



GOVERNMENT OF KENYA

MINISTRY OF WATER, SANITATION AND IRRIGATION

HORN OF AFRICA GROUNDWATER FOR RESILIENCE PROJECT

**ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK
(ESMF)**

FEBRUARY 2022

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ABBREVIATION AND ACRONYMS

AAD&MP	Aquifer Assessments Development and Management Plans
AIDS	Acquired Immune – Deficiency Syndrome
ASAL	Arid and Semi-Arid Lands
BMCC	Basin Management Committees
CAJ	Commission on Administrative Justice
CBD	Convention on Biological Diversity
CERIP	Contingent Emergency Response Implementation Plan
CGA	County Government Act
CO	Carbon Monoxide
CoK	Constitution of Kenya
CPR	Comprehensive Project Reports
CWCP	County Water Contingency Plans
DA	Designated Account
DSBN	Drought-Response Strategic Boreholes Network
DSS	Decision Support System
EA	Environmental Audits
EHS	Environment, Health and Safety
EIA	Environmental Impact Assessment
EMCA	Environmental Management and Coordination Act
ESCP	Environmental and Social Commitment Plan
ESD	Environment and Social Department
ESIA	Environmental and Social Impact Assessment
ESIRT	Environmental and Social Incident Reporting
ESMF	Environmental and social management framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standard
GBV	Gender-Based Violence
GIIP	Good International Industry Practice
GM	Grievance Mechanism
GMIS	Groundwater Management Information System
GoK	Government of Kenya
GRC	Grievance Redress Committee
GW	Groundwater
HCs	Hydrocarbons
HIV	Human Immune – Deficiency Virus
HOAGW4R	Horn of Africa Ground Water for Resilience Project
IA	Implanting Agencies
IDPs	Internally Displaced People
IGAD	Intergovernmental Authority on Development
ILO	International Labour Organization
IMS	Information Management System
IVA	Independent Verification Agent
IWRM	Integrated Water Resources Management
KeNHA	Kenya National Highway Authority

KNCCRS	Kenya National Climate Change Response Strategy
KNCHR	Kenya National Commission on Human Rights
KPIs	Key Performance Indicators
KRA	Kenya Revenue Authority
KWS	Kenya Wildlife Service
LMP	Labour Management Procedures
M&E	Monitoring and Evaluation
MAR	Managed Aquifer Recharge
MDGs	Millennium Development Goals
MOEST	Ministry of Education, Science and Technology
MoU	Memorandum of Understanding
MoWSI	Ministry of Water, Sanitation and Irrigation
MTP	Medium-Term Plan
NBS	Nature-Based Solutions
NBSAP	National Biodiversity Strategy and Action Plan
NDMA	National Drought Management Authority
NEAP	National Environmental Action Plan
NEDI	North and North Eastern Development Initiative
NEMA	National Environment Management Authority
NEP	National Environment Policy
NGEC	National Gender and Equality Commission
NGO	Non-Governmental Organization
NHIF	National Hospital Insurance Fund
NOX	Nitrogen oxides
NSSF	National Social Security Fund
OIP	Other Interested Parties
PAD	Project Appraisal Document
PAI	Project Area of Influence
PBG	Performance Based Grant
PBG	Performance Based Grant
PCU	Project Coordination Unit
PDO	Program Development Objective
PFMA	Public Finance Management Act
PIU	Project Implementation Units
PM	Particulate Matter
PMC	Program Management Committee
PMU	Project Management Unit
PR	Project Report
RCGW	Regional Center on Groundwater
SACs	Social Accountability Committees
SCMPs	Sub-catchment Management Plans
SEA	Sexual Exploitation and Abuse
SEP	Stakeholder Engagement Plan
SH	Sexual Harassment
SIGs	Special Interest Groups

SOx	Sulphur Oxides
SPR	Summary Project Reports
ToR	Terms of Reference
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNCED	United Nations "Conference on Environment and Development
UNFCCC	United Nations Framework Convention on Climate Change
VMGs	Vulnerable and Marginalized Groups
VOC	Volatile Organic Compounds
WASREB	Water Services Regulatory Board
WCDCP	Water County Drought Contingency Plans
WIBA	Work Injury Compensation Benefit Act
WRA	Water Resources Authority
WRUAs	Water Resources Users Associations
WSDP	Water and Sanitation Development Project
WSS	Water Supply Schemes
WSTF	Water Sector Trust Fund
WWDAAs	Water Works Development Agencies

EXECUTIVE SUMMARY

The overarching objective of the Horn of Africa Groundwater for Resilience (HOAGW4R) Program is “To increase the sustainable use and management of groundwater by beneficiary groups in the Horn of Africa (HoA).” In Kenya the project will be implemented in five transboundary counties: Garissa; Mandera; Marsabit; Turkana; and Wajir. The Kenya project’s focus will be on groundwater management, development, and use. The project will contribute to climate change adaptation and co-benefits in Kenya in two ways: (i) building the capacity of groundwater institutions which will equip key actors with the requisite know-how to anticipate groundwater impacts and manage groundwater potential and possibilities for the counties; and (ii) the project’s development and rehabilitation of groundwater infrastructure which will augment the availability of freshwater to enhance climate change adaptation.

Project Components

- a) **Component 1. Strengthen the capacity of groundwater institutions and enhance groundwater information.** This component focuses on strengthening the enabling environment for sound groundwater development and management through two interlinked subcomponents. Subcomponent 1.A that aims at *strengthening the enabling environment and the institutional capacity for developing and managing groundwater sustainably and Subcomponent 1.B that aims at enhancing the groundwater and drought plans and information systems.*
- b) **Component 2. Development and rehabilitation of groundwater infrastructure through a sustainable approach.** This component focuses on the groundwater development aspects of the project and is formed by three interrelated Subcomponents. These subcomponents are (i) Subcomponent 2.A, which will consist on the development of new infrastructure for the use and sustainable conservation and recharge of the seven aquifers of focus based on the seven AAD&MP; (ii) Subcomponent 2.B, which will focus on the rehabilitation of community based infrastructure and enhancement of the drought strategic network to ensure communities resilience to droughts; (iii) Subcomponent 2.C, which consist on mainstreaming sustainability of the infrastructure developed and rehabilitated through a results based approach, which focuses on the performance of the counties.
- c) **Component 3. Project Management Support.** This subcomponent provides technical and operational assistance to the Project Management Unit and the Project Implementation Units for the management of the Project. Each PIU will have a technical assistance consultant that will support in the technical aspects of the operation, and operational support including financial management, procurement, environmental and social safeguards experts. At the PMU/PCU level, the project will receive support on monitoring and evaluation of the Project, including geotagging of the assets rehabilitated or built under the Project; supporting stakeholder outreach to increase awareness on the Project through the preparation and implementation of a communication strategy.

Project Beneficiaries

The project is estimated to reach 1,323,783 people through the rehabilitation and construction of boreholes. The same people will benefit from the aquifer restoration, recharge, and conservation activities. In addition, the interventions will benefit the institutions that work on groundwater at the trans boundary, national and subnational levels. These include the Ministry of Water Sanitation and Irrigation (MoWSI), the Water Resources Authority (WRA), the Regional Center on Groundwater (RCGW), the National Drought Management Authority (NDMA), the Water Services Regulatory Board (WASREB), the Water Works Development Agencies (WWDAs), and County Water Departments of the participating counties. By giving more visibility to groundwater through policies, strategies, regulations and guidelines, the institutions’

groundwater management will be strengthened. These institutions will also benefit from training, capacity building programs and the acquisition of equipment.

Purpose and Scope of the Environmental and Social Management Framework (ESMF)

The purpose of this Framework is to present the steps involved in identifying and mitigating potential negative environmental and social impacts of the project investment activities.

Objectives of ESMF

The main objective of the ESMF is to provide a framework for effective management of environmental and social (E&S) risks in the proposed HOAGW4R project. It seeks to both enhance (E&S) development benefits of the project and mitigate any potential adverse impacts, in line with Government of Kenya (GoK) and World Bank (WB) Environment and Social Standards (ESSs) including the WB Group Environment, Health and Safety (EHS) Guidelines. Moreover, since the precise locations and potential impacts of future subprojects are not known, the ESMF provides the basis for the preparation of necessary (E&S) tools, as needed for the subproject investments supported through the Project.

Policy, Legislative, Administrative and Institutional Frameworks

The review of policies, legal and regulatory framework for the country indicates that there are numerous provisions that can guide the identification and mitigation of E&S risks from the project. The key policies include the Kenya Vision 2030, Environment and Development (Sessional Paper No. 6 of 1999), The National Water Policy, Wetlands Policy of 2013; Occupational Health and Safety Policy of 2012, The Kenya National Climate Change Response Strategy of 2010, The National Biodiversity Strategy of 2000. The Constitution of Kenya (2010) is the key legislative framework coupled with the Environmental Management and Coordination Act, Cap 387 and the various specific regulations on air quality, noise and excessive vibration pollution, , water quality and waste management. Others include the County Government Act 17 of 2012, Water Act, 2016, Community Land Act 27 of 2016, The Penal Code (Cap. 63). The Sexual Offences Act, 2006 and its amendment 2012, Persons with Disability Act, 2003 Chapter 133, Occupational Safety and Health Act (OSHA) 2007, and the Work Injury Compensation Benefit Act (WIBA) 2007, among other. These acts have led to the formation of key institutions that will be considered part of the key stakeholders for the project.

There are several applicable international conventions and agreements to which Kenya is a signatory, including the United Nations Convention on Biological Diversity (UNCBD), 1992; United Nations Framework Convention on Climate Change (UNFCCC), Rio Declaration on Environment and Development, African Convention on the Conservation of Nature and Natural Resources, Earth Summit on Sustainable Development Agenda 21, Sustainable Development Goals (SDGs), United Nations Convention to Combat Desertification (UNCCD), among others.

World Bank Environmental and Social Standards and Operational Policies

The WB is committed to support Borrowers to design and implement environmentally and socially sustainable projects, as well as to strengthen Borrower's capacity to assess and manage projects' E&S risks and impacts. The table below identifies the applicable Environmental and Social Standards that the Borrower and the project will comply with through the project life cycle, as shown in Table 1.

Table 1: WB ESSs

#	E & S Standards	Relevance
ESS1	Assessment and Management of Environmental and Social Risks and Impacts	Relevant
ESS2	Labour and Working Conditions	Relevant
ESS3	Resource Efficiency and Pollution Prevention and Management	Relevant
ESS4	Community Health and Safety	Relevant
ESS5	Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
ESS6	Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
ESS7	Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Relevant
ESS8	Cultural Heritage	Relevant
ESS9	Financial Intermediaries	Not Relevant
ESS10	Stakeholder Engagement and Information Disclosure	Relevant

Environmental and Social Risk Levels

To determine appropriate risk classification, the Bank considers relevant issues such as: type, location, sensitivity, and scope of the project; nature and magnitude of potential E&S risks and impacts; as well as the Borrower's (including any other agency responsible of project implementation) capacity and commitment to manage E&S risks and impacts in a manner consistent with ESSs. Consequently, the WB classifies all projects into four major categories:

- (i) High risk: subprojects with particularly high environmental, indigenous peoples, cultural heritage, or resettlement risks, as determined by an analysis of the nature and scope of civil works proposed and the ecological and socio-cultural sensitivity of the project site.
- (ii) Substantial risk: subprojects with moderately high environmental or social risk. The proposal presents some risks due to the sensitivity of the setting and the nature and scope of civil works planned. However, mitigation measures are readily available, and the subproject will not have a major impact that places the natural environment, its biodiversity, society, or its cultural property at risk.
- (iii) Moderate risk: subprojects with moderate environmental, indigenous peoples, cultural heritage, or resettlement risks. The proposal presents some risks given the civil works planned, but its potential adverse impacts are less adverse than those of Risk Level Three projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigation measures can be designed more readily than for Risk Level Three projects.
- (iv) Low risk: subprojects likely to have minimal or no adverse environmental or social impacts.

Other areas of risk can also be relevant for implementation of measures, as well as for results of E&S impacts' mitigation measures, depending on specific project and context. These can include legal and institutional framework, nature of mitigation and the proposed technology, managerial structures, and legislation, as well as considerations related to stability, conflict, or security. The WB discloses project classification and basis for such classification at its website and in the project documentation.

Environment and social risk rating for the Kenya project

The environmental risk rating is considered Substantial. There are potential environmental risks that are likely to occur from implementing the component 2 interventions. These risks include air, noise and vibration pollution from drilling and rehabilitation activities. Other anticipated risks include visual/aesthetic intrusion, heat/light reflection, resource depletion by over-abstraction of groundwater resources, and loss of vegetation. In addition, there are risks related to workers and community/public health and safety associated

with civil works and potential for the proposed activities exacerbating the spread of Covid-19 and other communicable diseases. Further, there is the potential for distribution and consumption of contaminated water in addition to soil pollution due to contamination from solid waste and other hazardous electronic waste.

