to the Jubba, passing through the southern part of the central rangelands in the Hiran region, and then turning southwest until it joins the Juba River in an area of swamps.

Apart from the areas along the Jubba and Shabelle Rivers, the rest of the country relies on ground water for domestic use, livestock and small-scale farming. Boreholes are generally between 90 meters to 260 meters deep and in some areas can be 400 meters deep. The Shallow wells are usually less than 20 meters deep. While, yields vary from one aquifer to another, most shallow wells yield in between 2.5 and 10 m^3/hr, borehole yields are mostly between 5 to 20 m^3/hr (FAO/SWALIM, 2012).

The Project site in Shimbiralle village in Qardho is located at the hilly areas of the district. During the field visit, the ESIA team found several existing boreholes in Qardho. Similarly, the team noted that the groundwater quality varies according to the underlying geological formation of the ground surfaces and quantity of the seasonal rainfall.

4.2 BIOLOGICAL ENVIRONMENT

4.2.1 Flora

The proposed project sites across all sub-projects are characterized by fast spreading Invasive Species called *Prosopis Julifalora (Cali-garoob or garanwaa)*; because of its adaptive and suppressive traits, it's also a threat to livestock pasture and therefore to pastoral livelihoods. *Prosopis* in particular starves other plants of water as it has high ground water utilization rates (Adam-Bradford, 2013). *Prosopis spp.* Is also a threat in urban areas where its root system can interfere with underground infrastructure such as pit latrines and drainage pipelines (Adam-Bradford, 2013a).

In Shimbiralle village, the sites of the sub-project will experience small or limited bush clearance and cutting of few shrubs and/or grasses that cover the areas demarcated for the construction of water points and latrines. All these planned rehabilitation/construction works will be executed in a no sensitive environments and their adverse impacts are manageable.

4.2.2 Fauna

Somalis are mostly pastoralists and the country is home to several livestock species, including goats, sheep, cows, and camels. Commonly found in the project area of influence are goats, sheep, cows and camels. The country has lost many of its wild mammals such as elephants to poaching. A part from donkeys, there were no other terrestrial wildlife observed in Shimbiralle village since most of land is already inhabited.

4.2.3 Rangelands

Rangelands (mainly grass and herbs, but also including wood and bush-lands) are the most important ecosystem type in Somalia, as they are the natural resources for the pastoralists. In the lower nine rainfall areas (below 400mm) these rangelands are dominated by annual grasses and herbs. Such rangeland grass and herbs "bloom" after rain and constitute very important wet season grazing for pastoralist livestock herds. As rainfall is unevenly distributed spatially and temporally, pastoralists move to make optimal use of such rangelands, which can be very productive until the set seed and die. Then the pastoralists more their herd to their usual dry season grazing areas.

Perennial grasses are found in areas where the rainfall was above 400mm, though many such grasslands are degraded and replaced by annuals. Critical to the sustainability of such ecosystems is allowing the grasses and herbs to set seed for the next season and not to over graze them beyond their ability to regenerate. Perennial grassland areas are often associated with open wood and bush lands, and constitute important dry season and reserved grazing areas that are so critical to the success of pastoralism.

4.2.4 Climate Change

The current climate variability of Somalia is that the amount of rainfall received across the country varies dramatically in time and space, from drought periods to erratic periods of intense downpours and flooding. The prominent observation from analysis of the weather station rainfall data, across all regions and seasons in Somalia, demonstrates a high inter-annual and inter-seasonal variation in rainfall is shown to vary between the range of 57 mm and 660 mm at one weather station in central Somalia during a 20-year observation period (UNDP/ICPAC, 2013).

Since 1960s, Somalia has experienced at least one major climate extreme event in each decade (Balint et al 2011). Major floods that have been experienced since 1960 include 1961, 1977, 1981, 1997-98, 2005, 2006 and 2009. Major drought events were experienced in 1969, 1976, 1984, 1987, 1999, 2001, 2004 and 2010. In the past decade (2001 to 2010), the country has been alternating from drought to floods within the years (FAO SWALIM, 2012). The observed pattern (IPCC 2007, 2012) shows increasing variability in rainfall for Somalia suggesting an increase in the frequency and severity of future droughts and flash flood events.

Somalia is vulnerable to several natural hazards, including drought and floods, and is projected to be at even greater risk in the future due to climate change. The climate is mainly arid to semi-arid, and Somalia has one of the highest inter-annual variations of rainfall in Africa.

4.3 SOCIO-ECONOMIC CONDITIONS

4.3.1 Governance and Administration

Gardo Districts include the list of grade A districts according to Puntland local government law no.7/2013 endorsed by Puntland parliament. The local administration comprises the Mayor, Deputy Mayor, Local Council, Executive Secretary (appointed by the Ministry of Interior Federal Affairs and Democratization) and five departments Gardo has total of 75 local government employees operating in different levels of the local government function including security and sanitation.

First democratic local councils' election is implemented in Gardo in October 2021 after more than 50 years of civil unrest and dictatorship rule. This election has cemented the ongoing effort of democratization process in Puntland after successfully piloted in three Districts including Gardo.

Across all the IDP camps in the town, especially Shimbiralle village there was strong collaboration among the officials of the local authorities and other stakeholders such as representatives of the IDP camps.

4.3.2 Access to Education and Health Services

Prior to the civil war Somalis enjoyed free public education, however, since the collapse of the state only 30% of the children are in school and fewer than 50% of girls attend primary schools. Madrasas play a key role in providing education for young children. These Islamic schools which are abundant and easily accessible in nearly all parts of the country offer young children the opportunity to be literate. Somalia's healthcare provision is dominated by the private sector save for mother and child health centres funded by donors. Along the corridors nearly all the small settlements lack health care facilities and people are forced to travel to nearby urban areas to seek medical treatment.

The baseline assessment has shown that Shimbiralle village had one primary schools with a total number of 331 pupils, however, those that get access to schools do not successfully complete the lower primary education (grades 1-4).

Table 4.3.2: Primary schools in the IDP camps and vulnerable host communities

No.	Name of District	Name of IDP Camp/Village	Number of enrolled pupils (girls) in schools
1	Qardho	Shimbiralle	2150 (1052)

Source: Survey data

Furthermore, during the field assessment the ESIA team assessed the health services in Shimbiralle village and found out that there is only one maternal and child health (MCH) centre in the camp and thus there is limited treatment services offered by this facility. This limited health services in the camp have resulted in several cases of expectant mothers suffering who in need for medical care supports and sometimes hospitalization.

4.3.3 Water and Sanitation Conditions

The ESIA study also sought to find out the current situation of water availability and sanitation in the districts as well as in the IDP camps. In terms of access to water, Shimbiralle village in Qardho relied on water from the existing borehole and one functional communal water point (kiosk). However, during consultation meeting representatives from the camp stated that there are water shortage due technical challenges for the existing water infrastructure. Also, the ESIA team observed non-functional water tank and communal water points. Due to the IDP influx and new arrivals in Shimbiralle, there was high demand for safe drinking water in the camp.

On the other hand, the sanitation of Shimbiralle village was poor and there was no proper solid waste management. The most common sanitation facility were pit latrines. During the field assessment, the ESIA team observed open dumping waste types into wadi's (seasonal/dry river), including food residues, polythene bags, plastics and e-wastes. It was also observed that most of open dumping sites where near IDP camp and this had health implications.

Water and sanitation services for households, health, and education facilities are significantly deficient in both quantity and quality. The high user ratio leads to quick filling-up of sanitation facilities, yet none of the households has a functional fecal sludge management system. There is dire need to sustainably manage and protect the existing rehabilitation WASH infrastructure and expand the water supply network to alleviate the situation. Solid waste management is challenge in the camp as a lot of waste is generated while garbage collection and disposal systems are non-existent. This has resulted into pollution of rivers, shallow wells, and springs – exacerbating the water security challenge in the district.

4.3.4 Gender

Somalia has one of the highest gender inequalities in the world and at 0.776 it is ranked 4th in the world's inequality status. The country has an extremely high maternal mortality (723 deaths per 100, 000) live births while the adolescent birth rate for teenagers, aged between 15 and 19, is 100.1 per 1,000 births. Rape, female genital mutilation and child marriage rates, and violence against women and girls is common. Women make up 56.6% of the workforce in agriculture/pastoralism, which constitutes 60% of the local economy. The number of women working in government had significant numbers at 1,912 (19%). Much is to be desired in the education sector, where only 36.1% of pupils in the upper primary education are composed of girls. This gender disparity is higher in upper grades due to the economic constraints on families and early marriages or girls. Culturally the role of women has been limited to domestic affairs, however because of legislative changes their participation in the country's governance and politics continues to grow. Currently there is a 30% quoata declared for women representatives in both the lower and upper houses of the parliament. According to recent data from the UNDP711, the 2017 share of women seats in parliament was 24.3%. Traditionally the Somali women have been the "engineers" building the traditional homes, aqal somali, and "food processors" making preserved meat referred to as oodkac/muqmad. They are also the fetchers of water for domestic use, while it is the men who work at the wells to provide water for the

animal herds (Camel, goats, donkeys, among others). Alternatively, Somali women are actively involved in business, mainly trading in household goods, gold, and khat.

In the Qardho and particularly Shimbiralle village, women and girls experience many challenges such as walking long distances to collect water and firewood for their households daily. In discussions with women representatives, it was noted that women in the camp experienced several forms and cases of Gender Based Violence (GBV) such as defilements, domestic violences, and rapes.

4.3.5 Grievances Redress Mechanism

During the study, the ESIA team observed that there was no existing and/or functional Grievances Redress Mechanism (GRM) Committee for the project across all the cities. However, the officials of local government authorities indicated that they have Disputes Resolution Committees (DRC) at the municipal levels, which collaborates with local communities in resolving disputes whenever they arise.

4.3.6 Labour

The labour force participation rate is estimated at 65.9% and 37.6% among males and females, respectively. In overall terms, Somalia suffers from high unemployment and under-employment. The country has relatively highly vulnerable unemployment estimated at 59%, and a considerable unemployment rates for persons with upper primary level of education at 20.9% and those with secondary level of education an unemployment rate of 34.6%. Also, 41% of the employed in Somalia are in occupations that require elementary education. The largest proportion of employed persons are elementary occupations (41%) followed by professional (15%), skilled agricultural, forestry and fishery workers (10%) and craft and related trades workers (9%).

During the consultation meetings with the key stakeholders, including representatives of Shimbiralle village, it was revealed that the children and youth in the camp work for their families to support their daily livelihoods. In addition, women in the IDP camp carry out causal works in the towns. In Qardho, some of the IDPs work in the construction that are going in the town.

4.3.7 Land ownership

Land conflicts in Somalia have risen to be one of the key issues of instability at the community and inter-community level. This is partly due to a complex situation of land tenure. While the Agricultural Land Law of 1975 abolished private ownership, the current situation is very unclear. Only few locals registered their land at the time, and the civil war further impacted the situation negatively. Customary land tenure has therefore taken the center stage in ordering land ownership and usage. It is focused on clan relations and on pastoral land use rather than norms of individual ownership.

Although the Provisional Constitution defines land as public property, However, the land administration and management are virtually non-existent in Somalia. The country currently does not have a national land acquisition law and effective land tenure systems and again the central government does not have the ability to enforce this ownership and land remains community property owned by the different clans living in a particular area.

Throughout the assessment, the ESIA team noted that the majority of the land tenure systems in the project target districts are based on customary land ownership. In Qardho, the authorized district stated that the IDPs own the land that they current reside on.

4.3.8 Land Use

In Somalia, rangelands are estimated to constitute about 80 per cent of the nation's land area. In Dolow land is used for grazing and for farming around the river.