The social risk rating is considered Substantial. Activities under Component 2, which focus on groundwater infrastructure development, both for people and to support livelihoods, could lead to a range of social risks and impacts. There is the potential for exclusion of disadvantaged and vulnerable groups from decision-making and project benefits (particularly women, minority groups and nomadic pastoralists). The areas of implementation are characterized by water, land, and ethnic conflict, which is exacerbated by climatic variability, economic and political drivers. The northeast region of Kenya is particularly vulnerable to terrorism and radicalization, particularly near the Kenya-Somali border where the Somalia-based terrorist organization Al-Shabaab often dwell in close contact with communities. Violence takes the form of frequent attacks on police posts and police, army or public vehicles using firearms or improvised explosive devices, occasional kidnaps and executions of civilians, and attacks on telecommunication masts. Importantly, the fragility and conflict prone nature of the surrounding countries of the Horn of Africa (South Sudan, Uganda, Ethiopia, and Somalia) has a spill-over effect on the northern counties of Kenya. Land is mainly unregistered community land, with often contested public and private land, all subject to increasing tension as the process of community land adjudication and registration advances. The project will be subject to a range of labour risks including occupational health and safety (OHS) risks, workers' safety and security risks and the potential use of child labour. There is also potential gender-based violence (GBV), sexual exploitation and abuse (SEA) and sexual harassment (SH) risks that will need to be mitigated. In addition, designation of some areas as groundwater conservation zones may restrict access to such areas or lead to loss of land altogether.

The Environmental and Social Risk Assessment Processes

The County PIUs will carry out E&S assessments of the project/activities to assess the E&S risks and impacts consistent with the requirements of ESS1. The assessment should be proportionate to the potential risks and impacts of the subproject, and will assess, in an integrated way, all relevant direct, indirect, cumulative, and residual E&S risks and impacts throughout the project life cycle, including those specifically identified in applicable ESSs. In summary, specific steps include:

- Screening potential E&S risks and impacts of a subproject and classifying its risk levels (Screening Form);
- Developing subproject-specific E&S instruments;
- Consultation and disclosure of the E&S instruments;
- Review and approval of the E&S instruments; and
- Implementation and monitoring of E&S action plans.

Stakeholder Engagement and Information Disclosure

Effective stakeholder engagement is expected to improve the E&S sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation. Stakeholder engagement is an inclusive process conducted throughout the project lifecycle and is most effective when initiated at an early stage of the project development and is considered an integral part of early project decisions and the assessment, management, and monitoring of the project's environmental and social risks and impacts.

As per the ESS10, the borrower/implementing agencies are required to provide stakeholders with timely, relevant, understandable, and accessible information, and consult with them in a culturally appropriate

manner, which is free of manipulation, interference, coercion, discrimination, and intimidation. The Constitution of Kenya (CoK) 2010 has provisions for stakeholder engagement, commonly referred to as public participation in Kenya. The laws require public participation in many aspects of national and county government laws, including: The Environmental Management and Coordination Act 1999 as amended in 2015, The County Government Act 2012 (CGA), Public Finance Management Act 2012 (PFMA), and Urban Areas and Cities Act (2011). There are also constitutional commissions that are mandated to ensure equality, deal with maladministration and access to information, including: The Kenya National Commission on Human Rights (KNCHR); National Gender and Equality Commission (NGEC); and Commission on Administrative Justice (CAJ) also referred to as the office of the Ombudsman. These commissions broadly promote and oversee the preservation of human rights, promote equality across Special Interest Groups (SIGs) such as women, persons with disability, children, youth, and older members of society, minority, and marginalized groups.

Grievance Mechanism

The Grievance Mechanism (GM) provides channels and structures for project stakeholders to provide feedback and/or express grievances related to project supported activities. By providing this platform, it increases transparency and accountability by acting as an important feedback and learning mechanism that helps reduce the risk of the project inadvertently affecting citizens/ beneficiaries.

Potential Environmental and Social Impacts

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
DESIGN PHASE			
Drilling of exploration and monitoring wells	Influx of water users; increased settlement and disruption of grazing patterns	Degradation and conflict and livelihood impacts	Screening of sites and inclusive consultation and conflict mitigation measures
CONSTRUCTION AND DECOMMISSIONING PHASE			
Drilling of exploration and monitoring wells	Loss of vegetation	<ul style="list-style-type: none"> Vegetation will be cleared leaving land open to water and wind erosion. The loss of vegetation will reduce pasture for livestock, reducing food and income for the pastoral households. 	<ul style="list-style-type: none"> Minimize land clearing as much as possible. Re-vegetate cleared areas as early as possible.
Drilling of high yielding boreholes and rehabilitation of existing boreholes	Soil erosion/ land degradation	<ul style="list-style-type: none"> Soil erosion and land degradation will likely occur. 	<ul style="list-style-type: none"> Paving of access roads and working areas. Reduce unnecessary traffic Re-vegetate cleared areas
Construction of sand dams, subsurface dams, water pans/ponds	Decreased air quality	<ul style="list-style-type: none"> A high number of vehicles used on-site may result in high levels of emissions of hydrocarbons and dust affecting health and visibility in the area 	<ul style="list-style-type: none"> Vehicles, trucks and equipment should be well maintained Wetting of sites to reduce dust Provide protective gear to the construction workers.
Gazettement of aquifer recharge zones	Noise and Vibration Impacts	<ul style="list-style-type: none"> The vehicles and drilling equipment will result in increased noise and vibrations higher than the allowable limits 	<ul style="list-style-type: none"> Construction traffic speed control Engines of vehicles and equipment should be switched off when not in use. Proposed investments should require contractors to use equipment and vehicles that have some noise suppression equipment (e.g., mufflers, noise baffles) Contractors to provide personal protective equipment (PPEs) to the construction workers.

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
			<ul style="list-style-type: none"> Contractors could consider setting up temporary noise barriers where possible. Limit construction activities to day time only (6am to 6pm) or as agreed with the authority
	Solid and effluent waste	<ul style="list-style-type: none"> Generation of solid waste like waste, leftover material and waste oil may find its way into water sources carried by surface runoff when it rains. 	<ul style="list-style-type: none"> Adequate waste receptacles and facilities should be provided at project sites/camp sites. Training and awareness creation on Safe Waste Disposal in construction sites and camps for all workers. Prepare Waste Disposal Plan for every construction site.
	Hazardous chemical waste	<ul style="list-style-type: none"> Hazardous chemical waste may result from the depleted batteries and old solar panels. 	<ul style="list-style-type: none"> Proper chemical waste disposal as per relevant standards. Community and handlers' awareness and training on safe handling and disposal methods.
	Loss of land	<ul style="list-style-type: none"> Acquisition of land altogether causing involuntary economic or physical displacement. 	<ul style="list-style-type: none"> Information disclosure on the project may facilitate a quick land acquisition process. Project team to apply appropriate land acquisition methods as provided by ESS5 and GoK laws and policies. Site selection to preferably avoid physical and economic displacement as feasible Adequate compensation for economic or physical displacement
	Delayed compensation for land loss	<ul style="list-style-type: none"> The long process and may breed mistrust and hostility. 	<ul style="list-style-type: none"> The government to ensure that PAP compensation is planned and budgeted for and funds are available when needed. Establishment of a Livelihood Restoration Committee for the respective subproject.
	Safety and health risks to construction workers and community	<ul style="list-style-type: none"> Construction workers will participate in activities that will present risks and hazards to them. The community will be prone to health and safety issues arising from project activities. 	<ul style="list-style-type: none"> Provide workers with appropriate safety instructions Insurance and emergency medical benefits for the workers to be provided. On-site training of workers on the operations and maintenance of new machinery and health and safety procedures. Provision of appropriate PPE for workers.
	Workers/ labour influx impacts	<ul style="list-style-type: none"> The influx of migrant workers brought by the contractors and their interaction with the community may increase incidences of communicable diseases, conflict, insecurity, theft, GBV including SEAH and increased pressure on social amenities 	<ul style="list-style-type: none"> Ensuring that the local labour force is given priority during recruitment. Community awareness and sensitization on HIV/AIDS and Covid-19 protocol. Clear and culturally sensitive GM and GM related to SEAH/GBV. The contractors provide adequate accommodation for their staff. All contractors and their workers sign the CoC that has provisions on interaction with communities, personal responsibilities and contractors' obligations.
	GBV/SEAH	<ul style="list-style-type: none"> GBV risk is rated High in the selected project counties due to the traditional /cultural aspects of the respective communities. 	<ul style="list-style-type: none"> The project will develop a stand-alone SEAH Prevention and Response Plan to manage the GBV/SEAH risks. Clearly define the GBV/SEAH requirements and expectations in the bid documents. Induct all project contractors and workers on GBV/SEAH. Sensitize the communities on GBV/SEAH. Undertake regular M&E of progress on GBV activities including the GM

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
	Spread of Infectious Disease – Covid-19	<ul style="list-style-type: none"> Possible spread of infectious diseases as a result of failure to adhere to Covid-19 prevention measures issued by MoH, WHO and the WB. 	<ul style="list-style-type: none"> Awareness creation for both community members and all project workers Observation of all MoH and WHO COVID-19 protocols
	Employment of children	<ul style="list-style-type: none"> The Project may employ children under the age of 18 years which constitutes child labour and the risk of violence against children. 	<ul style="list-style-type: none"> Ensure that minimum age of project workers is set at 18 years and monitor and enforce this All contracts shall have contractual provisions to comply with the minimum age requirements including penalties for non-compliance in-line with the relevant national laws including in the subproject ESMPs.
	Forced labour	<ul style="list-style-type: none"> Some community members, including the vulnerable and disadvantaged individuals and groups may be forced to provide labour for the project. 	<ul style="list-style-type: none"> All workers will be required to sign a CoC which will need to be explained to them in a language that they understand. Community members sensitised on labour laws requirements and have access to a GM that they will use to channel complaints on the project and subprojects including forced labour.
	Increased vehicular traffic	<ul style="list-style-type: none"> May result in an increased risk of injury to pedestrians, increased noise, vibration, and reduced air quality. 	<ul style="list-style-type: none"> Schedule deliveries of materials/equipment during off-peak hours and establish speed limits. Only experienced and duly licensed drivers should be employed and trained on defensive and considerate driving Enforce safe driving and take disciplinary action against repeat offenders.
	Insecurity	<ul style="list-style-type: none"> There is the constant threat of insecurity from terrorism especially the threat of Al Shabaab along the Kenya-Somalia border. Inter-ethnic and interclan conflicts posing a safety risk for Project workers and community members 	<ul style="list-style-type: none"> The Contractors will be required to comply with Security Management Plans Conflict sensitive approaches such as equitable distribution of benefits/control of resources; avoidance of adverse social and ecological harms; and effective and ongoing citizen participation,
	Communal conflicts/ Conflict between the Project and livestock herders.	<ul style="list-style-type: none"> There is a likelihood of conflict arising between the project and the livestock owners because the land where the project is situated might be designated grazing areas or migratory routes. 	<ul style="list-style-type: none"> Engage in dialogue with the stakeholders and agree on how the project can coexist peacefully. Develop of community water sharing plan. Support the implementation of peace building activities.
	Impacts on ecosystems	<ul style="list-style-type: none"> The construction/rehabilitation of water resources is likely to disrupt the ecosystem especially of flora and fauna and result in some environmental degradation. 	<ul style="list-style-type: none"> During selection, the sites should be situated away from any established sensitive and incompatible animal and plant habitats/ecosystems Care should be taken to limit disruption to the ecosystems
	Risk of drowning	<ul style="list-style-type: none"> The impoundment structures such as shallow wells and dams will fill up with rainwater and surface runoff and may pose a drowning risk to people especially children and animals. 	<ul style="list-style-type: none"> Ensure shallow wells closer to homes are capped. Shallow wells and water pans closer to pasture areas and along the riverine areas should be fenced off using appropriate materials
	Spoil heaps	<ul style="list-style-type: none"> These are heaps and piles of construction materials such as soil, gravel, sand or stone that may spoil the aesthetics of an area, and also pose a hazard of collapse and a risk of erosion and water pollution when it rains. 	<ul style="list-style-type: none"> Community sensitization on the risks they pose. Heaps of spoil should be levelled or terraced to reduce their height and reduce the chance of collapse. These areas should be cordoned off to discourage children and animals from playing on/with them.
OPERATIONAL PHASE			
Operation of exploration and monitoring wells,	Soil Erosion/ Land degradation	<ul style="list-style-type: none"> Soil erosion and land degradation will likely occur as these water sources experience heavy usage by human beings 	<ul style="list-style-type: none"> Paving of access roads and working areas. Planting of grass within the designated areas