5.0 ANALYSIS OF ALTERNATIVES

This section describes the preferred alternatives that have been considered in light of those that were rejected. Furthermore, the analysis of alternatives aimed at developing a proposed action that is both technically and financially viable, which minimizes environmental and social impacts to as low as rationally feasible.

5.1 The No Project Location

This alternative option (i.e no project) means that the proposed sub-project would not take effect and the Ministry of Energy and Water Resources in Building Resilience to Climate Change through the WASH Project would stop the rehabilitation of one borehole by changing the rising main, submersible grundfos pump, rehabilitation of onsite elevated tanks, and construction of communal water points (kiosks) and 35 latrines in the Shimbiralle village. Thus, the proposed sites remain in their current state and the predicted positive and negative impacts of the sub-project are inevitable, meaning that there would be no effects on the environment and the surrounding local community. This alternative option is not considered due to the need to extend water supply to this IDP camp.

5.2 Alternative Project Location

No alternative locations were made available by the developer during the environmental and social impact assessment exercise, because the proposed site is an existing borehole. Consultation and discussions were had with the officials of the local government authority and local community about the project areas did not result in protests about the land where the water supply and sanitation facilities are located.

5.3 Alternative Transmission Line Routes

The main water transmission pipeline is planned to be routed along the roads and within the existing road reserves in Shimbiralle village. During the field assessment period, it was observed that there is no residential or farms that are located along the road reserves. Therefore, while it is preferrable from technical point of view to install the water transmission pipelines along the road (but not too close to the road expansion in the future), the resettlement impacts appear to be none if the water pipelines are routed along the road.

5.4 Alternative Water Sources

The current water supply is from borehole. However, the source is insufficient and cannot meet water demand of the Shimbiralle village and host communities. The problem worsens during prolonged dry seasons. Therefore, the proposed rehabilitation works suggested by the local government authority and community is expected to serve as an opportunity that the subproject could make a reliable water supply. Other alternatives water sources are private water vendors which are very expensive.

6.0 IMPACT PREDICTION AND ANALYSIS

This chapter describes potential environmental and social impacts of the proposed project. The prediction of positive and negative impacts of the project is based on the field observations and baseline environmental and social conditions of the project sites under the direct and indirect possible influence areas. In order to identify the environmental and social impact of the project and predict which component of the environment will be subjected to possible positive and/or negative impacts of the project, a description and analysis of the baseline environment has been carried out.

6.1 Impact Identification and Analysis

6.1.1 Impact Identification

Characteristics of the predicable impacts generated from the construction and operation of the activities of the proposed project have been identified by considering the following:

- Activities that may produce impact were evaluated in describing the project;
- Basic environmental data obtained from direct field observations; and
- Information gathered from available scientific publications and reports derived by the study of similar projects.

For each phase (i.e pre-construction/design, construction, operation, and decommissioning) as studies show on other related cases, the ESIA study team's observation of field level and the anticipated impacts were defined considering the following main activities of the project, which may have some effect on the bio-physical and socio-economic aspects of the project during its design and operation phases.

The construction phase main activities are:

- Rehabilitation of borehole;
- Construction of water tank;
- Construction of communal water points;
- Construction of latrines; and
- Excavation of trenches.

The potential environmental and social impacts of the depend its location, type and volume of interventions. The project activities such as clearing of vegetation, soil cutting, leveling, felling of trees during rehabilitation of borehole, excavation of trenches, and other related operational activities, which are bound to cause environmental and socials impacts, either positive or negative. The proposed project has limited adverse environmental and social risks and the magnitude of its impact and significance were assessed based on the factors shown below.

Table 6.1.1: Impacts magnitude and significance factors

Criteria	Description
Location or extent	The area/volume covered
Timing	Whether immediate or delayed
Duration	Short term, medium term, long term
Likelihood	Probability of the impact taking place
Significance	Whether it is local, regional, or global

6.1.2 Impact Analysis

This sub-section assesses the level of potential impacts based on various criteria, including the duration of impacts, location, likelihood, and magnitude. The impact assessment also considers the impacts and risks identified by the stakeholders who were consulted. The method for impacts analysis was as follows:

Table 6.1.2.1: Impact Severity Analysis

			Sensitivity of Receptor			
			Very Low	Low	Medium	High
			1	2	3	4
Intensity of Impact	Very Low	1	1 Negligible	2 Minor	3 Minor	4 Minor
	Low	2	2 Minor	4 Minor	6 Moderate	8 Moderate
	Medium	3	3 Minor	6 Moderate	9 Moderate	12 Major
	High	4	4 Minor	8 Moderate	12 Major	16 Major

The matrix shown in Table 6.1.2.1, above, links the project activities to the anticipated environmental and social impacts (both positive and negative), generated due to the implementation of the project activities during all the phases of the project. The Table 6.1.2.2, below, demonstrates the environmental and social safeguard aspects that will be treated in this report and the respective different weights of each aspect in terms of impact. Weights for each aspect of the different phases result from comparisons between the specialists that had part in the ESIA study. Each cell of the matrix will contain the anticipated relevant impact significance value, according to the legend as determined during the study. The environmental and social management plan with respective mitigation measures is indicated in Chapter 8.

Table 6.1.2.2: Environmental Impact Matix

Project Activity					
Component affected	**Construction Phase**				**Operation Phase**
Physical Environment					
	Construction of Shallow well	Establishment of communal water points; latrines; and hand-washing facilities	Establishment of water tanks	Excavation of trenches	

Soil	5	5	5	5	
Land Use	5	5	5	5	
Surface Water	4	1	1	3	
Dust/Air quality	5	1	1	1	
Noise	2	1	1	2	
Biological Environment					
Flora	4	1	1	3	
Fauna	1	1	1	1	
Socio-economic Environment					
Residential houses and community centers	0	0	0	0	
Farmland	5	0	0	1	
Cultural/archaeological sites	0	0	0	0	

6.1.3 Impact Significance Rating

The significance of the matrix's impacts has been determined by combining the perceived frequency of occurrence of the source of the impact, the duration, severity, and spatial extent of the impact, and the sensitivity of the area being impacted upon. The significance rating was aided by using the intensity of impacts and sensitivity of the receptors.

Table 6.1.3.1: Rating of Impact Significance

Impact Rating	Description
High	A high level of adverse impact could prompt authorities to implement robust mitigation measures or reject the implementation of the project. Also, in case of a high-level positive impact showing enhancement measures is to be implemented promptly.
Medium	A level of negative or positive impact with moderate significance that will either require mitigation, or enhancement measures respectively
Low	An insignificant amount of negative impact, but requires some mitigation, or positive impact that requires some attention to enhance it.

In light of the above impact significance rating, the possible environmental and social impacts of the project are evaluated and summarized as shown in Table 6.1.3.2 below.

Table 6.1.3.2: Impacts Rating Summary

#	Environmental Components	Impact Rating Result		
		Baseline	**Magnitude**	**Overall Impact**
CONSTRUCTION PHASE				
Physical Environment				
1	Visual impact on topography and landscape	Low	Low Negative	Small Negative
2	Soil erosion	Medium	Low Negative	Small Negative
3	Land pollution	Medium	Medium Negative	Small Negative
4	Air pollution	Low	Low Negative	Small Negative
5	Water pollution	Medium	Medium Negative	Medium Negative
6	Noise pollution	Medium	Medium Negative	Medium Negative
Biological Environment				
7	Vegetation clearance	Medium-High	Low Negative	Small Negative
8	Disturbance of the wild animal	Low	Low Negative	Small Negative
Socio-economic Environment				
9	Physical displacement	Zero	Zero	No
10	Land use	Low	Low Negative	Small Negative
11	Water and Sanitation	Low	Low Negative	Small Negative
12	Education and Health	Low	Low Negative	Small Negative
13	GBV/SEA/SH	Medium-High	Medium Negative	Medium Negative
14	Child Labour	Medium-High	Medium Negative	Medium Negative
15	Cultural heritage	Low	Low Negative	Small Negative
OPERATION PHASE				
Physical Environment				
1	Visual impact on topography and landscape	Low	Low Negative	Small Negative
2	Soil erosion	Low	Low Negative	Small Negative
3	Land pollution	Low	Low Negative	Small Negative
4	Air pollution	Low	Low Negative	Small Negative
5	Water pollution from construction works	Low	Low Negative	Small Negative
6	Noise pollution from construction works	Low	Low Negative	Small Negative
Biological Environment				
7	Establishment of invasive plant species around shallow wells	Low	Low Negative	Small Negative
8	Watering for livestock and wild animals	Low	Large Positive	Large Positive

Socio-economic Environment				
9	Physical displacement	N/A	Zero	No
10	Land use	N/A	Zero	No
11	Water and Sanitation	N/A	Large Positive	Large Positive
12	Education and Health	N/A	Large Positive	Large Positive

6.2 Positive Environmental and Social Impacts at all Phases

The key potential beneficial impacts associated with the implementation of the project mainly relate to the post-construction phase and these are summarized below.

6.2.1 Improved Quantity and Quality of Drinking Water

All the project areas are under chronic water shortages for human and livestock. The communities in target IDP camp have been depending on water trucking. Therefore, the implementation of the proposed project is expected to have a positive impact to provide and/or increase water supply and improve sanitation services.

6.2.2 Improved Health and Sanitation Services

The availability of adequate and safe drinking water will obviously reduce water related diseases such as diarrhea, cholera, etc. In addition, at family and communal levels, personal hygiene such as handwashing, bathing, and overall sanitation will be improved. Therefore, the execution of the project will have enormous contribution in improving public health conditions, good hygiene, and improved standards of living for the communities in the project target areas.

6.2.3 Improved Protection of Women and Girls

Women and girls in target IDP camp travel long distances in search of water and this caused them to face critical risks, including rape and other life-threatening criminal actions against them. Therefore, the implementation of the proposed project helps women and girls to safeguard their lives and become free from risks and threats.

6.2.4 Improved Disputes over Water Competition

Sometimes disputes over water fetching competition occur in the IDP camp. But because girls' often fetch water from existing wells and river, they contribute to fact the project has positive impact from the perspectives of managing conflicts.

6.2.5 Mitigation of Greenhouse Gas Emissions

The project will consider the adoption and installation of solar power as an alternative source of energy for water pumping, which will contribute to the reduction of greenhouse gases emitted by the generators.

6.2.6 Employment Opportunity

The project will create and contribute to employment opportunities for skilled and unskilled workers in the target areas and helps in generating income that can support their livelihoods. The phasing of the construction will create job opportunities for the local labor work force.

6.3 Negative Impacts and Mitigation Measures

6.3.1 Impacts on Physical Environment During Construction Phase

The environmental management activities would be carried out during the construction phase. Most of the impacts are expected to occur at this stage and the negative impacts can be avoided or reduced through the application of comprehensive construction plans. It is also important to note that successful mitigations can only be achieved if the environmental protection measures, as set out in the construction contract document are properly implemented and complied with.

6.3.1.1 Impacts on Aesthetic Value

In the case of the construction works, there will be minimum disturbance to the land and its natural formation, especially related to the excavation works for water pipes and the construction of shallow well, water tank, latrines, and communal water points.

6.3.1.2 Soil Erosion

Soils will be excavated due to the activities, like: soil removal, backfilling, compacting, excavation and disposal of surplus soil, etc. This applies to all project works, especially for the rehabilitation of the borehole, extension of water pipes, and also other project facilities where surface soil will be disrupted and excavations will generate excess material (i.e rocks and soils) to be disposed in spoil tips. However, the majority of the excavation materials, particularly for the water pipes will be used for refilling.

6.3.1.3 Water Pollution Impacts

Soil erosion due to excavation and runoff of ground rock materials from digging might fall down to the existing borehole causing increased turbidity possibility in Kolejo borehole. Special attention should be paid to protect water and thus rehabilitation activities shall be made in consideration of quality of water.

6.3.1.4 Air Quality

Some of the project activities such as excavation of trenches, rehabilitation of the borehole and provision of diesel backup generators will generate dust and noise. This will impact the quality of air in local target areas of the project. However, this type of impact could be short in duration and would not pose a threat to human health.

6.3.1.5 Noise Pollution

There were no cases of noise pollution at the proposed project site. However, due to the expected rehabilitation works noise levels are likely to increase temporarily and might not be a major problem to the residents of the IDP camp.

6.3.2 Negative Impacts on Biological Environment During the Construction Phase

6.3.2.1 Vegetation Clearing Impact

Vegetation clearing during construction to leave space for water supply facilities such as rehabilitation of borehole, transmission pipes, distribution pipes, and trenches is unavoidable. The largest areas to be impacted are the work strip for transmission pipelines. However, as most of the land is covered by alien plant species, the overall loss of vegetation by land clearing is limited. Hence, the magnitude of the impact on the vegetation is basically at low negative.

6.3.3 Negative Impact on Socio-economic Environment During the Construction Phase

6.3.3.1 Disruption of Activities

During the construction phase, the water transmission and/or distribution pipes from the borehole and water tank for the IDP camp or the host community will cross footpaths within the camp. Thus, this will impact the movement of goods and people in the target area (Shimbiralle village).

6.3.3.2 Impact on Public Health

The potential impact on health and safety will be linked to the risk that people might fall into trenches or excavations. Additionally, the project will employ causal workers with limited knowledge and skills on health and safety guidelines, which can be considered as an added risk. Therefore, the impact is certain but medium, especially during rehabilitation of borehole and transmission pipes.

6.3.3.3 Impact on Occupational Health and Safety

Construction workers are prone to accidents resulting from construction activities. These accidents may have acute impacts depending on their severity and nature. With regards to this, mobilization and construction activities of the proposed water extraction can result in accidental injuries or death, which could negatively impact the workforce. The impact is certain and medium.

6.3.3.4 Solid Waste Generation Impacts

Solid wastes including construction materials such as cement bags, timber, pipe cuttings, metals, food remains, broken equipment, and debris usually found near building sites and campsites during the construction. If these are left on the sites or nearby surroundings without being cleaned and being properly disposed of, the environment impact can be serious.

6.3.3.5 Gender Based Violence, Sexual Exploitation and Abuse/Sexual Harassment

During this phase could be increased social interaction between community members, casual, skilled workers who are coming from different places, therefore, this may result in occurrence of GBV, sexual exploitation and abuse (SEA) and sexual harassment (SH) as well attitude changes among the local community. This impact is medium term and of high significance.

6.3.3.6 Child Labour

According to the consultation during the stakeholder engagement, most of the community members were not aware of children's rights. Also, it was observed that children in the IDP camp perform causal works to support the livelihoods of their families. Thus, the significance of this impact is assessed to be medium.

6.3.3.7 Disease Spread (Communicable Diseases)

The project will be implemented in Shimbiralle village where the community have inadequate health facilities. Therefore, due to the interaction with hired workers and community, there could be an increased public health risks, including an increase in prevalence of sexually transmitted disease (STD) such as HIV/AIDS, Tuberculous, among others.

6.3.3.8 Labour Influx

The labour influx of job opportunity seekers is associated with social crimes which can disturb the social order and even lay ground for occurrence of conflict cases in the IDP camp. However, the impact intensity is low due to the low number of workers expected on the project.

6.3.3.9 Chance Finds/Cultural Heritage

In consultation with the local authority and local community, there were no known cultural and/or historical sites exist on the proposed project area for the construction of shallow well, water distribution pipeline, and water storage tank. Hence, no impacts on any features of importance to cultural heritage is expected.

6.3.4 Impacts on Physical Environment during Operation Phase

At this phase, the project is not expected to have environmental related impacts such as soil erosion and/or air quality.

6.3.5 Impact on Biological Environment during Operation Phase

6.3.5.1 Vegetation Destruction

There will be no vegetation clearing at the operation phase of the project. However, during this phase the impact on vegetation surrounding water points and livestock troughs will be kept at medium due to livestock overstocking.

6.3.6 Impacts on Socio-economic Environment during Operation Phase

6.3.6.1 Health and Safety

During the operational phase, operation and maintenance committee will conduct structural maintenance activities, including checking the apron for cracks, improving the yield by deepening or removing infiltrated sand practices and the maintenance of the lifting device. Thus, skilled workers are required to accomplish these tasks. Consequently, performing these activities may result in accidents, injuries and other occupational hazards.

6.3.7 Decommissioning Phase

6.3.7.1 Introduction

It is anticipated that the lifespan of the project will be at least 15 years and probably considerably longer if the facilities is built with high quality materials. However, it will be necessary to decommission the campsites when the operation phase comes to an end. Other reasons for decommissioning may be that the water supply sources in the target areas, become inadequate due to changes in climate and/or water quality issues that cannot be managed. A decommissioning plan will be prepared before the start of the decommission operations, taking into account the applicable legislation and environmental/social conditions.

6.3.7.2 Decommissioning Process

The decommissioning of the water supply and sanitation may include the demolition of all or parts of the structures including borehole, transmission and distribution pipes and solar systems. Digging up the transmission water pipes will probably entail environmental impacts and temporary loss, therefore, there is a need to be considered. The wastes resulting from the decommissioning need to be disposed of at approved locations.

6.3.7.3 Potential Impacts

Decommissioning may involve excavation and other activities which will lead to temporary increase in noise and dust emission. The decommissioning activities may also result in the creation of both hazardous and non-hazardous waste which needs to be handled according to the waste management policies. The decommissioning works will involve occupational health and safety risks similar to those of the construction phase.

7.0 PROPOSED MITIGATION MEASURES

7.1 Introduction

This chapter presents mitigation measures to avoid, prevent or reduce for adverse impacts of the proposed water supply and sanitation services project for Shimbiralle village in Qardho district. It also describes opportunities for enhancement of positive impacts. The mitigation measures described in this chapter include both the construction and operation phases. The details of how the mitigation measures will be implemented and monitored are further described in the Environmental and Social Management and Monitoring Plan (Chapter 8).

7.2 Physical Environment

7.2.1 Topography and Landscape

Construction phase

Impacts on aesthetic value

- Limitation of vegetation clearance for the water pipelines to the required work strip; and
- Restoration of construction sites to their natural state (pre-construction condition).

Operation phase

Impacts on aesthetic value

- Sensitize the local communities to plant trees around the water tank, borehole and other suitable areas in order to control soil erosion

7.2.2 Geology and Soils

Construction phase

Soil erosion

- Limits to clearing of vegetation as much as possible. In other words, no clearing of vegetation shall be undertaken outside of marked areas;
- Use of excavated materials for backfilling of the trench section around the pipes;
- Spoil earthwork/rock should be disposed of in appropriate approved areas;
- Areas where construction activities have been completed and where no further disturbance would take place are rehabilitated through re-vegetation;
- Ensure that the construction workers are aware of the remaining vegetation, which must not be damaged; and
- Implement water and soil conservation practices.

Operation phase

Soil erosion

- Implement soil conservation mechanism within and around borehole and water tank.
- Ensure livestock and other animals are not watered around the borehole area.

7.2.3 Climate and Air Quality

Construction phase

Air pollution

- Use of protective clothing like dust masks for construction workers;
- Regularly spray water on construction sites to control dust; and
- Adopt alternative source of energy (i.e solar) to power water pumping.

Operation phase

Air pollution

- Ensure that the generator should be regularly serviced.
- Use effective ways to minimize the emissions of Sulphur oxides and Nitrogen oxides

7.2.4 Water Resources

Construction phase

Water pollution

- Collect waste materials and segregate them at generation sites in accordance with their types (i.e organic, inorganic waste);
- Avoid unnecessary soil erosion at the community water sources; and
- Provide initial and continuous construction workforce training in handling and using waste segregation and appropriate waste disposal methods.

Operation phase

Water pollution

- The borehole should be raised by building earthwork to prevent the flooding water and other substances to accumulated around it.
- Built proper drainage system around the borehole in order to avoid water stagnation that may lead to water borne diseases.

7.2.5 E-Waste

Construction phase

E-Waste

- Develop waste management plan
- Sensitize workers on how to handle e-wastes

Operation phase

E-Waste

- Implement waste management plan
- Establish mechanisms to handle e-waste from the solar power.

7.3 Biological Environment

7.3.1 Vegetation Clearing Impact

Construction phase

Vegetation clearing

- Vegetation clearing should be minimized as much as possible
- Limit vegetation clearing for water pipelines;
- Use only indigenous plan species for re-vegetation;
- Plan and implement a tree planting program that shall be implemented in project areas in partnership with local stakeholders; and
- Awareness campaigns and enforcement of a worker's code of conduct for the protection of biodiversity.

Operation phase

Vegetation clearing

- Avoid bush barning due to settlement or agricultural encroachments.
- Halt vegetation cut for fire woods, charcoals, etc.

7.4 Socio-economic Environment

7.4.1 Disruption of Activities

Construction phase

Disruption of activities

- Use/build of culverts across pipes to avoid breakage in the future; and
- Collaborate with local government and water service providers.

Operation phase

Disruption of activities

- Employ better town plan in consideration of utility facilities.

7.4.2 Impact on Public Health

Construction phase

Impact on public health

- Close open trenches as quickly as possible to reduce risks;
- Ensure notification (signages) are visible at ongoing construction activities sites; and
- Disseminate traffic management plans in the project areas, through campaigns to the public in IDP camps and host community and public areas.

Operation phase

- Conduct periodic public health promotion and awareness campaigns and forum.

7.4.3 Impact on Occupational Health and Safety (OHS)

Construction phase

Impact on OHS

- Ensure compliance to occupational health and safety plans;
- Provide information, instructions, and trainings to enable employees to work without risks;
- Make awareness campaigns for workers about the safety issues related to their activities, hence, ensure provision, and usage of PPE; and
- Ensure safe and good working conditions for all workers.

Operation phase

OHS

- Local government authority and water operator shall conduct toolbox meeting on OHS for workers prior to operation and maintenance works; and
- Provide workers appropriate PPE and enforce its effective usage during O&M works.

7.4.4 Solid waste generation impacts

Construction phase

Solid waste generation impacts

- Burning of waste on-site shall not be allowed;
- Waste collection bins will be provided at the appropriate sites for temporary waste storage; and
- Collaborate with waste collection company in target districts.

7.4.5 GBV/SEA/SH

Construction phase

GBV/SEA/SH impacts

- The Contractor's code of conduct should be translated into Somali language and each worker should be sensitized and signed prior to the commencement of works;
- Train all workers on existing laws and policies on GBV and other sexual offences; and
- Collaborate with local GBV service providers to effectively implement related activities.

Operation phase

GBV/SEA/SH impacts

- Provide Code of Conduct to all workers and sensitize them; and
- Closely work with local authority to establish zero tolerance policies on GBV/SEA/SH.

7.4.6 Child Labour

Construction phase

Child Labour

- The Contractor will ensure to register all workers by checking their birth certificates and/or identity cards; and

- Confirming that children and minors are not employed directly or indirectly on the project.

Operation phase
Child Labour
- Encourage back to schools' campaigns and enrolment of new students.

7.4.7 Disease Spread (Communicable Diseases)
Construction phase
Disease Spread
- Conduct awareness campaigns on hygiene and sanitation and how diseases spread; and
- Information dissemination about the danger of STDs to the community will be done throughout the period of the project.

Operation phase
Disease Spread
- Discourage water stagnation around water points to prevent outbreak of water-borne diseases.
- Improve the water drainage structures around water points (i.e shallow well, water tank, etc)

7.4.8 Labour Influx
Construction phase
Labour Influx
- Employment opportunities will be offered to local community and hiring of workers from the IDP and vulnerable host community will be encouraged.