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
high yielding boreholes and Sand dams, subsurface dams, water pans/ponds and Gazettement of aquifer recharge zones		and livestock and this movement frequent the area	<ul style="list-style-type: none"> • Having several water points that will reduce the number of people and livestock gathered at one point.
	Pollution of water sources	<ul style="list-style-type: none"> • The open water sources like water pond and ponds can be polluted by surface runoff, fecal matter as livestock wade into the water pans. 	<ul style="list-style-type: none"> • Plant grass in the surrounding area to reduce surface runoff and water erosion. • Control and supervise human being and livestock watering activities to reduce incidences of misuse of the facilities.
	Restoration technologies adopted may have adverse impact on the environment and communities	<ul style="list-style-type: none"> • Subsurface dams and dams may change the hydrology of an area by flooding and drive the loss/change in flora and fauna affecting grazing and loss of individual land for farming or settlement. 	<ul style="list-style-type: none"> • Community sensitization on the restoration benefits. • Fence off the sites • Use technologies/techniques that that will still allow communities to use the area but at the same time help to conserve/restore it.
	Risk of Drowning	<ul style="list-style-type: none"> • The shallow wells and water pans and ponds once full may pose a drowning risk to human beings especially children and animals. 	<ul style="list-style-type: none"> • Ensure shallow wells closer to homes are capped and fenced • Design of water pans and dams should consider both community and animals' safety • Have an appointed community member managing the facility to ensure safety measures are adhered to.
	Inequality in access and use of water	<ul style="list-style-type: none"> • Different users such as human beings versus livestock will present problems of equality and priority. 	<ul style="list-style-type: none"> • Ensuring that all water users are included in the decision-making structures and water sharing plans and rosters are inclusive. • Fair pricing of water commodity to allow access by poor community.
	Impacts on ecosystems	<ul style="list-style-type: none"> • The boreholes may result in depletion of the aquifers. • The impoundments might result in a change in the hydrological state of the area destroying some habitats and creating others. 	<ul style="list-style-type: none"> • ESIA and feasibility studies to ascertain likely impacts and develop suitable mitigation measures. • Minimum demands from both existing and potential future users need to be clearly identified and assessed in relation to current and future low flows. • Obtain permits for abstraction from relevant authorities, including WRA and NEMA.
	Water resource-based conflicts	<ul style="list-style-type: none"> • There is a likelihood of conflict caused by different users such as the farmers and livestock herders. 	<ul style="list-style-type: none"> • Development of community water sharing plan. • Peace building efforts between the different tribes and clans
	Insecurity	<ul style="list-style-type: none"> • There is the constant threat of insecurity from terrorism especially the threat of Al Shabaab along the Kenya-Somalia border. • Intertribal and interclan conflicts that are likely to spill over to the Project resulting in conflict and attacks on Project workers presenting an occupational hazard 	<ul style="list-style-type: none"> • Provide armed security either Government forces or a private company for the project workers on site and at their camps to ensure their safety • The Contractor should come up with an inclusive and comprehensive Security Management Plan.
	Banks Erosion risk and sand dam failure	<ul style="list-style-type: none"> • The infrastructure, can cause serious erosion upstream or downstream 	<ul style="list-style-type: none"> • Ensure engineering and environmental due diligence, including hydrological and hydraulic studies are conducted and integrated into dam design for maximum sustainability • Conduct regular technical inspections of dam's structural integrity and provide clear notification channels for reporting any visual damage and incidents.
	Modification of subsurface flows	<ul style="list-style-type: none"> • Subsurface dams may modify the flow patterns of underground water in the affected aquifers. 	<ul style="list-style-type: none"> • Undertake adequate baseline hydrogeological studies to inform siting of subsurface dams and all new boreholes, including their potential impacts on the existing boreholes

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
	Rangeland degradation	<ul style="list-style-type: none"> Increased access to water can induce increased stocking of livestock by the beneficiary communities to unsustainable levels may driving overgrazing and localized erosion at the various water points. 	<ul style="list-style-type: none"> Undertake assessment on available pasture and stocking rates and sensitize communities on sustainable stocking levels
DECOMMISSIONING PHASE			
Decommissioning of exploration and monitoring wells, high yielding boreholes and Sand dams, subsurface dams, water pans/ponds and Gazetted of aquifer recharge zones	Borrow Pits	<ul style="list-style-type: none"> Where materials such as soil, gravel, sand or stone are “borrowed” or sourced from to fill the dams, water pans will result in gaping holes that pose a hazard in terms of falling and when they fill with water they pose a drowning risk and also affect the aesthetic value of an area. 	<ul style="list-style-type: none"> Safety measures should be developed including community sensitization on the same when the works is continuing. Borrow pits should be covered completely once the works is complete and covered with vegetation. The contractors will be paid final dues after the E&S officers confirm that all borrow pits have been rehabilitated and no mounds/heaps of soil, sand and other materials are left in the subproject sites.

Monitoring and Reporting

Project monitoring will be undertaken at three levels - project level, Bank monitoring support level and sub-project level. At the project level monitoring will focus on tracking implementation of the ESMP by all responsible actors such as contractors. The Bank will conduct implementation support monitoring and document in Aide Memoires. This will support remedial action as appropriate to keep the ESMP under implementation. The PIU will also submit monthly and quarterly reports to the Bank as part of the monitoring function. The project Social Safeguards Officers and the Environmental Safeguards Officers will lead the monitoring function of the project in tracking the implementation of the ESMF, until the subsequent environmental and social management plan(s) is in place. Additionally, the project team will conduct surveys on World Bank supported components at the entry, mid-point, and end of the project. The results from these surveys will be used to inform the World Bank on the necessary steps to take towards meeting the ESMF objectives and project goals.

1 INTRODUCTION

1.1 BACKGROUND

The Horn of Africa (HoA) Groundwater Initiative (RGI) targets the Intergovernmental Authority on Development (IGAD) region, covering Djibouti, Ethiopia, Kenya, Somalia, South Sudan, Sudan, and Uganda. IGAD region is home to a rapidly growing population of over 251 M people. Most of the population is poor and relies on rainfed agriculture for livelihood, in a climate characterized by irregular and unpredictable short rainy seasons and recurrent droughts. In this regard, the IGAD region is not homogeneous in terms of hydro-climatology. Rainfall is concentrated in the Ethiopian highlands and along the southwestern border of the region.

The HOAGW4R will be implemented in five countries: Kenya; Somalia; Ethiopia; Sudan; and Djibouti. The HoA is characterised by under-development, resource scarcity, conflict and violence, economic shocks, food insecurity and climate change impacts. The climate is characterized by short rainy seasons and recurrent droughts with about 30% of the region classified as Arid and Semi-Arid Lands (ASALs). Approximately 70% of the population live in rural areas and experience high levels of poverty (from 69.4% in Somalia to 22.5% in Djibouti) and high unemployment rates. Most of the population depend on rainfed agriculture and pastoralism for their livelihoods. The HoA is also home to many displaced people, including countries of origin (Somalia), and countries of asylum (Ethiopia and Kenya), as well as internally displaced populations, especially in Somalia.

1.2 PROJECT DESCRIPTION

1.2.1 Project Development Objective (PDO)

The overarching objective of the Horn of Africa Groundwater for Resilience Program is “To increase the sustainable use and management of groundwater by beneficiary groups in the Horn of Africa.” To achieve the objective, four intervention components are detailed in section 1.3 and are expected to be undertaken. The Kenya project’s components focus on groundwater management, development, and use contributes to climate change adaptation and co-benefits in Kenya in two ways, described below.

- a) First, building the capacity of groundwater institutions will equip key actors with the requisite know-how to anticipate groundwater impacts and manage groundwater potential and possibilities for the counties. Groundwater must be used and managed sustainably in order to maintain its buffer and contingency supply capabilities. The capacity to sustainably manage groundwater as a finite resource and protect its recharge mechanisms will contribute to a reduction in future water scarcity and the associated ills of protracted droughts. Moreover, as water-related hazards exacerbate inequalities disproportionately felt by vulnerable communities, climate-resilient groundwater infrastructure is key for development and poverty reduction.
- b) Secondly, the project’s development and rehabilitation of groundwater infrastructure will augment the availability of freshwater to enhance climate change adaptation. Building and rehabilitating infrastructure to actively enhance groundwater recharge (Managed Aquifer Recharge (MAR)) can help recover groundwater levels and improve water quality in over-exploited aquifers and store potable water for future use.

1.3 DETAILED PROJECT DESCRIPTION FOR KENYA

The four components of the project together consist of 16 activities. Component I has two sub-components with four and three activities, respectively. Component II also has two components with three and four

activities, respectively. Component III is program management support, and Component IV is to enable the use of a contingency emergency response mechanism.

1.3.1 Component I. Groundwater Institutions and Information.

Component I will focus on strengthening the enabling environment for sound groundwater development and management through two interlinked subcomponents. The main implementing agency of this component is the Water Resources Authority (WRA). Other entities such as the Trans boundary water department and the groundwater department within the Ministry of Water, Sanitation, and Irrigation (MoWSI), the Regional Center on Groundwater (RCGW) and the National Drought Management Agency (NDMA) will contribute and participate in completing the activities listed below.

Subcomponent 1.A: Strengthening the enabling environment and the institutional capacity for developing and managing groundwater sustainably.

This subcomponent aims at: (i) addressing the lack of visibility of groundwater resources in the water legal framework through the development of a groundwater strategy and guidelines and regulations related to groundwater management and development; (ii) addressing the transboundary institutional gaps of non-existing transboundary instruments for the management of shared aquifers through the completion of the Kenyan Transboundary Policy, and investment in dialogue platforms for Daa and Merti for the development of a memorandum of understanding (MoU) between riparian countries, and (iii) addressing the groundwater capacity gaps across national and subnational institutions. In particular, this subcomponent will focus on the following activities:

Activity 1. Finalization of the Transboundary Water Policy and Strengthening Regional Dialogue and Collaboration on the Transboundary Aquifers, including Daa and Merti.

Under this activity, the Transboundary Water Department will complete and endorse the draft 2019 Transboundary Water Policy. Moreover, with the support of IGAD, the Department will continue the dialogue around the Daa and the Merti aquifers towards the completion of an MoU with neighboring countries.

Activity 2. Finalization of the National groundwater development and management Strategy and National Groundwater regulations and guidelines.

Under this activity, the Groundwater Department of MoWSI and WRA will complete the National Groundwater Strategy based on previously drafted Groundwater Policy, update existing guidelines and formulate new ones. These guidelines are: (i) Aquifer Recharge Guidelines, (ii) the Groundwater Allocation Guidelines, (iii) the Codes of Practice for the siting, supervision and construction of boreholes and test pumping which have already been drafted and need completion or update, (iv) the Aquifer Assessment, Development and Management Plan Guideline; (v) Roadmap for the mapping and *gazetting* of groundwater conservation areas; and (vi) Update the WRUA development cycle tools to enhance WRUAs groundwater management aspects.

Activity 3. Comprehensive Training and Capacity Building on groundwater (GW) management across national and county-level institutions.

Guided by a capacity gap assessment and a capacity implementation plan, this activity will support training activities for staff in the Transboundary Water and the Groundwater Departments of MoWSI, the WRA Groundwater Department, both central and sub-catchment offices, and the County Water Departments, among others. The RCGW will take the lead in the implementation of this activity. To enhance the performance of the staff members in the said institutions, the project will develop and implement structured

online and face to face trainings that will be replicable upon project closure. Such trainings will be institutionalized within the RCGW.

Activity 4. Acquisition of various Groundwater Management equipment.

Guided by a capacity gap assessment, this activity will support office and GW management related equipment for staff in the Transboundary Water and Groundwater departments of MoWSI, the WRA Groundwater Department, both central and sub-catchment offices, and the County Water Departments. The equipment supported through this activity will be aligned with the overall program objectives.

Three main consultancy services contracts will be procured to support the implementation of this subcomponent. (1) The first one will be a firm contract with a group of consultants to support the institutional and policy aspects related to activities 1 and 2; (2) the second one will be a communications and event management consultant to support the preparation of stakeholder consultation events, and overall dissemination and communications of the above said activities; and (3) the third one will be a firm contract to prepare and implement the trainings activities along with RGWC.

Subcomponent 1.B: Groundwater & Drought Information Enhancement.

This subcomponent focuses on enhancing the knowledge base of the aquifer systems and the usability of this knowledge for management and development purposes. This is done through two main aspects: (i) the development of Aquifer Assessments Development and Management Plans (AAD&MP) for the selected NEDI aquifers that will guide the WRA in groundwater management and allocation of the resource, as well as county and cross-county investments (see component 2.A); (ii) enhancing the knowledge through the upgrade of the existing groundwater database and the development of mobile App to improve users' interface with the database. Further, the subcomponent will also address the gaps on the Water County Drought Contingency Plans and the connection between WRA, Counties and NDMA's information systems to better report on water and water service-related indicators. In particular, the subcomponent has the following activities:

Activity 5. Aquifer Assessments, Development and Management Plans (AAD&MP) for selected aquifers in NEDI 1, and management plans of Nakuru and Nairobi aquifers, along with the exploration wells for these aquifers. These AAD&MP will integrate local and community knowledge through consultations where women and other disadvantaged and vulnerable groups (people living with disabilities, minority groups and nomadic pastoralists) will be targeted as interest groups. Counties and WRUAs will also be involved and consulted through their development. The AAD&MP will: (a) assess and characterize aquifer parameters, water availability and water quality; (b) estimate aquifer recharge and safe yield; (c) estimate current (2022) and future (2030, 2045) water demands, and establish target plan population; (d) enhance and/or design groundwater monitoring program (level and quality); (e) inform site selection of conservation and protection areas to be gazetted given its relevance for aquifer recharge; (f) inform site selection for Managed Aquifer Recharge (MAR) taking into account both the physical and the social dimensions; (g) develop aquifer allocation plans and demand management plans for overexploited aquifer/aquifer areas; (h) develop an infrastructure budgeted master plan for aquifer development for which counties and communities are the beneficiaries; and (i) undertake an institutional plan with clear roles for WRA, WRUAs, Water Works Development Agencies (WWDAs), Basin Management Committees (BMCC), and counties. The consultancy

services contracts procured to carry out these assessments will also be tasked to prepare GW potential feasibility and environmental and social assessments for the nature-based solutions infrastructure to be developed under activity 11. Further, these AAD&MPs will be developed in parallel to the Sub-catchment management plans to ensure both instruments are aligned and talking to each other. This activity will be achieved through the drilling of exploration and monitoring wells are set to be drilled and the estimated numbers are about five (5) exploratory and monitoring wells per aquifer for the seven (7) aquifers which brings the total number to a minimum of thirty-five (35) wells.