Operation phase
Labour Influx
- Implement appropriate labour management plan.

7.4.9 Chance Finds/cultural heritage
Construction phase
Chance finds
- While no cultural heritage structures were observed or known to exist at the proposed project sites, the contractor shall make sure to inform all workers should any cultural features may be found should be reported by the project team to the local authority.

Operation phase
Chance finds/cultural heritage
- Implement chance find procedures.

8.0 ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLANS

8.1 Introduction

An Environmental and Social Management and Monitoring Plan (ESMMP) provides the framework for management and mitigation of impacts anticipated from the proposed project. This ESMMP has been prepared in accordance with national and international requirements.

8.2 Purposes

The purpose of the ESMMP is to bring the project into compliance with applicable national environmental and social legal requirement and AfDB's safeguard policies and standards. Also, the plan outlines mitigation and monitoring actions required to avoid, minimize, mitigate adverse environmental, and social impacts, or to enhance the project beneficial impacts.

8.3 Roles and Responsibilities of Institutions

The roles and responsibilities for ESMMP will be split between several organizations, depending on their respective activities, which are being executed at various stages (i.e Federal, State and Local Government). However, the Federal MoEWR as the proponent has the overall responsibility for the implementation of this ESMMP.

Table 8.3 Institutions involved in environmental management of the project

Institution	Roles and responsibilities
Ministry of Energy and Water Resources of Federal Government of Somalia	• Overall mandate to monitor, assess and regulate water resources. • Approval of the water abstraction permits. • Lead the management and coordination of water projects • Overall oversight and policy guidance
African Development Bank	• Ensure that the African Development Banks Safeguard OS have been observed and implemented appropriately. • Support the project with funding and implementation support
Ministry of Environment and Climate Change	• Regulate environmental aspects related to the project. • Legally mandated to handle certain critical environmental issues. • Monitor and supervise the ESIAs compliance.
Ministry of Energy and Water Resources of Puntland/Puntland Water Development Agency	• Identify key stakeholders • Prioritize water resources investments • Planning and Implementation of the project • Identification of mitigation measures of the environmental and social issues. • Monitor the progress of the project activities. • Identification of water and sanitation facilities.

Institution	Roles and responsibilities
Qardho Local Government	• Mobilize various stakeholders, including the local communities/beneficiaries. • Monitoring and supervision support for the implementation of the project.
Contractors	• Ensuring compliance with all relevant national and AfDB's ISS including adhering to all environmental and socio-economic mitigation measures specified in this ESIA. • Manage potential environmental, socio-economic, health and safety impacts of all contract activities.

8.4 Environmental and Social Management Plan

To minimize adverse impacts of the project, the ESIA team developed an ESMP that demonstrates various potential impacts, appropriate mitigation measures, period of impact management, responsibilities, resources required and estimated costs are proposed in Table 8.4.

Table 8.4: Environmental and Social Impact Management Plan

Potential Impacts	Proposed Mitigation/Enhancement Measures	Responsible Institution	Estimated Budget (US$)
CONSTRUCTION PHASE			
Physical Environment			
Visual impact on topography and landscape	• Limit vegetation clearance for the water pipelines to the required work strip; and • Restore construction site to their natural state (i.e pre-construction condition).	Contractor	400
Soil erosion	• Limit vegetation clearing as much as possible. In other words, no clearing of vegetation shall be undertaken outside of marked areas; • Use excavated materials for backfilling of the trench sections around water pipelines; • Dispose spoil earth/rock into appropriate designated areas; • Rehabilitate through re-vegetation where construction activities disturbed the ecosystem; • Avoid unnecessary soil erosion at the community water sources; and • Sensitize construction workers on vegetation conservation; and Implement soil conservation practices.	Contractor	700
Air quality	• Use protective clothing like dust masks for construction workers; • Spray water on construction sites to control dusts; and • Undertake regular maintenances for generators.	Contractor	500
Water pollution	• Prevent run-off loaded with sediment and other harmful materials from the site from discharge to river; • Manage water containing pollutants such as cement, concrete, chemical and fuel from site where applicable;	Contractor	400
Noise pollution	• Workers should be provided with adequate PPE item such as ear muffs as appropriate; and • Works should be performed during day hours (from 8:00am - 4:30pm).	Contractor	500
Biological Environment			

Vegetation Clearing Impact	• Vegetation clearing should be minimized as much as possible; • Limit vegetation clearing for water pipelines to the required work strips; • Use only indigenous plant species for re-vegetation; • Tree planting program shall be planned and implemented in project areas in partnership with local stakeholders; and • Awareness campaigns and enforcement of a worker's code of conduct for the protection of biodiversity.	Contractor	300
Socio-economic Environment			
Disruption of activities	• Use/build culverts to cross pipes and avoid breakage in the future; and • Collaborate with local government authorities and water service providers.	Contractor	500
Impacts on Public Health	• Close open trenches as quickly as possible to reduce risks; • Ensure notification (i.e signages) at ongoing construction activity sites; and • Disseminate traffic management plans in the project areas through campaigns in the IDP camps, host communities and general public.	Contractor	700
Occupational Health and Safety	• Ensure compliance to occupational health and safety plans; • Provie information, instruction and trainings to enable employees to work without risks; • Make awareness campaigns for workers about the safety issues related to their activities, hence ensure provision and usage of PPE items; and • Ensure safe and good working conditions for all workers.	Contractor	400
Solid waste generation impacts	• Burning of waste on-site shall not be allowed; • Waste collection bins will be provided at appropriate place of the sites for temporary waste storage; • Collaborate with a waste collection company in the target districts; • Collect wastes and segregate at generation sites in accordance with their types (i.e organic and inorganic wastes); and • Provide initial and continuous construction workforce training in handling with waste segregation and appropriate waste disposal.	Contractor	500

GBV/SEA/SH	• The Contractor's code of conduct should be translated into Somali language and each worker should be sensitized and signed prior to the commencement of works; • Train all workers on existing laws and policies on GBV and other sexual offences; and • Collaborate with local GBV service providers to effectively implement related interventions.	Contractor	200
Child labour	• The Contractor will ensure to register all workers by checking their birth certificates and/or identity cards; and • Confirming that children and minors are employed directly or indirectly on the project.	Contractor	600
Disease Spread	• Conduct awareness campaigns on hygiene and sanitation and how diseases spread; and • Information dissemination about the danger of STDs to the communities will be done throughout the period of the project.	Contractor	400
Labour influx	• Employment opportunities will be offered to local community and hiring of workers from the IDP and vulnerable host community will be encouraged.	Contractor	500
Chance finds/Cultural heritage	• The contractor shall make sure to inform all workers should any cultural features may be found should be reported by the project team to the local authority.	Contractor	100
OPERATION PHASE			
Physical Environment			
Impacts on aesthetic value	• Sensitize the community to plan trees around the water tank, borehole and other suitable areas.	Contractor	1,200
Soil erosion	• Implement soil conservation mechanism within and around borehole and water tank; and • Ensure livestock and other animals are not watered at the edge of the shallow well/borehole.	Contractor	700
Air pollution	• Ensure that the generator should be regularly serviced.	Contractor	500
Water pollution	• The dug shallow wells should be raised by building earthwork to prevent the flooding water and other substances to accumulated around it; and • Built proper drainage system around the shallow well/borehole in order to avoid water stagnation that may lead to water borne diseases.	Contractor	1,000

E-Waste	• Implement waste management plan; and • Establish mechanisms to handle e-waste form the solar power.	Contractor	300
Socio-economic Environment			
GBV/SEA/SH impacts	• Establish effective mechanisms that safeguards women and girls collect water from the tanks; and • Undertake continuous sensitization and awareness raising program on GBV/SEA/SH prevention and protection of vulnerable and minor groups.	Contractor	1,000
Disease Spread	• Avoid contaminating surrounding environment of the water tank and/or shallow well/borehole; and • Conduct community awareness campaign on promotion of sanitation and hygiene.	Contractor	500
Total			**11,900**

8.5 Environmental and Social Monitoring Plan

The environmental and social monitoring plan is an important tool and process in relation to environmental and social management as it provides the basis for rational management decisions regarding impact control. The monitoring plan will help in assessing the effectiveness of the proposed mitigation measures and protection of the environment based on standards used at national and international levels. It will also help redress emerging issues that were not predicted during the ESIA study. The monitoring plan will be undertaken to meet the following objectives:

- To check whether mitigation/enhancement measures have been adopted and effectively in practice;
- To provide information on the actual nature and extent of key impacts and appropriateness of proposed mitigation measures.

The monitoring activities of the ESMP can be undertaken into three categories: internal, external monitoring, and audits. The internal monitoring process should be led by contractors, and line ministries. The findings of the internal monitoring will be regularly reported on monthly, quarterly and annual basis. Whereas, the external monitoring shall be done by the AfDB. Table 8.5 below presents the environmental and social management monitoring plan for the project. The total cost of implementing the ESMP monitoring measures is estimated to be at US$20,895 (Twenty Thousand Eight Hundred Ninety-Five, United States Dollar).

Table 8.5: Environmental and Social Impact Monitoring Plan

Parameters to be monitored	Performance Indicator	Means of Verification	Monitoring Frequency	Responsibility
Construction Phase				
Physical Environment				
Minimize vegetation clearance by clearing and demarcating work areas.	% of vegetation conserved and/or restored	Review of reports, field verification and observation	Daily, Monthly	Contractors, PMT
Use excavated materials for backfilling of the trench section around the pipes.	Total area (km/m) of excavated land backfilled	Field verification and observation	Daily and Weekly	Contractors, PMT
Spoiled earth/rock should be disposed of appropriate areas.	% of weight of spoil earth/rock deposed of appropriated areas.	Field verification and observation	Daily, Weekly, Monthly	Contractors, PMT, Municipalities

Create awareness/orientation on protection of remaining vegetation cover for all workers	# of awareness/ orientation sessions conducted for all workers	Field verification and observation	Daily, Weekly, Monthly	Contractors, PMT
Establishment of sediment barriers around water sources	# of barriers established around water sources	Field verification and observation	Daily, Weekly, Monthly	Contractors, PMT
Implement soil erosion control measures	# of soil erosion control measures placed	Field verification and observation	Daily, Weekly, Monthly	Contractors, PMT
Biological Environment				
Limit vegetation clearing for water pipelines to the required work strip.	% of vegetation conserved and/or restored	Field verification and observation	Daily, Weekly, Monthly	Contractors, PMT
Socio-economic Environment				
Prioritize employment of IDP residents and host communities	# of workers employed (disaggregated by type of resident (IDP/Host)	Field verification and observation, employment records	Daily, Weekly, Monthly	Contractors, PMT
Disseminate job opportunities through public gathering places	# of job opportunities gathering held with lDPs and host community	Field verification and observation	Daily, Weekly, Monthly	Contractors, PMT
Provide trainings on GBV/SEA/SH prevention for all project workers	# of workers trained on GBV/SEA/SH	Training Reports	Monthly	Contractors, PMT
Conduct awareness raising campaigns on child labour and labour influx	# of awareness forums on child labour and labour influx conducted	Reports, IEC items	Monthly	Contractors, PMT
Allocate quota for female employment opportunities	% of female workers employed	Field verification and observation, employment records	Daily, Weekly, Monthly	Contractors, PMT

Provide drinking water and sanitation facilities for all workers.	# of water and sanitation facilities provided at the sites	Field verification and observation	Daily, Weekly, Monthly	Contractors, PMT
Establish a grievance redress mechanism for workers in all sites.	# of grievance cases reported through the established mechanism	Field verification, observation, grievance log forms	Daily, Weekly, Monthly	Contractors, PMT
Sensitize all workers on occupational health and safety	# of sensitization meetings held for all workers on occupational health and safety	Field verification, observation	Daily, Weekly, Monthly	Contractors, PMT
Provide appropriate PPE items on noise minimization for all workers	# of workers using PPE items for noise control	Field verification, observation	Daily, Weekly, Monthly	Contractors, PMT
Collect solid wastes generated by workers	# of waste collection facilities (i.e dust bins) installed in the site	Field visits, observations	Daily, Weekly, Monthly	Contractors, PMT
Operation Phase				
Socio-economic Environment				
Occupational Health and Safety	# of workers using OHS materials	Field verification, observation	Quarterly, annually	Local gov't authorities
Establish mechanisms for safeguarding women and girls	Women safeguarding mechanism established	Observations	Quarterly, annually	Local gov't authorities

8.6 Estimated Costs for Implementing the ESMMP

This is an estimated cost from the Consultant, but could be revised by the stakeholders prior to project implementation phase. In order to effectively implement the environmental and social management measures indicated by the ESMP, the project stakeholders should allocate and provide reasonable costs. An indicative cost has been provided in Table 8.6 that will cover the costs related to capacity building, GRM, and stakeholder coordination and consultation meetings, and cost for annual environmental and social audits. Furthermore, the costs for mitigation and enhancement measures will be integrated into the construction cost.

Table 8.6: Estimated Budget to Implement ESMP

No	ESMMP Requirements	Budget Basis and Assumptions	Total Cost (US$)
1	Capacity building for PIU/PMTs	Training sessions will be held in the country	1,500
2	Stakeholder engagement workshops and meetings in subproject	Continues stakeholder engagement throughout the implementation of activities	1,000
3	Grievance redress mechanism and its functionality	Effective grievance mechanisms for both public and workers in subproject	500
4	Environmental and social impact monitoring	Allocated amounts for E&S plans are prioritized and executed by all stakeholders	11,900
5	Environmental and social audits	An independent environmental and social audit	5,000
		Total Estimated Budget (US$)	**19,900**
		Contingency (5%)	**995**
		Grand Total (US$)	**20,895**

9.0 PUBLIC CONSULTATIONS AND STAKEHOLDER ENGAGEMENT

9.1 Introduction

Stakeholder consultations were carried out to get their views and inputs on various aspects that were relevant to the project. The consultations focused on the scope of the project and expected roles from the stakeholders. The consultations were held with the relevant ministries and agencies. District level stakeholders as well as the project's beneficiary local communities were also consulted. Consultations involved highlighting project activities and soliciting their opinions through open discussion forums, interview and open dialogues with key informants with relevant expertise and IDP camp meetings with community members.

9.2 Objectives

The purpose of the stakeholders' consultations was to provide an overview of the project to the relevant ministries, agencies, and all the communities residing in areas where the project activities will be implemented and therefore will have impact on them. It also helps them to understand how the project will operate to the highest possible environmental, social and health standards prior, during and after the construction and/or rehabilitation of the water supply and sanitation related interventions.

The specific objectives of the consultations were:

- To obtain an understanding of the number and types of stakeholders in target areas;
- To provide an information about the project and to tap stakeholders' knowledge on key environmental and social baseline information in the project area;
- To get views of the stakeholders regarding the environmental and social concerns and opinions about the project.
- To discuss potential impacts and verify significant or major environmental, social and health impacts identified;
- To inform the process of developing appropriate mitigation and management measures as well as institutional arrangements for effective implementation; and
- To inform stakeholders about the engagement process and grievance management.

Stakeholder consultations and publication participation during the ESIA process were conducted in line with the requirements of the AfDB. According to the AfDB ISS, OS10, Section III consultation and participation during the preparation of ESIA study, meaningful stakeholder consultation is crucial and an integral part of the assessment.

9.3 Stakeholder Identification and Analysis

9.3.1 Stakeholder Identification

In regards to the AfDB's updated ISS OS referred a "stakeholder" to individuals or groups who are affected or are at risk of being affected by operations, directly or indirectly and/or may have an interest in the operation. To develop an effective stakeholder involvement project, it is necessary to determine exactly who are the stakeholders and their roles, interest, objectives and priorities

specific to the project. The ESIA consultant formulated a stakeholder matrix and identified key stakeholders who were engaged during the study. A stakeholder engagement plan was drafted and included in the Environmental and Social Management Plan (ESMP). The study targeted individuals, groups, institutions and communities that have a stake in the proposed water supply and sanitation improvement project. Thus, only such entities as identified in the stakeholder analysis were selected to participate in the consultation process.

The following aspects were considered when identifying and engaging stakeholders for the ESIA:

- Who are the most vulnerable among the potentially impacted, and are special engagement efforts necessary?
- Which stakeholders can be best assistant with the early scoping of concerns and impacts?
- Who could be adversely affected by environmental and social impacts?
- Which stakeholders will strongly support or oppose the changes that the project will bring and why?

9.3.2 Stakeholder Analysis

The stakeholder categories and sub-categories identified are presented in the table below.

Table 9.3.2: Stakeholder Matrix

Entities	Stakeholder	Key roles and responsibilities
Federal Level	Ministry of Energy and Water Resources	• Overall mandate to monitor, assess and regulate water resources. • Approval of the water abstraction permits. • Lead the management and coordination of water projects • Overall oversight and policy guidance
	Ministry of Environment and Climate Change	• Regulation of the environmental aspects of the project. • Legally mandated to handle certain critical environmental issues. • Monitor and supervise the ESIAs compliance.
State Level	Ministry of Energy and Water Resources of Puntland/Puntland Water Development Agency	• Identify key stakeholders • Prioritize water resources investments • Planning and Implementation of the project • Identification of mitigation measures of the environmental and social issues. • Monitor the progress of the project activities. • Identification of water and sanitation facilities.
Local Government	Qardho Local Government	• Mobilize various stakeholders, including the local communities/beneficiaries. • Monitoring and supervision support for the implementation of the project.

Community Groups	Women Associations, Representatives of IDPs,	• Participate in consultation meetings • Present inputs and concerns form their communities • Raise their needs and prioritize during consultations
Funder	African Development Bank	• Ensure that the African Development Banks Safeguard OS have been observed and implemented as appropriate. • Support the project with funding and implementing support

9.4 Stakeholder Engagements

Different methods were adopted to engage the stakeholders during the preparation of this ESIA. These were taken up depending on two major premises: the type of information required, and the number of participants involved in the data collection process. These methods were used to inform the development of an appropriate water supply and sanitation within the proposed project areas. Here-under are the methods that guided the stakeholder engagement process.

Table 9.4: Stakeholder Engagement Methods

Target Groups	Engagement Method
Ministries of Energy and Water Resources at Federal and State level	• Face to face consultative meetings • Key Informant Interviews (KIIs) • Exchange of emails and documents
Qardho Local Government	• Face to face meetings • Key Informant Interviews (KIIs)
Communities/Project Beneficiaries	• Face to face meetings • Focus group discussions

9.5 Consultation Meetings with the Government Stakeholders

9.5.1 Consultation with Line Ministries at Federal and State levels

The ESIA team had a first consultation meeting with the Federal Ministry of Energy and Water Resources (MoEWR). The MoEWR organized the meeting to inform the ESIA consultant about the project, its objectives, the intended activities, and the related studies to be undertaken, including the ESIA and ESMP. The main objective was to solicit, potential impacts and risks and possible mitigation measures and also to solicit initial community responses. The stakeholders were able to express comments and queries during the consultation meetings.

Furthermore, the ESIA team had several Key Informant Interviews (KIIs) with state and district level stakeholders such as the Director General of Puntland Water Development Agency. Also, the team engaged with the Director of Disaster Risk Management of Qardho. The purpose of

engaging these officials was that they had a detailed information related to the project that could be used improving the implementation of the project.

ESIA team engaging the technical team of MoEWR

EISA team engaging the DG of PWDA

9.5.2 Consultation with IDPs residents and vulnerable host communities

The project will be implemented in Qardho district. Due to this the deputy mayor and other key officials of Qardho local government authority were consulted about the project to get input, feedback, concerns and their expectations.

9.6 Consultation with Communities

The ESIA team also consulted with communities living in targets districts and/or sites of the proposed project. Since they are the beneficiaries of the project it was essential to hear their reactions, concerns, expectations, and get feedback that would provide critical information in the preparation of the ESIA study.

ESIA team engaging community of Shimbiralle village and Shimbiralle village in Qardho

9.7 Consultation with Water Operators

In Qardho district water is supplied by a local company under public-private-partnership (PPP) agreements. The company faces many problems from water quality, technical and operational challenges that make it difficult to provide water to people, including people living in IDP camps.

9.8 Consultation Outcomes from Stakeholders

Stakeholders from the Ministries of Energy and Water Resources at the federal and state levels, local governments, communities and water service providers across all were informed about the project, ESIA studied and consulted regarding their views about the project. The main issues that were raised during the consultation meetings in the target areas are presented in the table below. Details of the participants and stakeholders consulted are enclosed in Annex 12.3.

Table 9.8.1: Key findings from the engagement with the federal level MoEWR.

Date	**July 18, 2023**	**Response**
Level of Engagement	**Technical Team of the Federal Ministry of Energy and Water Resources**	
Participants	**Attendance list attached**	
Questions	**Key Issue and Concerns Raised**	
What is the status of the project in relation to the ESIA?	• The technical team of the ministry mentioned that the project is at an appraisal stage and the Bank has directed to ESIA be prepared prior to the implementation of activities.	Noted.
What are the existing legal, policy frameworks and project documents?	• There are several policies, strategies and legal frameworks that are relevant to the ESIA study.	The team will share the available policy and legal documents with the ESIA team.
Who are the top-level stakeholders of the project?	• The top-level stakeholders include the state level line ministries and/or agencies. Also, local government authorities and local communities in the target districts.	Noted.
Who will be engaged during sites visit and consultations in target districts?	• During the field visits, the team guided the ESIA consultant to engage with Director Generals of the line ministries, mayors at local authorities with communities.	Noted.

Table 9.8.2: Key outcomes from engagement with Local Government Authority and Water Operator in Qardho District.

Date	**July 27, 2023**	**Response**
Level of Engagement	**Meetings with Local Government and Water Operator Stakeholders in Qardho District.**	
Participants	**Attendance list attached**	
Questions	**Key Issues and Concerns Raised**	
Qardho Local Government		
Water Sanitation and Hygiene (WASH) *What is the current situation of water and sanitation in the IDP*	• The water and sanitation conditions in Shimbiralle village is inadequate. • No piped water system in the camp.	Noted.

camps and communities at large? *Who are the active actors involved in water and sanitation services in the district?*	• Most of the host communities get access to tap water. • Key actors involved in WASH interventions in the camp are NCA, IOM, and UNICEF implementing R-WASH project which targets other camps.	
Conflict Management *What conflicts have been caused by water demands?*	• There is no conflict over water sources in the district.	Noted.
Solid Waste *How is the solid waste managed in the IDP camps and host community*	• The most common method used is open dumping and burning. Also, there is some open defecation, especially by children.	Noted.
Environmental and social risks and impacts *What are the environmental and social risks and impacts of the project?* *How can they be enhanced and/or mitigated?* *What role can different stakeholders play?*	• Climate change is a critical threat to the project.	Noted.
Water Operator		
Access to Water *What are existing gaps in access piped water supply.* *Which IDP camps are using piped water?* *What are the existing water supply projects?*	• The camps have no piped water. The residents depend on water trucking. • The water operator is planning to expand access to piped water. •	Noted. The project will support the improvement of water supply systems in the four IDP camps.

Table 9.8.3: Key outcomes from engagement with IDP residents and vulnerable host communities in Shimbiralle Village in Qardho District.

Date	**March 21, 2024**	**Response**
Level of Engagement	**Meetings with IDP residents and vulnerable host communities in Shimbiralle Village**	
Participants	**Attendance list attached**	
Questions	**Key Issues and Concerns Raised**	
<u>IDP residents and vulnerable host communities</u>		
Water Sanitation and Hygiene (WASH)	• There is inadequate and inconsistency supply of water in Shimbiralle village. • Residents fetch water from the river.	Noted.