Activity 6. Establishing a monitoring network in the selected aquifers of NEDI and linking these to the upgraded Groundwater Management Information System, including creating a mobile App to boost user interface and reporting on boreholes.

This activity will support the enhancement of the monitoring network in the selected NEDI aquifers, the upgrading of the groundwater information database to which the monitoring network will be connected to, and the development of an App to facilitate user interface.

Activity 7. Preparation of the Water County Drought Contingency Plans for Turkana, Marsabit, Wajir, Garissa and Mandera counties. Guided by the “Qualitative Assessment – Drought Risk Management in the Water Sector in Kenya”

This activity will upgrade the water chapter of the County Drought Contingency Plan developing operational County Water Contingency Plans (CWCP). As informed by this qualitative assessment, this plan should have a specific purpose and define in detail for each drought phase: (i) what to do (monitoring and EWS and a set of potential measures or actions for each drought state), (ii) how and when to do it (drought monitoring and the triggers for each drought state and description of the implementation of the measures), and (iii) who does what (governance, including responsibilities and decision-making mechanisms). These instruments will be critical to building up the resilience of the ASAL communities and are envisioned to support these drought-prone counties to prepare for droughts rather than responding to humanitarian emergencies when a drought hits.

1.3.2 Component II. Groundwater Infrastructure and Inclusive Community Level Use

This component will finance groundwater conservation, infrastructure development and service delivery improvement activities in the five borderland NEDI counties of Turkana, Marsabit, Mandera, Wajir and Garissa. The component comprises two interrelated subcomponents: (a) Subcomponent 2.A which will focus on: (i) the establishment and capacity building of Water Resources Users Associations (WRUAs) along with the preparation and implementation of their sub-catchment management plans that will involve specifically; Monitoring of groundwater abstraction and compliance to WRA issued permits by different users within the subcatchment; Planting of suitable tree species in protected recharge zones; Rehabilitation of degraded land areas e.g., through gabions, terraces etc.; Maintenance of constructed aquifer recharge infrastructure; and more specific groundwater conservation activities to be identified for each subcatchment through a community-participatory approach as outlined in the WRA WRUA Development Cycle , (ii) the development and implementation of nature-based solutions (NBS) for groundwater source protection and recharge infrastructure which will involve the construction of sand dams or subsurface dams (SSD) and moisture retention dam/tanks numbering about fifty (50), construction of water pans/ ponds for surface water collection and infiltration; Construction of diversion channels, Construction of infiltration galleries; and (iii) the conservation of natural recharge zones through gazettement by Counties and WRA; and (b) Subcomponent 2.B which will focus on: (i) the rehabilitation and expansion of groundwater-based rural water supply schemes according to a predetermined selection criteria, (ii) improvement of high-yielding boreholes

designated as drought-response strategic boreholes network (DSBN) by the County Governments and the NDMA, including both rehabilitation of existing and drilling of new boreholes, and (iii) institutional support for mainstreaming sustainable operation and maintenance of the groundwater infrastructure developed and rehabilitated in the borderland NEDI counties.

The component is to be implemented through a performance-based grant (PBG). These grants will be linked to the achievement of a minimum set of indicators (institutional, operational, social and environmental and financial) on a performance scorecard to be agreed between the Water Sector Trust Fund (WSTF) and the participating counties for groundwater rural water supply schemes, and potentially also between WSTF and WRA and the participating WRUAs for implementation of NBS for groundwater source protection and recharge infrastructure². If the PBG approach is confirmed for both subcomponents, there will be two performance scorecards for groundwater recharge and conservation activities and another for groundwater rural water supply schemes. If the PBG approach is only confirmed for the groundwater rural water supply schemes, the groundwater recharge and conservation activities will be financed through a regular input-based approach.

The PBG consists of two parts: a fixed grant and a variable grant, with results to be achieved at different stages of the project implementation cycle. For subcomponent 2A – Development of nature-based solutions for strengthening conservation, sustainable use, and recharge of the selected NEDI aquifers the potential fixed grant will be linked to the achievement of institutional prerequisites that WRA needs to achieve to strengthen the capacity for the development and management of aquifer recharge and other groundwater conservation infrastructure, i.e., the establishment of WRUAs, inclusive community agreements on the design, management and maintenance, the gazettelement of aquifer recharge zones and completion of procurement packages for the recharge infrastructure. The potential variable performance grant will focus on the implementation of Sub-catchment Management Plans (SCMPs) by WRUAs to manage aquifer recharge and groundwater conservation activities.

For subcomponent 2B – Rural water supply: (i) the fixed grant will be linked to the achievement of critical institutional prerequisites/actions which counties need to undertake within the first two years of the Project to strengthen the institutional framework for the development and O&M of rural water supply schemes, and for drought preparedness, i.e. the establishment of institutional arrangements for the provision of O&M for rural water supply schemes, development of WSS information management and monitoring systems, the enhancement of the water sector drought preparedness plans etc., and (ii) the variable grant will be linked to actual operational performance resulting from the increased O&M capacity. The verification of results before the payments will be conducted by WSTF and WRA for the fixed grant part, while an independent verification agent will verify the variable grant.

Subcomponent 2.A: Development of nature-based solutions for strengthening conservation, sustainable use, and recharge of the seven NEDI aquifers.

This subcomponent will finance investments to prevent groundwater overdrafts by promoting conservation and sustainable use of the NEDI region’s seven aquifers through nature-based infrastructure solutions for managed aquifer recharge (MAR) and other management strategies led by the local WRUAs. Activities under this component will be developed and informed by the AAD&MP. These activities are:

² How activities under subcomponent 2A will be done is still under discussion through an inputs-based approach or an output-based approach (PBG) is currently under discussion.

Activity 8. Establishment, mobilization, and capacity building of WRUAs covering the selected NEDI aquifers areas.

Water Resources Users Associations have been instrumental in Kenya's efforts to implement Integrated Water Resources Management (IWRM) approaches that involve a diverse range of actors at the sub-catchment level. This activity will support the establishment of new WRUAs (where none currently exist) and a capacity building program to enhance the governance and management capabilities of existing and new WRUAs to ensure the effective conservation, protection, and sustainable use of groundwater aquifers. As per the Kenyan Constitution, at least a third of the WRUA governance members will be women.

Activity 9. Implementation of Sub-catchment management plans by WRUAs.

The WRA will facilitate and oversee the development and approval of SCMPs for implementation by WRUAs as the primary tool for investing in groundwater conservation, protection and O&M of the groundwater recharge infrastructure. SCMPs will be developed in parallel and following the findings of the AADMPs developed under component 1 and *vice versa*, ensuring that both local knowledge and scientific knowledge is captured in both instruments.

Activity 10. Protection of aquifer recharge zones through gazettement and investments in Nature-Based infrastructure Solutions for aquifer recharge. Guided by both the aquifer development and management plans and the Sub-catchment Management Plans.

This activity will finance the protection and conservation of natural recharge zones and the development, O&M of prioritized MAR infrastructures, including subsurface dams, sand dams, micro-dams and/or infiltration ponds. The activity will be conducted through an integrated approach involving a partnership between the WRA, the WRUAs and the County Government Water Departments. Based on the AADMPs done under component 1, WRA, in consultation with the counties, will identify critical areas for conservation/protection and areas where recharge can be enhanced through NBS type investments. A performance-based grant approach will be applied to ensure the sustainable groundwater conservation and maintenance of the constructed recharge infrastructure.

Subcomponent 2.B. Rehabilitation of groundwater rural water supply schemes, enhancement of the NDMA designated drought-response strategic boreholes network (DSBN) and mainstreaming O&M of groundwater infrastructure in the five borderland NEDI counties. The subcomponent will be implemented through the following interlinked set of activities.

Activity 11. Inventory of groundwater rural water supply schemes and the NDMA-designated drought strategic borehole network.

Financing for this activity will occur in two distinct phases. The first phase, which will focus on the five border counties of Turkana, Marsabit, Mandera, Wajir, and Garissa, will be completed during the project's preparation phase and funded through the ongoing Water and Sanitation Development Project (WSDP - P156634). The second phase, which will be funded during implementation, will complete the ASAL inventory by including the ASAL counties that are not bordering, namely West Pokot, Samburu, Isiolo, Tana River, and Lamu. The inventories created during these two phases will compile comprehensive and georeferenced data on the description, status, operational parameters, functionality, and rehabilitation requirements for existing groundwater rural water supply schemes and the Drought-Response Strategic Boreholes Network (DSBN). No infrastructure is planned in the five additional NEDI counties.

Activity 12. Strengthening and enhancement of the DSBN through rehabilitation and upgrading of existing boreholes and drilling of new high yielding wells.

Based on the inventory conducted under activity 11 above and the drought preparedness plans developed as part of Subcomponent 1B, the project will invest in the rehabilitation of existing high yielding boreholes and the drilling of new high yielding boreholes jointly designated as part of the network of strategic drought-response contingency boreholes by the County Governments and the NDMA. This infrastructure will be critical to enhance the resilience of vulnerable communities in times of drought.

Activity 13. Rehabilitation and upgrading of groundwater rural water supply schemes.

This activity will primarily finance civil works contracts to rehabilitate and upgrade existing groundwater-based rural water supply schemes in Turkana, Wajir, Garissa, Mandera, and Marsabit, the five borderland NEDI counties. The scope of rehabilitation and infrastructure expansion will be determined by the inventory conducted in activity 11 and prioritized in consultation with local beneficiary communities. The rehabilitation scope of work will vary depending on the system but will typically include test pumping, borehole re-casing and development, retrofitting existing diesel pumping sets with solar PV pumping systems, improving water storage, expanding water distribution networks, adding more public standpipes (water kiosks), livestock watering troughs. To ensure efficient implementation, each county will package identified works according to geographic area, maximizing the efficiency of large contract procurement. This initiative will be carried out in five borderland counties. A detailed set of criteria for prioritizing borehole rehabilitation and expansion will be developed during the inventory but may generally include water schemes that serve a greater number of people, institutions (such as schools and health centers) and livestock, as well as boreholes with a high yield. The rehabilitation work will involve the following activities; that will involve; Borehole's re-casing and Well development; Test pumping; Improvements on and/or retrofitting of existing diesel gensets with new hybrid solar-diesel pumping systems; Repairs of or construction of new elevated water storage tanks; Construction of water access points for people and for livestock; Replacements, repairs and expansion of existing water distribution systems to improve performance and to reach more people, schools, health centers etc. not served

Activity 14. Institutional support for mainstreaming O&M of groundwater infrastructure, establishing rural water supply Information Management Systems and enhancing service delivery.

This activity will support efforts to mainstream the O&M of groundwater rural water supply schemes, as well as to improve overall service delivery. The activities that will be supported vary by county but will generally include assistance in finalizing county water legislation and regulations to domesticate the national Water Act 2016 and technical assistance in establishing and strengthening compacts and mechanisms for the sustainable O&M of installed infrastructure. Further, this activity will also support technical assistance to counties in developing and implementing a web-based Information Management System (IMS) and Decision Support System (DSS) for the O&M of rural water supply systems at the county level. These information systems are to be integrated with WRA groundwater database mentioned under Component 1.

1.3.3 Component III. Project Management Support

This component provides technical and operational assistance to the Project Management Unit (PMU) and the Project Implementation Units (PIUs) to manage the project. Each PIU will have operational support, including financial management, procurement, environmental, social safeguards and GBV experts, as well as communication and event management consultant. At the PMU/PCU level, the project will receive support on monitoring and evaluation of the Project, including remote monitoring and geotagging of the assets rehabilitated or built under the Project.

1.3.4 Component IV. Contingent Emergency Response Component.

This zero-cost component will finance eligible expenditures under the Immediate Response Mechanism (IRM) in case of natural or man-made crises or disasters, severe economic shocks, or other crises and emergencies in Kenya. This contingency facility can be triggered through formal declaration of a national emergency by the government authority and upon a formal request from GoK to the World Bank through the National Treasury. In such cases, funds from other project components will be reallocated to finance emergency response expenditures to meet agricultural crises and emergency needs. The emergency response would include mitigation, recovery, and reconstruction following crises and disasters, such as severe droughts, floods, disease outbreaks, and landslides, among others. Implementation of this subcomponent will follow a detailed Contingent Emergency Response Implementation Plan (CERIP) satisfactory to the World Bank that will be prepared for each Eligible Crisis of Emergency.

1.4 PROJECT BENEFICIARIES

The project is estimated to reach 1,323,783 people through the rehabilitation and construction of boreholes. The same will benefit from the aquifer restoration, recharge, and conservation activities. The project will benefit the institutions of Kenya that work on Groundwater at the transboundary, national and subnational levels. These include the Ministry of Water Sanitation and Irrigation, the Water Resources Authority, the Regional Center on Groundwater, the National Drought Management Authority, the Water Services Regulatory Board (WASREB), the Water Works Development Agencies (WWDAs), and County Water Departments of ASAL counties. By giving more visibility to groundwater through policies, strategies, regulations and guidelines, the institutions and groundwater management will be strengthened. These institutions will also benefit from training, capacity building programs and the acquisition of equipment.