What is the current situation of water and sanitation in the IDP camps? *Who are the active actors involved in water and sanitation services in the IDP camps?*	• Women walk distances to collect water for their households. • Since there are no water services the sanitation and hygiene at the household is poor. • Open dumping is common in the camp.	
Conflict Management *What conflicts have been caused by water demands?*	• Competition for water in the camp might result in some disputes, however this is not a big concern.	
Solid Waste *How is the solid waste managed in the IDP camps and host community*	• There is poor solid waste management in the camp and host communities.	
Employment Opportunities *How can the project enhance employment creation and income generation for IDPs and host community?*	• There will be causal labour for trenching, construction of water tanks, communal water points. • Local communities, including IDPs will benefit employment opportunities.	IDPs residents and local community will be offered appropriate casual jobs.
Health and Safety *How can construction and/or rehabilitation of water distribution networks affect community health and safety?*	• Community members revealed that if the new project is well designed and implemented with quality of materials will enable to last long and enable them to fetch water near their households and this will safeguard the health and safety of female who currently walk long distance in search of water. • Use of standard non-corrosive pipes and other equipment.	The project will use high quality standards designs, equipment and materials that will improve the health and safety of the community.
Cultural Sites *What are the most significant cultural sites in your IDP camp? Are there ownership spaces, physical cultural resources (e.g trees, graves, etc) of community importance?*	• There are no cultural sites in the project sites. However, there is some physical cultural resources (PCR) such as trees in some of the areas of Shimbiralle village. • There are no worship spaces in the sites.	All cultural resources will be valued and avoided.
Environmental and social risks and impacts *What are the environmental and social risks and impacts of the project?*	• Excavation of trenches may affect movement of people, especially elders. • Excavation works might increase dusts and/or mud in rainy season. • Some trees (i.e *prosopis juliflora*) might be cut down.	Noted. E&S impacts as mentioned have been assessed further.

How can they be enhanced and/or mitigated? *What role can different stakeholders play?*		
Land acquisition and resettlement *What are the land tenure system in your IDP camp?* *Who owns the land that borehole and water tanks will be constructed/rehabiltated?* *How can that land be acquired?*	• According to Chairman of Shimbiralle village, the land is owned by the residents. The local government gives them a land title. • The land is owned by company/individuals and borehole will be rehabilitated with an agreement by the local authority.	Noted. Agreements should be secured before construction of wells.

All the stakeholders consulted supported the project on the basis that it would encourage the WASH services in the target district and site and to better living conditions for the residents. However, it was mentioned that the Bank should be able to mitigate all project related negative impacts such as waste generation, land disruption during trench digging and pipe installations and any other impacts that would be realized during implementation. Stakeholder engagements will continue throughout the implementation and operational stage with different stakeholders.

9.9 Stakeholder Engagement Plan

The implementation of the proposed water supply and sanitation project for Shimbiralle village in Qardho district requires direct involvement of a range of stakeholders with a substantial capacity to influence on the project positively. The geographical scope and impact of envisaged activities dictates the involvement of an active stakeholders in the implementation, operation, and maintenance phases of the project. Furthermore, the execution of the suggested environmental and social mitigation measures might require a broader approach to be able to achieve the proposed objectives. Therefore, a stakeholder engagement plan (SEP) has been prepared as a guiding plan for the proper coordination and management of the project activities.

The SEP indicates how specific stakeholder engagement could be undertaken by the contractor, MoEWR, the agencies as well as local government authority in the future, mainly during the construction and operation phases.

Table 9.9: Stakeholder Engagement Plan

Project phase and activity	Objectives	Level and type of stakeholders	Methods	Materials
Pre-Construction				
Organize stakeholder sensitization workshop	To mobilize the community on their roles and responsibilities for the project	All key stakeholders, especially beneficiary community.	Formal meetings at the district level	IEC materials, Radio programs,

Construction phase				
Conduct kick-off meetings across the levels	To disseminate information about the project and how IDPs community will be benefited.	Beneficiary communities at district and village levels. IDP communities	Face-to-face meetings	IEC materials (in both English and Somali language)
Organize periodic meetings	To provide updates about the progress, challenges and way forward of the project.	Technical and decision-makers from federal and state level	Monthly meetings Quarterly meetings Site visits	Conducive environment, internet, refreshment, etc
Engage the local community for construction works	To create sense of ownership and income generation for workers	IDP communities	Face-to-face meetings in the IDP camps Radio programs, newspapers	
Operation and Maintenance (O&M)				
Ensure the maintenance of water and sanitation facilities	To sensitize the stakeholders on issues related to O&M	Local government authorities and water operators	Face-to-face meetings; and Local resource mobilization meetings	IEC materials; Radio programs

9.10 Grievance Redress Mechanism

9.10.1 Introduction

The grievance redress mechanism (GRM) is a critical component of the effective ESMP implementation. The objective of the GRM is to provide a platform to the internal and external stakeholders to raise their concerns, issues and queries about the project. The mechanism would allow the stakeholders to identify persons or channels through which their queries will be channeled and will ensure timely responses to each project-related query in each sub-project.

The GRM will be accessible and understandable for all stakeholders in the project and for the entire cycle of the project. The GRM will be communicated to relevant stakeholders and all complaints should be addressed to and by promptly using an understandable and transparent process that is culturally appropriate and readily acceptable to all segments of the affected communities, and it is at no cost to the project and without retribution.

9.10.2 Grievance Channel

The ministries and agencies that are implementing the project will be expected to establish appropriate channels (i.e in person, a toll-free number, email address, etc) to be used for the submission of project-related complaints, concerns, and grievances.

9.10.3 Grievance Management System

The project will have two-levels of grievance systems in place at state and federal levels. The indicative numbers of each grievance committee are presented below.

- **State-level GRM**: a grievance redress committee (GRC) will be established in each ministry that implements project activities. The GRC will consist of representatives from youth and women associations, elders, religious leaders, project-affected people, water operators, IDPs, and the host community. The meetings and discussions at this level will be attended by contractors where relevant and supported of PMT members who will be established.
- **Federal-level GRM**: the federal-level GRM will address unsolved grievances at the state-level, which may require higher-level resolution common issues across ministries implementing the project. The federal-level GRC will be formed by the PMT at the federal MoEWR.

9.10.4 Grievance Management Process

The project will aim to address grievances with the following steps:

- **Step 1**: Receive, register and acknowledge complaints in written format;
- **Step 2**: Screen and establish the basis of the grievance;
- **Step 3:** Consider ways to address the complaints;
- **Step 4**: Implement the case resolution where the unsatisfied complainant can seek redress through the grievance management systems;
- **Step 5**: Document the grievance and actions taken and submit the report to the PMT;
- **Step 6**: Elevation of the case to a formal court, if the complainant is not satisfied with the GRC resolutions.

9.10.5 Key Roles of Grievance Redress Committee

The main functions of the GRC are;

- Inform the affected persons about the existence of GRM;
- Verify grievances and their merits;
- Recommend solutions for the PMT grievance process;
- Communicate the decisions that were taken to the complainants;
- Ensure that all notices, forms and other documents required by complainants are made available in the local language; and
- Ensure documentation of all received complaints and the progress of remediation.

9.10.6 Gender-Based Violence GRM

There will be a separate reporting mechanism for GBV cases that are discrete from general GRM. Issues from this mechanism will not go through the normal GRM. The federal MoEWR will be capacitated to a qualified expert in Gender and Social Affairs and should be the focal point for handling GBV-related complaints in consideration of confidentiality, safety and survivor-centered approach. At this level all registered data should be anonymous and confidential.

10.0 INSTITUTIONAL CAPACITY

10.1 Introduction

Federal, state and local level institutions are involved in the planning, coordination and monitoring of the project, with different roles in environmental and social management and protection. These include the federal MoEWR, line ministries and/or agencies at state level and local government authorities. The institutional capacity assessment during the ESIA study aimed to identify certain structures and policies in place and to assess their capacity to adequately manage the environmental and social aspects, and identify the capacity building required in the implementation of the ESMMP of the project. The main institutions involved in a major way by the activities of the project are: federal MoEWR and line ministries of water and sanitation at state level, local government authorities and water operators.

10.2 Summary of the findings

Based on the ESIA study, in particular the capacity needs assessment of the institutions, the following challenges were identified as gaps and barriers to the effective implementation of the environmental and social safeguards requirements:

- Inadequate environmental and social safeguards policies at the federal and state level ministries and/or agencies.
- There is no dedicated department or teams at the ministries for environmental and social issues. In addition, environmental and social issues are not included in the institutional departmental structures as well as core mandates.
- There are limited or no employees currently employed to deal with environmental and social issues at the federal and state levels.
- Limited alignment and harmonization of the policies and regulations at the federal government and state levels.
- Limited coordination mechanisms to address the issues of overlapping and duplication of mandates and responsibilities.

10.3 Interventions

In order to strengthen the environmental and social sustainability, including climate resilience, the adverse impacts and risks of the project need to be avoided or reduced and where possible mitigated. The institutional capacity building will encompass training and awareness creation of the stakeholders in appreciating and understanding their roles and participation. The fundamentals of environmental and social safeguards will form the basis. This will include and not limited to the following areas: sensitization of the environment and safety; assessment and management of environmental and social risks and mitigation measures to ensure all stakeholders are part of the process of sustainability. The interventions will be geared towards helping them understand their roles, change mindset and behaviour.

Furthermore, key necessary interventions include the following:

- The need for close collaboration between the water and sanitation sector ministry and those of environment, climate change and social issues.
- Environmental and social issues to be well addressed within the WASH project. There is need to recruit environmental and social specialist and institutionalize the environmental and social safeguard management systems.
- Develop environment, health and safety (EHS) guidelines for WASH sector.

10.4 Training Needs

The training needs in support of the project and the proposed capacity building training targets in environmental and social technical staff and other staff in the ministries and agencies and local government authorities. The training entails the following topics:

- Environmental and social screening and impact assessment;
- Management of environmental and social risks and impacts in WASH projects;
- Mitigating gender-based violence and exploitations in the project;
- Grievance handling mechanisms
- Monitoring and reporting compliance to environmental and social requirements;
- Occupational Health and Safety best industrial-specific practices in the WASH sector, and
- Community Health and Safety aspects in the WASH sector.

11.0 CONCLUSION AND RECOMMENDATIONS

11.1 Conclusions

This ESIA assessed the environmental and social impacts associated with the proposed water supply and sanitation facilities in Shimbiralle village in Qardho in Somalia. The proposed project will improve the capacity to deliver effective water and sanitation services to the IDPs and vulnerable host communities living in target district. The results of the study have shown that the project activities from the design and construction stages will have minimum adverse impacts to the biophysical and socio-economic environment provided that the recommended mitigation measures in this report are successfully implemented.

The ESIA study shows that the project will have few and limited adverse impacts combined with significant social and health benefits. The findings of this assessment support the construction of the proposed water supply and sanitation facilities on the provision that all the mitigation and enhancement measures identified in the study are fully implemented.

11.2 Recommendations

This sub-section discusses recommendations, based on the findings for federal and state level ministries, water operators, and contractors.

11.2.1 Federal and State Level Ministries

These include the following:

- Prioritize the establishment of Project Management Teams (PMTs) for coordination and implementation of the project;
- Ensure the compliance of environmental and social requirements of the AfDB during the implementation of the project;
- Hire qualified experts for environmental and social safeguards during the implementation of the project;
- Make sure that environmental and social requirements (i.e backfilling, PPE items, soil and water erosion control, etc) are well embedded in bidding documents and contracts
- Continue stakeholder consultation and participation throughout the project lifetime;
- Develop or review standard of operations and/or agreements of the existing water service providers (i.e water operators); and
- Improve the institutional capacity of water operators.