1.5 PROJECT IMPLEMENTATION ARRANGEMENTS

Several institutions will be involved in the implementation of this project. While MOWSI will have an overall coordination role, the main implementing agencies will be the Water Resources Authority, mainly for component 1, and the Water Sector Trust Fund, mainly for component 2. There will also be a Project Steering Committee set up at the MoWSI, which will help the PCU and implementing entities to resolve the project coordination challenges and escalate issues as appropriate to ensure smooth and timely project management. The MOWSI will be the project coordinator to ensure smooth, effective, and coordinated implementation and avoid overlaps, duplication, or conflicts (Figure 1). In particular, MOWSI will be facilitating the flow of funds, ensuring inter-agency collaboration across the different institutions that will be part of this program, and will be in charge of the M&E and E&S capacity building for the project.

The two implementing agencies (WRA and WSTF) will be responsible for implementation of project activities and will have a full technical and operational support team to ensure successful and timely delivery. PIUs in these IAs will be established to implement project activities. These IAs will be composed of a team leader, a finance management expert, a procurement specialist, a social safeguards specialist, a GBV specialist (for WSTF), an environmental safeguards specialist, an M&E specialist, and a communications specialist. Each of these entities will have a designated account (DA) under the project to avoid payment delays. In the case of WSTF, given this is based on a PBG approach, the DA will be flexible and without ceiling, and disbursements will be according to results forecasted for a given period. Further, five sub-PIUs will be set up in each PBG participating counties to ensure coordination and ownership by the counties.

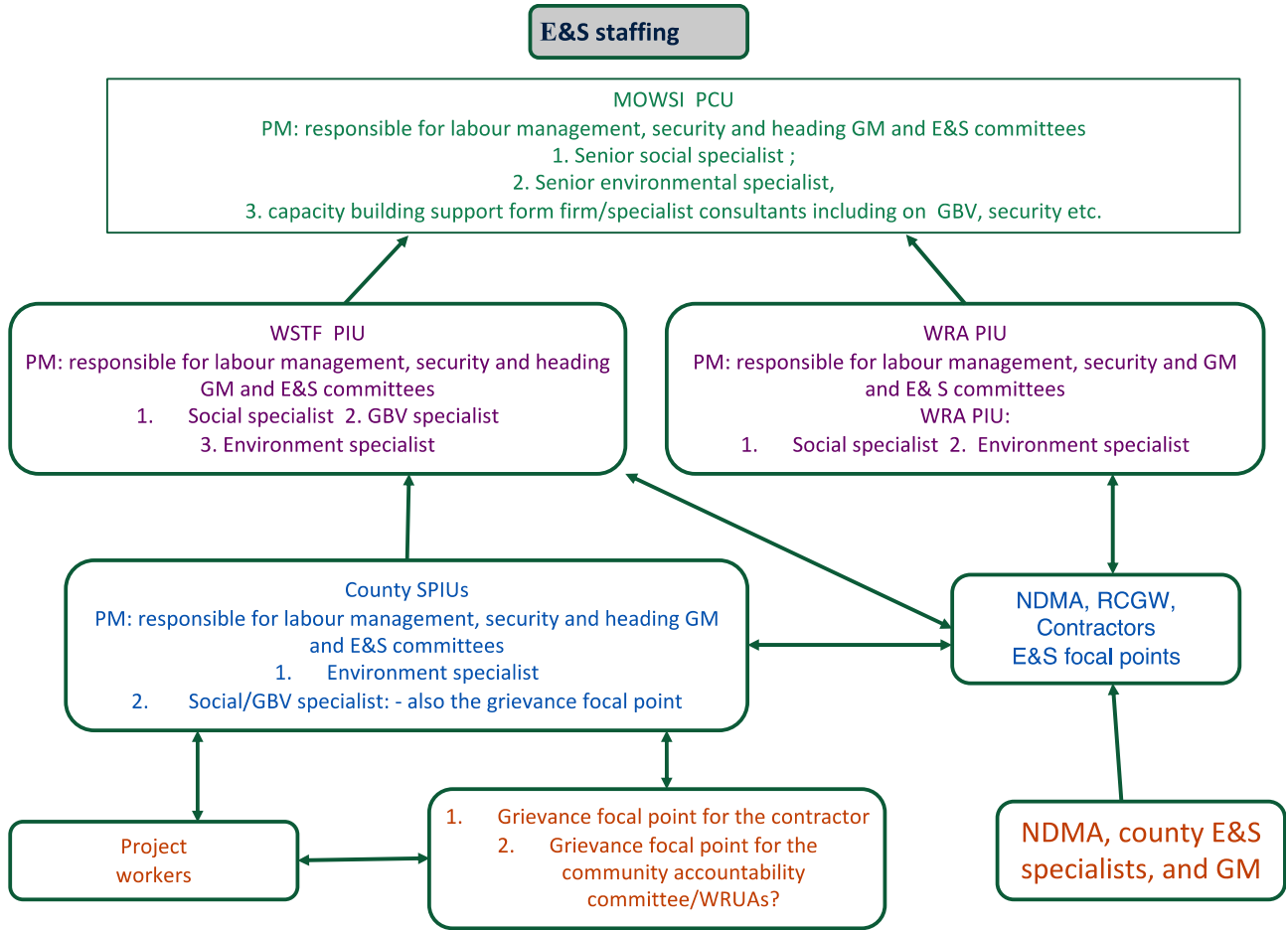


Figure 1: Implementation arrangements

2 ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

1.6 PURPOSE AND SCOPE OF THE ESMF

The purpose of this Environmental and Social Management Framework (ESMF) for the proposed Project Kenya component, is to be a practical tool during project formulation, design, monitoring and implementation. It describes the steps involved in identifying and mitigating potential negative environmental and social impacts and risks of the planned investment activities.

1.7 ESMF RATIONALE

The ESMF ensures that environmental and social risks are managed in the implementation of small-scale community driven development (CDD) projects. Often, donors such as the WB, have extensive E&S safeguard requirements, which are monitored for compliance to ensure that risks are proactively managed. This ESMF has been considered because the spatial extent of the civil works to rehabilitate and upgrade groundwater-based rural water supply schemes in the five counties are not known. This ESMF will guide project developers/sub-grantees to identify and plan mitigation measures in line with the ESS requirements.

1.8 OBJECTIVES OF ESMF

The objective of the ESMF is to provide a framework for effective management of E&S issues in the proposed project. It seeks to both enhance development benefits of the project and mitigate any potential E&S adverse impacts, in line with GoK and WB Environment, Social, Health and Safety Standards including the WBG Environment, Health and Safety (EHS) Guidelines. Moreover, since the precise locations and potential impacts of the subprojects are not known, the ESMF provides the basis for the preparation of necessary E&S tools, as needed for the subproject investments.

1.9 ESMF DEVELOPMENT METHODOLOGY AND CONSULTATIONS

The general tasks undertaken in preparing this ESMF included County stakeholder consultations (Annex 6) , desktop reviews and field work as briefly described below.

- A description of the project, its components and implementation arrangements, with a focus on the E&S sensitivities of the project, and on how the project will be designed, approved, and implemented obtained from the existing project documents including draft Project Appraisal Document (PAD) for the HOAGW4R project and the Kenya PAD which is annexed to the overall project PAD.
- An understanding of the legislative, regulatory, and administrative regime that the project will operate within, with a focus on requirements that will apply to the planning, approval, and implementation of the project.
- Identification of positive and negative environmental and social impacts and the mitigation measures of proposed project, and the formulation of environmental and social monitoring plan,
- An understanding of the institutional needs for implementing the ESMF. This included a review of the implementing agencies capacity to manage and monitor ESMF implementation, including ESIA preparation, review, and approval. The analysis also covered inter-sectoral arrangements, management procedures and training, staffing, operation and maintenance training, budgeting, and financial support.

3 POLICY, LEGISLATIVE, ADMINISTRATIVE, AND INSTITUTIONAL FRAMEWORKS

3.1 POLICY FRAMEWORK

3.1.1 Kenya Vision 2030

Kenya's Vision 2030 aspires to transform Kenya into a newly industrialized middle-income country by 2030. The blueprint recognizes that Kenya is a water scarce country and that the economic and social development envisaged in the vision 2030 will require more high-quality water supplies. The water and sanitation sector goal in line with the Vision 2030 is "to ensure that improved water and sanitation are available and accessible to all" and increase both access to safe water and sanitation in both rural and urban areas beyond the present levels. Among strategies proposed is the construction of water and sanitation facilities to support industries and the growing population. Regarding environment, the Vision states that Kenya aims to be a nation living in a clean, secure, and sustainable environment by 2030.

3.1.2 National Environment Policy (NEP)

The revised draft of the National Environmental Policy, dated April 2012, sets out important provisions relating to the management of ecosystems and the sustainable use of natural resources. In addition, it recognizes that natural systems are under intense pressure from human activities particularly for critical ecosystems including forests, grasslands, and arid and semiarid lands. The objectives of the Policy include developing an integrated approach (including water sector) towards environmental management, strengthening the legal and institutional framework for effective coordination, and promoting environmental management tools.

3.1.3 Sessional Paper No. 3 of 2009 on the National Land Policy

The National Land Policy in Chapter 3 under section 3.4, Environmental Management Principles, provides for the policy actions for addressing the environmental problems such as the degradation of natural resources, soil erosion, and pollution of air, water, and land. The policy advocates for environmental assessment and audit as a land management tool to ensure environmental impact assessments (EIAs) and audits are carried out on all land developments that may degrade the environment and take appropriate actions to correct the situation.

3.1.4 Sessional Paper No. 8 of 2012 on National Policy for the Sustainable Development of Northern Kenya and Other Arid Lands

The overall goal is "to facilitate and fast-track sustainable development in Northern Kenya and other ASALs by increasing investment in the regions and ensuring that the use of those resources is fully reconciled with the realities of people's lives". One of the objectives of the Policy is to strengthen the climate resilience of communities in the ASALs and ensure sustainable livelihoods. This is in line with the targeted investments for the project to guarantee the sustainable groundwater conservation and maintenance of the constructed recharge infrastructure.

3.1.5 Wildlife Policy of 2011

The wildlife policy is aimed at promoting protection and conservation of wildlife in Kenya, both in protected and non-protected areas. The policy is implemented by the Kenya Wildlife Service (KWS). The Project will need to be consistent with this policy. Where wild animals will be disturbed during the construction and operation of the water infrastructures, appropriate mitigation measures must be implemented to minimize disturbance to wildlife.

3.1.6 Environment and Development (Sessional Paper No. 6 of 1999)

The Kenya's policy paper on the Environment and Development was formulated in 1999. The policy defines approaches that will be pursued by the Government in mainstreaming environment into development. The policy harmonized environmental and developmental objectives with the broad goal of achieving sustainable development. The policy paper also provided guidelines and strategies for government action regarding environment and development. The policy reemphasized government's commitment towards involving local communities and other stakeholders in wildlife conservation and management, allowing them to benefit from the natural resources in their proximity. The policy also advocates for the establishment of zones that allow for the multiple use and management of wildlife. This policy is relevant to the proposed development project as the selected ASAL Counties have the highest biodiversity (wildlife) outside the gazetted wildlife reserves, the projects' potential impacts on the environment and the need for the involvement of the public in project planning.

3.1.7 National Policy on Gender and Development, 2019

The overall objective of the Gender and Development Policy is to facilitate the mainstreaming of the needs and concerns of men and women in all areas in the development process in the country. It provides a framework for advancement of women and an approach that seeks greater efficiency in resource allocation and utilization to ensure empowerment of women. The Policy compliments the Government's efforts of spurring economic growth to reduce poverty and unemployment, by considering the needs and aspirations of all Kenyans of all gender across economic, social, and cultural lines.

3.1.8 Forestry Policy of 2014

The Forest Policy aims to ensure forests in the country are protected from destruction with a goal to increase the area under forest cover to 10% of the total land area in the country. Where clearance of forests or sections of forests is anticipated for the project, appropriate mitigation measures should be specified in the ESIA's and the subproject ESMPs.

3.1.9 The National Water Policy, 2021

The National Water Policy was endorsed in July 2021 as Sessional Paper No. 1 of 2021. It calls for promotion of an inclusive and integrated approach to the management of water resources by ensuring measures are put in place for the water management, catchment protection and conservation, the development and application of appropriate technology and monitoring and evaluation and information systems.

3.1.10 Wetlands Policy, 2013

The wetlands policy is intended to promote protection of wetlands in Kenya. The policy sets out strategic measures for the protection of existing wetlands in Kenya. The policy also promotes the conservation and protection of wetlands because some are important historical sites that comprise important components of Kenya's cultural heritage. This is relevant to the HoAGW4RP because wetlands are rare in the borderland counties and wherever they are found, their cultural, groundwater recharge and carbon storage value could be enormous.

3.1.11 Occupational Health and Safety Policy, 2012

This policy is intended to protect safety and health of workers in workplaces. The proposed water project will provide employment opportunities to many workers at various categories. The contractors will be expected to comply with the requirements of this policy when engaging workers in various construction activities. Site specific and/or contractors ESMPs and Site Health and Safety Plans will be prepared to ensure compliance with the requirements of this policy.

3.1.12 HIV/AIDS Policy, 2009

The policy identifies HIV/AIDS as a global crisis that presents a formidable challenge to development and social progress. HIV/AIDS has been considered a significant potential impact due to labour influx associated with projects of such magnitude and adequate mitigation measures should be proposed and implemented. HIV/AIDS awareness campaign for the project staff as well as community members within the project area of influence (PAI) will be done periodically throughout the project implementation period. Other services to be considered will include linkages to health facilities for voluntary counselling and testing (VCT) and/or anti-retroviral treatment as necessary.