11.2.2 Water Operators

These include the following:

- Consider environmental and social responsibilities during water expansion works in their respective districts; and
- Empower gender inclusion in water related decision making.

11.2.3 Contractors

These include the following:

- Contractors should develop and implement a Contractor ESMP for the project's construction phase.

12.0 ANNEXES

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12.2 List of Professionals and Organization Consulted

#	Full Name	Profession	Institution
Federal Ministry of Energy and Water Resources			
1.	Abdirizack Mohamed Muhumed	Director General	Ministry of Energy and Water Resources
2.	Eng. Omar Shurie	Senior Advisor	Ministry of Energy and Water Resources
3.	Abdullahi Ahmed Ali (Najib)	Environmental Specialist	Ministry of Energy and Water Resources
Federal Member State			
4.	Mohamed Abdulkadir	Managing Director	Puntland Water Development Agency
Local Governments/Municipalities			
6	Maryan Abdi Mohamed	Director of DRM	Qardho Local Government/Municipality
Water Operators			
6	Said Hashi Ahmed	Chairperson of the Board	Hodman Water Co. Qardho District
7	Barkhad Khalif Ahmed	Board Member	Hodman Water Co. Qardho District
8	Mohamed Ismail Mohamed	Board Member	Hodman Water Co. Qardho District

12.3 Records of Consultative Meeting

Community Consultation Record

Name of Assignment: Preparation of the ESIA and ESMP

Purpose of consultation (*tick appropriate box*) — **ESIA** ☑ **ESMP** ☑

Date: 21/03/2024

Location: Qardho District

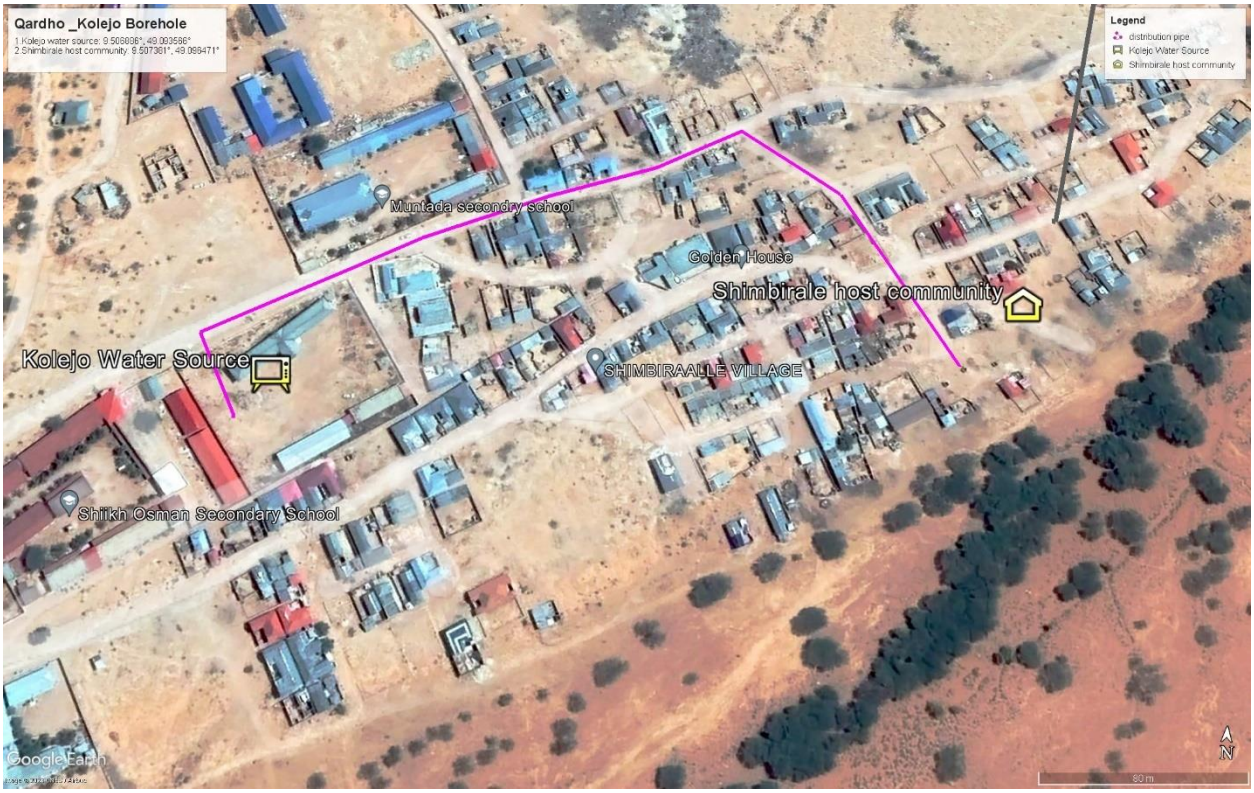
Project Name: Building Resilience to Climate Change Through WASH in Qardho, Doolow and South Galkacyo Districts in Somalia

Proponent: Ministry of Energy and Water Resources, Federal Republic of Somalia

#	Name of person	Gender M	Gender F	District	IDP Camp	Designation	Contact	Sign
1	Yaawo C/raxmaan Cali		✓	Qardho	Shimbiraale	Gurijooy	0907788504	[illegible]
2	Axmed Bare Nuur	✓		qardho	Shimbirale	Macalin	0907745468	[illegible]
3	Cabdlil Qaadir axmed nuur	—		Qardho	Shimbirale	Ganacsade	0907724485	[illegible]
4	Siciid Khaliif Cali	✓		Qardho	Shimbirale	Xoogsato	0907779996	Siciid
5	Faarax Maxamuud Ibraahim	✓		/////	/////	Nabadoon	0907735250	Faarax
6	Beerliin Cismaan Ciise		—	Qardho	Shimbirale	Xoogsato	0907774434	[illegible]
7	Xaawo Cabdishakuur		✓	Qardho	Shimbraile	Ganacsato	0907256300	[illegible]
8	Juweeriyo Cabdi Shini		—	Qardho	Shimbirale	Macalimad	0907757085	[illegible]
9	Weris Cismaan Siciid		✓	Qardho	Shimbirale	Ganacsato	0907768889	[illegible]
10	Faarax Yuusuf maxamed	—		Qardho	Shimbrale	nabadoon	0907754180	[illegible]
11	Khadro Maxuud Cali		✓	Qardo	Shimbiraale	Xoogsato	0907734906	[illegible]
12	Amal Faarax Maxamud		✓	Qardho	Shimbirale	Gurrijoog	0907773922	[illegible]
13	Khadijo Yuusuf Cawad		—	Qardho	Shimbrale	Gurijoog	0907907877	[illegible]
14	Maxamed Xareed cabdi	✓		Qardho	Shimbirale	nabaddoon	0907734686	[illegible]
15	Xaawo Yuusuf Xasan		✓	Qardho	Shimbraile	Guri-joog	0907560372	Xaawo
16	Xawo Maxamed Cismaan		✓	Qardho	Shimbiraale	Ganacsato	0907907877	[illegible]

17	Khadra Axmed C/rixman		✓	Qardho	Shimbiraale	Macalimad	0907410433	[illegible]
18	Indho Madow Siciid	✓		Qardho	Shimbiraale	Ganacsade	0907733120	Indho
19	Shaco Cabdi Xaaji		✓	Qardho	Shimbiraale	Gunjoog	0907785767	Shaaco
20	Fadumo Abshir mohamed		✓	Qardho	shimbiraale	Gunjoog	0907549116	[illegible]
21	Faadumo Jaamac Cali		✓	Qardho	Shimbiraale	Xoogsato	0907570849	Cali

12.4 Maps showing the locations of project interventions



12.5 Terms of Reference for Conducting the ESIA

FEDERAL REPUBLIC OF SOMALIA
MINISTRY OF ENERGY AND WATER RESOURCES

SOMALIA: BUILDING RESILIENCE TO CLIMATE CHANGE THROUGH WASH IN QARDHO, DOOLOW AND SOUTH GALKA'AYO PROJECT

ESIA PREPARATION
INDIVIDUAL CONSULTANT TERMS OF REFERENCE

1. Background

Activity Name	ESIA/ESMP for activities of the *Building Resilience to Climate Change Through WASH in Qardho, Doolow and South Galka'ayo* Project that will be implemented by the Ministry of Energy and Water Resources (MoEWR) as the executing agency. These include: (i) rehabilitation of existing mechanized boreholes; (ii) expansion of pipe networks and connection to overhead reservoirs; (iii) replacement/repair of water mains, pumps, diesel generators, and fittings; (iv) construction/rehabilitation of shallow wells with mini water supply systems; (v) construction of underground storage tanks for IDPs; (vi) construction of solarized water desalination pilot for one town (South Galka'ayo); (vii) construction of sanitation and hygiene facilities for IDPs and vulnerable hosts and in public spaces (markets, schools, worship places and health facilities); and (viii) procurement of solid waste collection and transport equipment for each town.
Sub-project Site Location	Dollow (Jubbaland), Qardho (Puntland) and South Galka'ayo (Galmadug)
Assignment Execution	Individual Consultancy

1 PROJECT OVERVIEW

The Somalia *Building Resilience to Climate Change through WASH in Qardho, Doolow and South Galka'ayo* is a project that will be financed by the African Water Facility (which is hosted and financed by the African Development Bank (AfDB) and executed by the Ministry of Energy and Water Resources (MoEWR).

WASH access in Somalia remains low. Since 1991, Somalia has endured conflict, political instability, power and governance vacuums, and climate-related disasters. The pervasive issues in Somalia are multi-faceted and thus require an integrated and coordinated response. Through ongoing learning, reflection and engagement, the WASH Cluster in Somalia has noted common themes contributing to protracted displacement: poverty, poor governance, conflict and insecurity, lack of essential services and limited livelihood opportunities.

Somalia is experiencing reduced availability and increased demand on water resources, both from shallow wells and groundwater. This is attributed to a range of factors including drought and high temperatures, decreased water quantity and quality, increased sedimentation, increased water prices, among others. There is an increased potential for conflict over limited water resources. Infrastructure damage, flooding and contamination, and inadequate infrastructure for capture and storage of floodwater and salinization of coastal aquifers are the other challenges to grapple with.

Project Components

The proposed project, therefore, seeks to address some of the identified challenges with an overall project objective of improving access to climate-resilient and sustainable water, sanitation, and hygiene (WASH) services in Qardho, Doolow and South Galka'ayo towns ultimately contributing to the improvement of the health and well-being of the unserved and displaced populations in the three towns – and attendant productivity gains. The overall Project scope will include:

(a) Rehabilitation and Expansion of Water Supply Systems which includes: (i) rehabilitation of existing mechanized boreholes; (ii) expansion of pipe networks and connection to overhead reservoirs; (iii) replacement/repair of water mains, pumps, diesel generators, and fittings; (iv) construction/rehabilitation of shallow wells with mini water supply systems; (v) construction of underground storage tanks for IDPs; and (v) construction of a pilot solarized water desalination plant in South Galka'ayo.

(b) Expansion of Sanitation and Hygiene Facilities which includes: (i) providing communal/shared sanitation and hygiene facilities for IDPs and vulnerable hosts; (ii) providing sanitation and hygiene facilities in public spaces (markets, schools, worship places and health facilities); (iii) undertaking city-level sanitation promotional activities guided by the citywide inclusive sanitation (CWIS) approach – targeting household improvements; (iv) distributing household filters (water safety planning); and (v) procuring solid waste collection and transport equipment for each town.