3.1.13 The Kenya National Climate Change Response Strategy, 2010

This strategy provides measures that the GoK is taking to address issues related to the impact of climate change on various sectors of the economy. The proposed project aims to mitigate effects of climate change and variability within the ASAL areas by increasing the resilience of the targeted communities with regard to groundwater development.

3.1.14 The National Biodiversity Strategy, 2000

The National Biodiversity Strategy and Action Plan (NBSAP) was formulated to enable Kenya to address national and international commitments defined in Article 6 of the Convention on Biological Diversity (CBD). The strategy is a national framework of action for ensuring that the present rate of biodiversity loss is reversed, and current levels of biological resources are maintained at sustainable levels for posterity. The general objectives of the strategy are to conserve Kenya's biodiversity; to sustainably use its components, to share the benefits arising fairly and equitably from the utilization of biological resources among the stakeholders; and to enhance technical and scientific cooperation nationally and internationally, including the exchange of information in support of biological conservation.

3.2 LEGAL AND REGULATORY FRAMEWORK

3.2.1 The Constitution of Kenya, 2010

Article 42 of Bill of Rights of the Kenyan Constitution provides that every Kenyan has a right to a clean and healthy environment, which includes the right to have the environment protected for the benefit of present and future generations through legislation and other measures. Part II of Chapter 5 of the Constitution

(Environment and Natural Resources) commits the State to adopt and support specific measures to safeguard the environment, which the project will abide by.

(I) the State clearly undertakes to carry out the following:

- Ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits.
- Work to achieve and maintain a tree cover of at least ten per cent of the land area of Kenya.
- Protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities.
- Encourage public participation in the management, protection, and conservation of the environment; Protect genetic resources and biological diversity.
- Establish systems of environmental and social impact assessment, environmental audit, and monitoring of the environment.
- Eliminate processes and activities that are likely to endanger the environment.

Part (II) “Every person has a duty to cooperate with State organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources. Chapter 5 on Land and Environment emphasizes on the following:

- Land use and management shall by law benefit local communities
- Community land is protected from encroachment by State.
- Law shall protect Rivers, forests, and water bodies.
- Equitable access to land.
- All lawful land rights are secured; only someone who has stolen land needs to worry.
- County governments will manage land in trust of the people in accordance with the constitution.

3.2.2 Environmental Management and Coordination Act, Cap 387

EMCA, 1999 (The principal Act) and the Environmental Management and Coordination (Amended) Act, 2015 provide the main legal and institutional framework under which the environment in general is to be managed. EMCA is implemented by the guiding principle that every person has a right to a clean and healthy environment and can seek redress through the High Court if this right has been, is likely to be or is being contravened. Section 58 of the Act makes it a mandatory requirement for an ESIA study to be carried out by proponents intending to implement projects specified in the Second Schedule of the Act. Such projects have a potential of causing significant impacts on the environment. Similarly, section 68 of the same Act requires operators of existing projects or undertakings to carry out Environmental Audits (EA) to determine the level of conformance with statements made during the ESIA study. The proponent is required to submit the EIA and EA reports to NEMA for review and necessary action.

The EMCA (Amendment), 2015 has repealed some of the sections in the principal Act. EMCA provides for the establishment of appropriate legal and institutional framework for the management of the environment and for matters connected therewith and incidental thereto. EMCA outlines the requirements for EIA, environmental audits, monitoring procedures and environmental-quality standards. There are specific regulations that would be of interest to this project including:

- (i) EMCA (Noise and Excessive Vibration Pollution Control) Regulations, 2009
- (ii) Environmental Management and Co-Ordination (Air Quality) Regulations, 2014
- (iii) Environmental Management and Coordination (Water Quality) Regulations, 2006
- (iv) Environmental Management and Coordination (Waste Management) Regulations, 2006 Legal Notice No. 121
- (v) Environmental (impacts Assessment and Audit) Regulations, 2003 as amended in 2016 which is one of the main regulations under EMCA providing detailed legal process for conducting ESIA and EA in the country.

EMCA in its Second Schedule classifies projects that must undergo ESIA into Low, Medium and High risks. Each risk level has defined minimum regulatory environmental assessment requirements which are defined in the Environmental (Impact Assessment and Audit) (Amendment) Regulations of 2016. Low risk, medium risk and high risks projects respectively require submission of Summary (ESIA) Project Report, Comprehensive Project report and Full ESIA Study Report.

As per the amended Second Schedule of EMCA, community water projects including boreholes, water pans, sand dams and sub-surface dams, as envisaged in the HOAGW4R project, are classified as low risk projects. On the other hand, drilling for purposes of utilising ground water resources as well as water distribution infrastructure are classified as medium risk projects.

3.2.3 Physical and Land use Planning Act, 2019

The Act states that a regional physical development plan may be prepared by the Director with reference to any Government land, trust land or private land within the area of authority of a county council for the purpose of improving the land and providing for the proper physical development of such land, and securing suitable provision for transportation, public purposes, utilities and services, commercial, industrial, residential and recreational areas, including parks, open spaces and reserves and also the making of suitable provision for the use of land for building or other purposes. It also states that the objective of a county physical and land use development plan shall be to enhance environmental protection and conservation;— The Act also states that a county government may, on its own motion or as may be requested by the national government or the National Physical and Land Use Planning Consultative Forum, declare an area as a special planning area if— (a) that area has unique development, natural resource, environmental potential or challenges and if the development of that area raises significant urban design and environmental challenges; The Act also specifies that development control can be carried out with an objective to protect and conserve the environment. The national planning authority is mandated to control development on the basis of the environmental impacts on ecologically sensitive areas by the implementation of strategic projects. — The Act requires any development activity that will have injurious impact on the environment, the applicant shall be required to submit an environmental impact assessment report as well as being accountable to the local authorities within the respective project jurisdictions.

3.2.4 The County Government Act, 2012

This is an Act of Parliament that gives effect to Chapter Eleven of the Constitution; to provide for county governments' powers, functions, and responsibilities to deliver services and for connected purposes. In the Fourth Schedule of the Kenyan Constitution 2010 Part 2 County governments, one of the functions of the County governments is stated as “County public works and services, including— (a) storm water management systems in built-up areas; and (b) water and sanitation services. “The Act also stipulates that the County Government is responsible for functions stipulated in Article 186 and assigned in the Fourth Schedule of the Constitution. These include control of air pollution, noise pollution, other public nuisances, and outdoor

advertising. The County Staff in the Environment and Natural resources (Environment Officer, Water Officer and Forest Officers), among others, are responsible of guiding the community beneficiaries to guarantee proper implementation of the project including but not limited to pollution control, biodiversity conservation (planting of woodlots especially indigenous trees), among others.

3.2.5 The Water Act, 2016

The Kenya Constitution acknowledges access to clean and safe water as a basic human right and assigns the responsibility for water supply and sanitation service provision to the 47 counties. The 2016 Water Act aligns the water sector with the Constitution's primary objective of devolution and recognizes that water-related functions are a shared responsibility between the National and County Governments. It also gives priority to use of abstracted water for domestic purposes over irrigation and other uses. The construction of water infrastructure will require the acquisition of water abstraction permits.

The Act sets in place the Water Resources Authority (WRA) whose main objective of is to protect, conserve, control and regulate use of water resources through the establishment of a national water resource strategy. In addition, the WRA is responsible for:

- Formulation and enforcement of standards, procedures and regulations for the management and use of water resources;
- Policy development;
- Planning and issuing of water abstraction permits; and
- Setting and collecting permits and water use fees.

3.2.6 The Penal Code (Cap. 63)

The Penal Code (Cap. 63) chapter on —Offences against Health and Conveniences, strictly prohibits the release of foul air into the environment, which affects the health of other persons. Under this code, any person who, for trade or otherwise, makes loud noise or offensive awful smell in such places and circumstances as to annoy any considerable number of persons in the exercise of their rights, commits an offence, and is liable to be punished for a common nuisance, i.e., imprisonment not exceeding one year with no option of fine.

3.2.7 The Public Health Act (CAP. 242)

Part IX Section 8 & 9 of the Act states that no person/institution shall cause nuisance or condition liable to be injurious or dangerous to human health. Any noxious matter or wastewater flowing or discharged into a water course is deemed as a nuisance. Part XII Section 136 states that all collections of water, sewage, rubbish, refuse and other fluids which permits or facilitates the breeding or multiplication of pests shall be deemed nuisances The Act addresses matters of sanitation, hygiene and general environmental health and safety. By providing for guidelines on water quality, this Act provides a useful tool for regulating the activities of groups or individuals with potential to pollute the water resource base.

3.2.8 The Draft National Building Code, 2020

This by-law recognizes county governments as the leading planning. It compels potential developers to submit development applications for approval. The county governments are hence empowered to approve or disapprove any plans if they do or do not comply with the law, respectively. Any developer who intends to erect a building must give the respective local authority a notice of inspection before the erection of the structure. On completion of the structure, a notice of completion shall be issued by the local authority to facilitate final inspection and approval.

3.2.9 The Employment Act, 2007

The Employment Act, 2007 defines the fundamental rights of employees including the basic conditions of employment. It also regulates employment of children. The contractor on site will be encouraged to employ casual laborers from the communities where the water project traverses during construction. The basic conditions of employees should be observed to avoid unnecessary conflicts during the construction works. The Contractor shall pay the entire amount of the wages earned by or payable to the workers. Payment of such wages should be done at the end of a working day at or near the place of work. The Contractor shall also ensure that all statutory deductions are submitted without delay to appropriate government agencies e.g., Kenya Revenue Authority, NSSF, NHIF, among others. All workers shall sign a code of conduct (CoC) as provided for the Labour Management Procedures (LMP) for this project. The contractor should also ensure equity employment, giving opportunity to women and PWDs.

3.2.10 The Valuers Act (Cap 532), 1985

The revised edition 1985 of the Valuers Act Cap 532 makes provisions for the relevant charges and conducts of valuers in relation to valuation of assets and provides relevant regulations and guidelines in valuation works. The Act requires that adequate valuation is carried out to help meet the actual compensation measures and the market rates and reduce any acts of malice in the exercise. The Act also specifies that a competent valuer will have to be deployed to site to carry out the professional valuation of assets for compensation.

3.2.11 The Community Land Act, 2016

The Act recognizes collective ownership of traditional commonly used land. Most land in the HoAGW4RP areas is of the foregoing description and is therefore managed under the Act. The Act provides that community groups registered as owners of community land shall receive compensation in the event of compulsory acquisition. Where community land is not registered, the Act requires affected county governments to hold any such compensation in trust for the affected groups until registration of land titles in the community's favor materializes. The Act recognizes customary occupancy as constituting communities' land rights to community land and stipulates the said proprietary rights.

3.2.12 The Sexual Offences Act, 2006 and its amendment, 2012

The Act requires workers to observe a standard work ethic to ensure persons from both genders are not subjected to sexual offences. A conducive working environment should prevail in all workplaces in the project, to be enhanced through implementation of a Sexual Misconduct Policy. All workers to be employed at the water infrastructure construction sites shall sign the CoC with clear provisions over the breach of the code. This shall be translated in the language familiar with each worker.

3.2.13 Persons with Disability Act, 2003, Chapter 133

This Act protects the rights of PWDs ensuring they are not marginalized and that they enjoy all the necessities of life without discrimination. The Act guarantees that: (1) No person shall deny a person with a disability access to opportunities for suitable employment; (2) A qualified employee with a disability shall be subject to the same terms and conditions of employment and the same compensation, privileges, benefits, fringe benefits, incentives, or allowances as qualified able-bodied employees; and (3) An employee with a disability shall be entitled to exemption from tax on all income accruing from his employment. A PWD is entitled to exemptions which apply with respect to exemptions and deductions as described in Schedule 42 subsection (2) of the Act, among other provisions, within this Act that should be complied with all parties involved.

3.2.14 Occupational Safety and Health Act (OSHA) 2007

This legislation provides for protection of workers during construction and operation phases of any project. This act will provide some of the mitigation measures for any negative impacts in particular those concerning the workers within the site.

Under this Act, the duties of the Occupier are provided thus in Section 6: Every occupier shall ensure the safety, health, and welfare at work of all persons working in his workplace. Among others, the duty of the occupier includes:

- The provision and maintenance of plant and systems and procedures of work that are safe and without risks to health;
- Arrangements for ensuring safety and absence of risks to health in connection with the use, handling, storage and transport of articles and substances;
- The provision of such information, instruction, training and supervision as is necessary to ensure the safety and health at work of every person employed
- The maintenance of any workplace under the occupier's control, in a condition that is safe and without risks to health and the provision and maintenance of means of access to and egress from it that are safe and without such risks to health;
- The provision and maintenance of a working environment for every person employed that is, safe, without risks to health, and adequate as regards facilities and arrangements for the employee's welfare at work;
- Informing all persons employed of any risks from new technologies; and imminent danger; and ensuring that every person employed participates in the application and review of safety and health measures.

Every occupier shall carry out appropriate risk assessments in relation to the safety and health of persons employed and, on the basis of these results, adopt preventive and protective measures to ensure that under all conditions of their intended use, all chemicals, machinery, equipment, tools and process under the control of the occupier are safe and without risk to health and comply with the requirements of safety and health provisions in this Act. Every occupier shall send a copy of a report of risk assessment carried to the area occupational safety and health officer;

Every occupier shall take immediate steps to stop any operation or activity where there is an imminent and serious danger to safety and health and to evacuate all persons employed as appropriate. It is also the duty of every occupier to register his workplace unless such workplace is exempted from registration under this Act.

OSHA has various regulations and rules to aid in achieving its objectives, among which include:

- OSHA - Fire-Risk-Reduction-Rules-_-2007
- OSHA First Aid Rules
- OSHA Medical-Examination-Rules-2005
- Health and safety committee rules etc.

These provisions of the Act are to be enforced by the Department of Occupational Health and Safety under the Ministry responsible for Labour services.

3.2.15 Work Injury Compensation Benefit Act (WIBA), 2007

The WIBA 2007 provides guidance for compensating employees on injuries and diseases contracted during employment. The Act also requires provision of compulsory insurance for all employees. The Act defines an employee as any worker on contract of service with employer. It will be important for the contractors of the proposed project to ensure that all workers contracted during the project implementation phase are provided with appropriate insurance covers so that they can be compensated in case they get injured while working. Compensation for temporary partial disablement shall consist of a proportionate amount of the periodical payment calculated as terms of employment.

Contractor employees engaged in civil works for water infrastructure are subject to this legislation, and are entitled to compensation, access to medical aid, and insurance cover in the event of work-related injuries and ailments.

3.2.16 Museums and Heritage Act, 2006

The National Museums Heritage Act sets out the overarching administrative processes for protecting and preserving cultural heritage and management by the National Museums of Kenya (NMK). It provides for the establishment, control, management and development of national museums and the identification, protection, conservation, and transmission of the cultural and natural heritage of Kenya.

3.2.17 Environment and Land Court Act

This is an Act of Parliament to give effect to Article 162(2) (b) of the Constitution to establish a superior court to hear and determine disputes relating to the environment and the use and occupation of land. The land and environment court has jurisdiction to hear any other dispute relating to environment and land. While preference in addressing grievances encountered during implementation of the project will be using the GRM to be developed by project, those not satisfied will be free to seek justice through the land environmental court.

3.2.18 Public Participation

The Constitution of Kenya (CoK) 2010 has several provisions for stakeholder engagement under public participation pronouncements. The national values and principles of governance (Art. 10 of CoK 2010), sets the foundation for stakeholder engagement among other aspects. It binds all State organs, State officers, public officers, and all persons whenever any of them applies or interprets the Constitution; enacts, applies, or interprets any law; or makes or implements public policy decisions. Art. 10 provisions are: (a) patriotism, national unity, sharing and devolution of power, the rule of law, democracy, and participation of the people; (b) human dignity, equity, social justice, inclusiveness, equality, human rights, non-discrimination, and protection of the marginalised; (c) good governance, integrity, transparency, and accountability; and (d) sustainable development. Other key constitutional provisions³ on public participation are on sovereignty of the people that can be exercised directly or indirectly; participation in public financial management; intergovernmental relations; objectives of devolution; values and principles of public services, participation in legislative processes, among others. There are also Acts of Parliament that have operationalized the constitutional provisions on public participation. The key ones are devolution related laws including: The

³ Some provisions of the CoK 2010 that refer to public participation: Art. 1, Art. 184, Art. 196, Art. 201, Art. 232, and fourth Schedule, Part 2 (14).

County Government Act (CGA) 2012, Public Finance Management Act (PFMA) 2012, and Urban Areas and Cities Act (2011).

The laws require public participation in many aspects of National and County Government functions, including developing new legislation, setting national and county planning and budget priorities, reviewing public sector performance and expenditures, and submitting grievances. Public participation is required in all stages of the planning and budget cycle. County Governments are required to create structures, mechanisms, and guidelines for public participation, promote access for minorities and marginalized groups, establish mechanisms for wide public communication and access to information, and submit an annual report on citizen participation to the County Assembly.

3.3 RELEVANT INSTITUTIONAL FRAMEWORK

3.3.1 National Environment Management Authority (NEMA)

The responsibility of the NEMA is to exercise general supervision and co-ordination over all matters relating to the environment and to be the principal instrument of Government in the implementation of all policies relating to the environment. In addition to NEMA, the EMCA provides for the establishment and enforcement of environmental quality standards to be set by NEMA which governs the discharge limits to the environment by the proposed project.

County Environmental Committees

The County Environmental Committees contribute to decentralized environmental management and enable the participation of local communities. These environmental committees consist of the following:

- i) Representatives from all the ministries;*
- ii) Representatives from local authorities within the county;*
- iii) Two farmers/pastoral representatives;*
- iv) Two representatives from NGOs involved in environmental management in the province/district; and*
- v) A representative of each regional development authority.*

National Environmental Complaints Committee (NECC)

The National Environmental Complaints Committee (NECC) was established under Section 31 of the Environmental Management and Co-ordination Act, 1999. It was formerly known as the Public Complaints Committee (PCC) but its name changed in the EMCA (Amendment) No. 5 of 2015. It is an important institution in the assessment of the condition of the environment in Kenya. It plays an important role in the facilitation of alternative dispute resolution mechanisms relating to environmental matters. The NECC makes recommendations to the Cabinet Secretary and thus contributes significantly to the formulation and development of environmental policy.

National Environmental Tribunal (NET)

The NET is established under Section 125 of EMCA for the purpose of hearing appeals from administrative decisions by organs responsible for enforcement of environmental standards. An appeal may be lodged by a project proponent upon denial of an EIA license or by a local community upon the grant of an EIA license to a project proponent. NEMA may also refer any matter that involves a point of law or is of unusual importance or complexity to NET for direction. The proceedings of NET are not as stringent as those in a court of law and NET shall not be bound by the rules of evidence as set out in the Evidence Act. Upon the making of an award, NET's mandate ends there as it does not have the power to enforce its awards. EMCA

provides that any person aggrieved by a decision or award of NET may within 30 days appeal to the High Court.

3.3.2 County Governments

The County Governments have powers to control or prohibit all businesses, factories and other activities including the proposed project which maybe or become a source of danger, discomfort, or annoyance to the neighbourhood and to prescribe conditions subject to which such activities shall be carried. Respective County Governments shall supervise project roll out within respective counties.

3.3.3 Directorate of Occupational Safety and Health Services (DOSHS)

The mandate of the Directorate is to ensure compliance with the provisions of the Occupational Safety and Health Act 2007 and promote safety and health of workers. The WRA shall work with the DOSHS officers at the County levels to help oversee that the necessary workplace safety and health requirements are observed, and any related issues are promptly addressed.

3.3.4 Environment and Land Court

The Kenya Constitution establishes Environment and Land Court⁴. Article 162 of the constitution provides for the creation of specialized courts to handle all matters on land and the environment. The court has the status and powers of a High Court in every respect. Article 159 on the principles of judicial authority, indicates that courts endeavour to encourage application of alternative dispute resolution mechanisms, including traditional ones, if they are consistent with the constitution. Section 20, of the Environment and Land Court Act, 2011 empowers the Environment and Land Court, on its own motion, or on application of the parties to a dispute, to direct the application of including traditional dispute resolution mechanisms.

3.3.5 Commission on Administrative Justice (CAJ) – Office of the Ombudsman

Kenya has a formal feedback and complaints handling mechanism. The Commission is the national/constitutional stakeholder instrument for grievance redress. Its mandate is to receive and address complaints against public officers and public institutions to improve service delivery. Three types of complaints can be made to the office of the Ombudsman including: (i) citizen against State/public officers and institutions; (ii) public officers against fellow public officers; and(iii) public institutions against other public institutions.

3.3.6 National Gender Equality Commission (NGEC)

The NGEC is a constitutional Commission established by an Act of Parliament in August 2011, as a successor commission to the Kenya National Human Rights and Equality Commission pursuant to Article 59 of the Constitution. NGEC derives its mandate from Articles 27, 43, and Chapter Fifteen of the Constitution; and section 8 of NGEC Act (Cap. 15) of 2011, with the objectives of promoting gender equality and freedom from discrimination. The over-arching goal for NGEC is to contribute to the reduction of gender inequalities and the discrimination against all women, men, PWDs, the youth, children, the elderly, minorities, and marginalized communities. The Agency has specific mandates including ensuring that those considered marginalized benefit from the project interventions.

3.3.7 Kenya National Commission on Human Rights

The Kenya National Commission on Human Rights (KNCHR) is an autonomous national human rights institution established under Article 59 of the Constitution of Kenya 2010. The commission has a core mandate to further the promotion and protection of human rights in Kenya. This is categorized further into two key broad mandates, namely: (i) to act as a watchdog over the Government in the area of human rights; and (ii) to provide key leadership in moving the country towards a human rights state. The main goals of KNCHR are to investigate and provide redress for human rights violations; research and monitor the compliance of human rights norms and standards; conduct human rights education, to facilitate training, campaigns, and advocacy on human rights; and collaborate with other stakeholders in Kenya.

3.3.8 State Department for Social Protection

The Department is responsible for sectoral oversight and management of all matters concerning children, older persons and PWDs, including related policies, social development, and management of statutory institutions. The State Department has officers in all counties and most of sub-counties across the country. Since they focus on children, older persons and PWDs, the officers are key resource in the monitoring the project's social impacts. There is also a newly established Social Risk Management (SRM) Unit (2019) under this department that will provide social safeguards support to the implementing teams.

3.3.9 National Council for Persons with Disabilities (NCPWD)

The NCPWD oversees all matters relating to PWDs, including: (i) statutory responsibility for facilitation of disability mainstreaming programmes; (ii) formulating and developing measures and policies designed to achieve equal opportunities for PWDs; (iii) cooperating with the government; (iv) recommending measures to prevent discrimination against PWDs; and registering persons with disabilities and institutions and organizations giving services to PWDs. The NCPWD has officers in all counties and a documented list of persons with disabilities that could inform implementation of the project. The officers could also support the process of translating documents and communicating with PWDs (e.g., sign language and braille).

3.4 APPLICABLE INTERNATIONAL CONVENTIONS AND AGREEMENTS

There are number Multi-Lateral Environmental Agreements (MEAs) to which Kenya is a signatory, that are relevant to the proposed project. These include the:

- (i) Vienna Convention on the Protection of the Ozone Layer;
- (ii) United Nations Convention on Biological Diversity (UNCBD);
- (iii) The 1992 United Nations Framework Convention on Climate Change (UNFCCC);
- (iv) Rio Declaration on Environment and Development;
- (v) African Convention on the Conservation of Nature and Natural Resources;
- (vi) Earth Summit on Sustainable Development Agenda 21;
- (vii) Convention on International Trade in Endangered Species;
- (viii) International Labour Organization;
- (ix) The Paris Agreement;
- (x) The World Commission on Environment and Development (The Brundtland Commission of 1987); and
- (xi) United Nations Convention to Combat Desertification (UNCCD).
- (xii) The Convention on the Elimination of All Forms of Discriminations Against Women (CEDAW).
- (xiii) The African Charter on Human and Peoples' Rights (Banjul Charter).
- (xiv) Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa (Maputo Protocol).

(xv) The ILO Convention No. 169 on Indigenous and Tribal Peoples

3.5 WORLD BANK ENVIRONMENTAL AND SOCIAL STANDARDS AND OPERATIONAL POLICIES

The Bank is committed to support Borrowers to design and implement environmentally and socially sustainable projects, as well as to strengthen Borrower's capacity to assess and manage projects' environmental and social risks and impacts. Table 1 below provides the overview of the relevant Environmental and Social Standards for the project.

Table 2: Overview of the Relevant World Bank Environmental and Social Standards

	E & S Standards	Relevance
ESS1	Assessment and Management of Environmental and Social Risks and Impacts	Relevant
ESS2	Labor and Working Conditions	Relevant
ESS3	Resource Efficiency and Pollution Prevention and Management	Relevant
ESS4	Community Health and Safety	Relevant
ESS5	Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
ESS6	Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
ESS7	Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Relevant
ESS8	Cultural Heritage	Relevant
ESS9	Financial Intermediaries	Not Relevant
ESS10	Stakeholder Engagement and Information Disclosure	Relevant

These ESSs are accompanied by unbinding Guidelines, Best Practice Notes, Templates and Checklists¹¹¹. Standards applicable to this Project are described in the various WB documents (most of these resources are freely available on the www.worldbank.org).

3.5.1 ESS1 Assessment and Management of Environmental and Social Risks and Impacts

Assessment and management of impacts is applied to all projects supported by the Bank through Investment Project Financing. The objective is to identify, evaluate and manage environmental and social risks and impacts associated with each stage of project, to achieve environmental and social outcomes consistent with Bank requirements. ESS 1 is also applied to all Associated Facilities/ Activities which must meet ESSs requirements to the extent that the Borrower has control or influence over such Associated Facilities/ Activities. Within ESS 1, the Borrower is obliged to:

- Conduct environmental and social assessment of the proposed project, including stakeholder engagement,
- Undertake stakeholder engagement and disclose appropriate information in accordance with ESS10,
- Develop an Environmental and Social Commitment Plan (ESCP) and implement all measures and actions set out in the legal agreement including the ESCP,
- Conduct monitoring and reporting on the environmental and social performance of the project against the ESSs.