(c) Preparation of Climate-resilient Investment Studies which include: (i) preparing/reviewing disaster reduction risk (DRR) informed and gender-sensitive WASH master plans; (ii) establishing/reviewing PPP management modalities in target areas; (iii) conducting feasibility studies, detailed engineering designs, ESIAs, climatic risk and vulnerability assessment for WASH improvements; and (iv) conducting feasibility studies for solid waste management.

(d) Capacity Building and Institutional Strengthening which will focus on: (i) project governance; (ii) project coordination, management implementation and monitoring; (iii) environmental

and social safeguards functions; (iv) capacity building of executing agency; and (v) analytical work in the sector.

2 THE NEED FOR AN ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

The *Building Resilience to Climate Change through WASH in Qardho, Doolow and South Galka'ayo* Project has been rated Category 2 under the African Development Bank Operational Policy on Environmental Assessment (OS 1). Consequently, environmental and social assessments and other safeguard measures can be confirmed during the environmental and social impact assessment exercise and updated during the project implementation phase. To achieve this, the project management team will adapt a rigorous process to assess potential Environmental and Social Impacts and develop an Environmental and Social Impact Management Plan (ESMP), and at the same time assess environmental and social impact management capacities within the executing/implementing agency/agencies. The ESIA process will identify and assess the potential environmental and social impacts of the proposed construction/rehabilitation activities, evaluate alternatives, as well as design and implement appropriate mitigation, management, and monitoring measures. These measures will be captured in the ESMP, which will be prepared as part of the ESIA process for each sub-project and town. The ESMP ensures that throughout the project implementation, the project team continuously screens all proposed project activities and monitors potential unintended environmental and social impacts properly and sufficiently as required. Where impacts and potential impacts are identified and if these are unavoidable, suitable mitigation measures will be properly planned to adequately compensate for residual impacts and to provide for restoration.

The MoEWR is committed to mainstreaming social and environmental sustainability in the project and will conduct continuous Environmental and Social Impact monitoring.

3 ASSIGNMENT OBJECTIVE

The main objective is that prior to the commencement of activity implementation at the proposed project sites, there is a need to conduct an environmental and social impact assessments (ESIA) study to identify any adverse environmental and social impacts associated with the project construction/rehabilitation activities and propose mitigation measures to address those challenges. To achieve this, the Ministry of Energy and water Resources seeks to hire a consultant to undertake an environmental and social impact assessment prior to Project approval.

Based on the outcomes of the environmental and social impact assessment, the assignment will develop an environmental and social management plan in compliance with Somalia's EIA regulations and that meets the African Development Bank's Environmental and Social Safeguards Policy requirements. The aim is to develop mitigation measures that will address any adverse environmental and social impacts occasioned by project activities, including cost implications of implementing the proposed mitigation measures, developing a monitoring timeframe, and assigning responsibilities to implement the measures.

4 MAJOR TASKS

Task 1 – Description of the Proposed Project Sites

- Provide information on the following: location of all project-related development sites; general layout of facilities at project-related development sites; pre-construction activities; construction activities, schedules, staffing and support, facilities, and services; operation and maintenance activities; required off-site investments; and life expectancy for major Project components.
- Provide maps at appropriate scales to illustrate the general setting of project-related development, as well as surrounding areas likely to be impacted. These maps should include topographic contours, as available, as well as locations of major surface waters, roads, railways, town centers, parks and reserves, and political boundaries. Provide official maps illustrating existing land use, including agricultural, industrial, residential, commercial, and institutional development.

Task 2 - Description of the Environment

- The Consultant will assemble and evaluate baseline data on the environmental and social characteristics of the target areas in the three towns of Dollow, Qardho and South Galka'ayo, and include information on any changes anticipated before the project commences (e.g. agricultural use and value): (i) Physical environment: geology (general description for the overall study area); topography; soils and erosion patterns; climate, including rainfall and runoff characteristics; surface and ground water hydrology; identity of streams, lakes, or marine waters; receiving water quality); (ii) Biological environment: flora; fauna; rare or endangered species within or in areas adjacent to project-related development sites; sensitive habitats, including wetlands, parks or reserves, significant natural habitats within or near project-related development areas, species of commercial importance in areas affected by the Project; and (iii) Social-cultural environment (both present and projected): population (full time and seasonal); land use (year-round and seasonal); planned development activities; community structure; employment and labour market; distribution of income, goods and services; recreation; public health; education; cultural properties (archaeological and historically sites); indigenous peoples and traditional tribal lands and customs.
- The project can cause negative impacts on the environment as well as the society living around to projected sites; thus, aspects such as land use, impact on the environment, emissions of dangerous gases to the atmosphere, contamination of soil and water amongst others are imperative to consider because it might affect the public heath along with disappearance of microorganisms.

Task 3 - Legislative and Regulatory Considerations

- The Consultant will be expected to concisely describe the key aspects of pertinent laws, regulations and standards governing environmental quality, health and safety, protection

of sensitive areas and endangered species, siting, land use control etc., at international, national, regional, and local levels.

Task 4 - Determination of the Potential Impacts of the Proposed Project

- Identify all significant changes that the project is likely to generate. This may include, but not limited to, changes in the levels of soil, loss of natural habitat and other vegetation; potential for poaching and wood harvesting; side effects of the use of pesticides; river and highway crossings. It also includes obstruction of animal movements by fencing or fences spreading to agricultural areas, and loss of land/displacement and noise.
- Assess the impacts from changes brought about by the project on baseline environmental conditions as described under Task 2. In this analysis, the Consultant shall distinguish between significant positive and negative impacts, direct, indirect and cumulative impacts, and immediate and long-term impacts. Include indirect impacts from the increased income levels from revenues generated from export of livestock. Identify impacts that are unavoidable or irreversible. Wherever possible, describe impacts quantitatively in terms of environmental and social costs and benefits. Assign economic values when feasible.
- Characterize the extent and quality of available data, explaining significant information deficiencies and any uncertainties associated with predictions of impact. For information not obtainable until after project execution, the Consultant will provide ToRs for studies to monitor operations over a given period and to modify designs and/or operational parameters based upon updated impact analysis.

Task 5 - Analysis of Alternatives to the Proposed Project

The ESIA shall include an analysis of reasonable alternatives to meet the ultimate project objectives. The Consultant will be expected to:

- Describe how the alternatives compare in terms of: potential environmental impacts; capital and operating costs; suitability under local conditions (skill requirements, political acceptability, public cooperation); and institutional, training, and monitoring requirements. The Consultant shall indicate which impacts would be irreversible or unavoidable and which may be mitigated.
- Quantify the costs and benefits of each alternative, incorporating the estimated costs of any associated mitigating measures. The Consultant shall outline the reasons for selecting the proposed project over other alternatives.

Task 6 – Prepare Relevant ESIA Reports

- The Consultant will prepare the Environmental and Social Impact Assessment (ESIA) Report, Environmental and Social Management Plan (ESMP), and Resettlement Action Plan (if necessary), and prepare their summaries for disclosure in-country and on the AfDB website.

- The Consultant will be expected to recommend feasible and cost-effective measures to reduce significant negative impacts to acceptable levels.
- Estimate the impacts and costs of the recommended measures, and of the institutional and training requirements to implement them.
- Consider compensation to affected parties for impacts that cannot be mitigated.
- Prepare a management plan including proposed work programmes, budget estimates, schedules, staffing and training requirements, and other necessary support services to implement the mitigating measures. Include the said budget in the Preparation or Pre-appraisal Report.
- Prepare a detailed plan to monitor the implementation of mitigating measures and the impacts of the project of other inputs (such as training and institutional strengthening) needed to conduct it during construction and operation; and include in the plan an estimate of capital and operating costs and a description. (Depending upon local conditions and predicted impacts upon communities/individuals, there may be need for a Resettlement Action Plan).
- Review the authority and capability of institutions at district, regional and national levels and recommend steps to strengthen them so that the management and monitoring plans in the environmental assessment are likely to be implemented.

5 KEY DELIVERABLES AND REPORTING SCHEDULE

Expected deliverables are as follows:

i. **Inception Report** – an inception report describing the methodology to be employed in pursuing the assignment; propounding steps/actions to be taken towards achieving desired goals shall be submitted **1 week (15 May 2023)** after signing of the contract. This report shall summarize the initial findings and give defined proposals covering the methodologies to be employed for different tasks for the detailed ESIA study and a detailed work program and state of mobilization of all major activities of the assignment. The inception report preparation will include literature review, preliminary field reconnaissance (field visit) and initial consultations with stakeholders. **The inception report** will be reviewed and approved prior to commencement of the detailed study activities.

ii. **Draft ESIA Report** – shall be submitted to the client **2 weeks after the field visit** (**15 June 2023)** for review. The consultant shall comply with country's ESIA reporting requirements and regulations as well as the AfDB's environmental and social safeguards policy requirements.

iii. **Final ESIA Reports** – the final report shall be submitted in hard and soft copies **2 weeks after the submission of the draft report (30 June 2023)** to the client for review and approval including onward submission to the AWF/AfDB thereafter for review and approval.

The content for an ESIA report shall be outlined as:

a. Executive Summary (for disclosure - Bank's website)
b. Project description
c. Description of proposed project site and its surroundings, including clear description of baseline environmental conditions in the project area and its immediate surroundings, including other economic activities in the project area
d. Assessment of significant environmental impacts and risks
e. Available project alternatives
f. Proposed mitigation measures: focusing on achievable, pragmatic, environmentally sound and cost-effective mitigation measures
g. Monitoring and environmental and social management program and recommendations
h. Bibliography
i. Develop ToR for environmental social impact, and Risk Management Specialist experts
j. Develop and submit comprehensive environmental and social management plan which will be used for the implementation of the proposed mitigation measures for the adverse environmental impacts as well as monitoring.

6 EXPERIENCE AND SKILLS REQUIRED

Qualifications and experience

The candidate shall have the following qualifications:

- A minimum of Master of Science degree in environmental sciences and technology, Environmental Management, Natural Resource Management, or related field.
- A minimum of ten (10) years of relevant professional experience in the areas of environmental management, natural resource management, environmental assessment, environmental monitoring and environmental compliance, engagement, and public consultations.
- Experience in preparing and managing the implementation of ESIAs, ESMPs, ESMF, Full or Abbreviated RAPs, including social aspects of development projects (e.g., health and safety, involuntary resettlement, and gender components), operations monitoring and evaluation, and compliance assessment.
- Knowledge and experience in multi-criteria assessment, stakeholder engagement and consultation, community participation, with analytical skills in assessing institutional capacities and designing/reviewing practical implementation arrangements for complex projects, especially in Africa.
- Experience with the Environmental and Social Safeguards Rules and Procedures of the African Development Bank Group or related MDBs will be an advantage.
- The consultant must be computer literate and conversant with computer software (Microsoft Word, Excel, Project and Power-point) used in the Bank, and must have excellent communication skills and proficient in both written and spoken English.

7 ADMINISTRATIVE ARRANGEMENTS

The consultant will be under the general supervision and will report of the Director General Ministry of Energy and Water Resources of the Federal Government of Somalia.

8 TIME FRAME

The expected duration of the assignment is **30 working days**. The assignment will be implemented between 15th May 2023 and 31st July 2023.

9 TERMS OF PAYMENT

The remuneration will be competitive and based on the qualifications and experience of the selected candidate, subject to negotiation in compliance with the Bank's guidelines on consultant renumeration. Remuneration will be linked to the delivery and clearance of the milestones highlighted in Section 5:

- **First instalment amount of 20%** of total amount payable upon submission and acceptance of an integrated work plan and inception report.
- **Second instalment of 50%** of total amount payable upon submission and acceptance of the draft ESIA Report to the MoEWR Team and AfDB.
- **Third and final instalment of 30%** of total amount shall be paid upon clearance of the final ESIA Report and Environmental and Social Management Plan (ESMP) by MoEWR and Executive Summary (for disclosure – Bank's website and the Government).