The project will involve multiple activities, among them capacity building and strengthening of institutions that have a social impact. Groundwater assessments will be carried out involving sinking of exploration wells that have an environmental impact. Conservation efforts will be carried out that will include gazettement of particular land areas that will likely involve restriction of use or acquisition that will likely have both an environmental and social impact. Rehabilitation of existing and drilling of new boreholes will also have both environmental and social impacts. Given the activities and imminent environmental and social impacts that will arise from these activities, it is necessary to identify the risks the sub-projects present, determine their severity and put in place appropriate mitigation measures to manage these risks to acceptable levels in accordance to instruments applicable or prescribed by local or national legislations such as an Environmental and Social Impact Assessment (ESIA) together with an ESMP , or and conduct appropriate monitoring and reporting of the project performance against the ESSs that set the guidelines for these instruments. These will be reflected in the project Environmental and Social Commitment Plan (ESCP)..

3.5.2 ESS2 Labor and Working Conditions

ESS2 recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote sound worker-management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions. ESS2 applies to project workers including fulltime, part-time, temporary, seasonal and migrant workers.

The term "project worker" is related to:

- a) people employed or engaged directly by the Borrower (including the project proponent and the project implementing entities) to work specifically in relation to the project (direct workers);
- b) people employed or engaged through third parties to perform work related to core functions of the project, regardless of location (contracted workers);
- c) people employed or engaged by the Borrower's primary suppliers (primary supply workers); and
- d) people employed or engaged in providing community labor (community workers).

Labour and Employment processes will use the Employment Act 2007 of Kenya and and the World Bank ESS 2 Labour and Working conditions. These shall apply to all employees employed by any employer under a contract of service. The project will entail some works activities and the ESS2 is relevant is ensuring that no child or slave labour is involved. Additionally, working conditions in the works activities will comply with national laws and this ESS.

Prohibition against forced labour

(1) No person shall use or assist any other person in recruiting, trafficking or using forced labour.

(2) The term "forced or compulsory labour" shall not include— (a) any work or service exacted by virtue of compulsory military service laws for work of a purely military character: Provided that forced or compulsory recruitment of children for use in armed conflict shall be deemed to be forced or compulsory labour;

(b) Any work or service which forms part of the normal civic obligations of the citizens of Kenya;

(c) any work or service exacted from any person as a consequence of a conviction in a court of law, provided that the work or service is carried out under the supervision and control of a public authority and that the person is not hired out to or placed at the disposal of private persons, companies or associations;

(d) any work or service exacted in cases of an emergency, such as in the event of war or disaster or threat of calamity in any circumstance that would endanger the existence or the well-being of the whole or part of the population; and

(e) minor communal services performed by the members of the community in the direct interest of the said community, provided the members of the community or their representatives are consulted.

Labour and working conditions is also a World Bank Environment and Social Standard which recognizes the importance of employment creation and income generation in pursuit of poverty reduction and inclusive economic growth. Potential risks and impacts related to labour will be assessed during the ESIA processed for all sub projects. It is likely that Labor Management Procedures (LMP) will be prepared to assess and manage labor and working conditions risks for project workers as defined under ESS2.

3.5.3 ESS3 Resource Efficiency and Pollution Prevention and Management

Sets out the requirements to address resource efficiency and pollution prevention and management throughout the project life cycle consistent with Good International Industrial Practice. Applicability of this ESS is established during environmental and social assessment. The Borrower shall be obliged to apply technically and financially feasible measures to improve efficient consumption of energy, water and raw material, as well as other resources. Such measures shall integrate cleaner production principles into the product design and production processes in order to conserve raw material, energy, water and other resources.

Besides, the Borrower will avoid the release of pollutants or, when avoidance is not feasible, minimize and control the concentration and mass flow of their release using the performance levels and measures specified in national law or the World Bank Group Environmental, Health and Safety Guidelines whichever is most stringent. This applies to the release of pollutants to air, water and land due to routine, non-routine, and accidental circumstances, and with the potential for local, regional, and transboundary impacts.

Pollution prevention and management includes management of:

- Air pollution
- Hazardous and non-hazardous waste
- Chemicals and hazardous material
- Pesticides

The project will involve construction of water infrastructures which will make use of different materials both hazardous and non-hazardous that will generate waste that will require disposal. Sinking of boreholes requires proper management to avoid contamination of the groundwater. Use of this water once it comes to the surface by multiple users also presents the risk of contamination and generation of wastewater by multiple users. Under ESS3 and what is prescribed under the local laws such as the Water Act and Environmental Management and Coordination Act (EMCA) these objectives shall be achieved by putting in place proper management measures for potentially hazardous substances and generated waste also covered by ESS1. Rehabilitation of existing boreholes may involve deepening, with potential risks of over extraction leading to declining yields from other nearby boreholes. Further, efficient use of water resources in the water deficient NEDI counties is an important consideration to be made during assessment of individual sub-projects, including aquifer-level water balance in the development of new or rehabilitation of existing boreholes and associated community supply schemes, to ensure sustainable groundwater development.

3.5.4 ESS4 Community Health and Safety

This standard addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable.

Objectives of ESS4 are the following:

- To anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life cycle from both routine and non-routine circumstances.
- To promote quality and safety, and considerations relating to climate change, in the design and construction of infrastructure, including dams.
- To avoid or minimize community exposure to project-related traffic and road safety risks, dis-eases and hazardous materials.
- To have in place effective measures to address emergency events.
- To ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities.

At early stage of implementation, the Project will ensure that it adopts a set of Guidelines materially consistent with ESS4 Community, Health and Safety. Construction activities and provision of water may pose health and safety issues to the community from the construction to operational phases. The water infrastructure may pose hazards to human beings and livestock while water provision infrastructure is associated with hazards such as insecurity and communicable diseases from labor influx, leakage, flooding, contamination, and water-borne diseases which may pose a danger to users and non-users alike. Security is a major concern in these counties caused by banditry and terrorism especially for the counties bordering Somalia. The sub-projects will be screened for that may pose risk to environment, community health and safety and appropriate provisions within the ESMP and Risk Assessments and any instruments such as Labor Influx Management Plans and community emergency and response plans may be prepared to appropriately mitigate these issues.

3.5.5 ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

This standard is applicable to this Project and applies to permanent or temporary physical and economic displacement resulting from land acquisition or restrictions on land use undertaken or imposed in connection with project implementation. The project will aim to avoid involuntary resettlement however, with subcomponents such as subcomponent 2.A that involves conservation of aquifers, aquifer recharge and catchment management, it is inevitable that restrictions on land use and even involuntary resettlement will be avoided to accommodate this infrastructure and for these activities to take place. Resettlement where inevitable, will involve the use of the appropriate instruments such as; resettlement action plan, resettlement framework and process framework planned and implemented with appropriate disclosure of information, meaningful consultation, and the informed participation of those affected. For this project, a resettlement process framework will be carried out.

3.5.6 ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

ESS6 is applicable to all projects that potentially affect biodiversity or habitats, either positively or negatively, directly or indirectly, or that depend upon biodiversity for their success. It is also applied to projects that involve primary production and/or harvesting of living natural resources. The Borrower is obliged to avoid adverse impacts on biodiversity and habitats. When avoidance of adverse impacts is not possible, the Borrower will implement measures to minimize adverse impacts and restore biodiversity in accordance with the mitigation hierarchy provided in ESS1 and with the requirements of this ESS. Where significant risks and

adverse impacts on biodiversity have been identified, the Borrower will develop and implement a Biodiversity Management Plan.

The Project activities will be taking place in the arid and semi-arid counties that are drought-prone and environmentally fragile hence the Project activities may inevitably affect the flora and fauna within the project area. Detailed risks will be assessed at each sub-project level and appropriate mitigation measures should be spelt out in the ESMP.

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

The Constitution of Kenya 2010 identifies Turkana County as one whose inhabitants (Turkana People) are indigenous People, they are also found in Marsabit county like the Yaaku Waata, Borana, Gabra in Marsabit and Somali in Garissa and Mandera counties. According to the Constitution of Kenya the rest of the people in the project area are not considered as Indigenous Peoples. However, if the Project identifies them as so, a social assessment will be carried out. Marginalization of minority groups and clanism and other cultural issues will be addressed in an Inclusion Plan within the SEP.

3.5.8 ESS8 Cultural Heritage

This standard sets out general provisions on risks and impacts to cultural heritage and chance finds from project activities. Objective of ESS 8 are the following:

- To promote the equitable sharing of benefits from the use of cultural heritage.
- To address cultural heritage as an integral aspect of sustainable development.
- To promote meaningful consultation with stakeholders regarding cultural heritage.
- To protect cultural heritage from the adverse impacts of project activities and support its preservation.

The requirements of this ESS8 will apply to all projects that are likely to have risks or impacts on cultural heritage. This will include a project which:

- a) Involves excavations, demolition, movement of earth, flooding or other changes in the physical environment;
- b) Is located within a legally protected area or a legally defined buffer zone
- c) Is located in, or in the vicinity of, a recognized cultural heritage site
- d) Is specifically designed to support the conservation, management and use of cultural heritage.

The Project will involve construction of groundwater infrastructure, sand and subsurface dams and will also result in above-ground structures and may affect cultural sites such as shrines, burial sites and other sacred sites. If cultural heritage sites are affected, appropriate mitigation measures consistent with the customs and traditions of project affected parties will be identified through consultation with stakeholders to ensure these resources is preserved, conserved, relocated and or/restored in an acceptable manner in compliance with local, national, regional or international cultural heritage regulations and the protected area management plans. Subproject-specific ESMPs shall address these issues by incorporating chance find procedures (Annex 5) and site-specific mitigation measures. Activities that may have impacts on cultural heritage shall not be implemented.

3.5.9 ESS9 Financial Intermediaries

This standard is not applicable as the project does not envision involvement of financial intermediaries.

3.5.10 ESS10 Stakeholder Engagement and Information Disclosure

Recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation.

ESS10 objectives are:

- To establish a systematic approach for stakeholder engagement that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, in particular project-affected parties
- To assess the level of stakeholder interest and support for the project and to enable stake-holders' views to be taken into account in project design and environmental and social performance.
- To promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life cycle on issues that could potentially affect them.
- To ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner and format.
- To provide project-affected parties with accessible and inclusive means to raise issues and grievances, and allow Borrowers to respond to and manage such grievances

This Standard applies to all projects supported by the Bank through Investment Project Financing. It is a requirement that borrowers engage with stakeholders throughout the project life cycle, commencing such engagement as early as possible in the project development process and in a time frame that enables meaningful consultations with stakeholders on project design. The nature, scope, and frequency of stakeholder engagement will be proportionate to the nature and scale of the project and its potential risks and impacts. In consultation with the Bank, the Project will develop and implement a Stakeholder Engagement Plan (SEP) proportionate to the nature and scale of the project and its potential risks and impacts.

3.6 WORLD BANK GROUP EHS GUIDELINES

The World Bank requires funded projects to apply the Environmental, Health, and Safety (EHS) Guidelines⁵ that are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). These General EHS Guidelines are designed to be used together with the relevant Industry Sector Environmental, Health, and Safety Guidelines for Water and Sanitation which provide guidance to users on EHS issues in specific industry sectors and include categories like; Environmental, Occupational Health and Safety, Community Health and Safety, Construction and Decommissioning. These Guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs and may involve site-specific targets and timeframes to achieve them. The applicability of the guidelines should be tailored to the hazards and risks for the particular project and the particular context. When host country regulations differ from the levels and measures presented in the EHS Guidelines, projects are expected to achieve whichever is more stringent and if less stringent levels or measures are used, then proper justification is required.

⁵ https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines

4 ENVIRONMENTAL AND SOCIAL BASELINE

4.1 ENVIRONMENTAL BASELINE

4.1.1 Kenya's location and size

Kenya is located between latitude 100 N and longitude 38.00E in Eastern Africa and borders the Indian Ocean, between Somalia and Tanzania. Kenya's total area is a total of 580,367 square kilometers with a landmass of 569,140 square kilometers and a water mass covering 11, 227 square kilometers. It is bordered by Ethiopia, Somalia, South Sudan, Tanzania and Uganda. The Project will be implemented in Turkana, Marsabit, Wajir, Mandera and Garissa counties, whose total surface area is 269,409.8 square kilometers, equivalent of 47 percent of the country's total landmass.

4.1.2 Climate and Physical Environment

Kenya's climate can be described as tropical climate, where it is hot and humid at the coast, temperate inland, and very dry in the north and northeast parts of the country. About 80% of the country is ASAL and receives less than 700 mm of rainfall per year, with some areas in the northwest and east receiving only 200 mm per year. The Lake Victoria region and the central highlands east of the Rift Valley however can receive up to 1,200-2,000 mm rain per year. The ASALs particularly experience a high variability in rainfall and the annual variations follow El Niño and La Niña episodes influenced by the Indian Ocean sea surface temperatures⁶. Temperatures in these areas range from 24°C- 42°C but in Marsabit they range from 15 – 26°C which is relatively cooler. The hottest months are September and January to March, while the months of April to August are relatively cooler. The long rains fall from April and May apart from Turkana where they occur between April and July, while the short rains fall in October and November. Most parts of the areas experience long hours (approximately 9-11 hours) of sunshine in a day that drives high evaporation rates, leading to accelerated depletion of forage during the dry periods. Because of climate change, the rainfall patterns and temperatures have been changing. Thus, the area is prone to drought and flood emergencies leading to adverse effects on livelihoods.

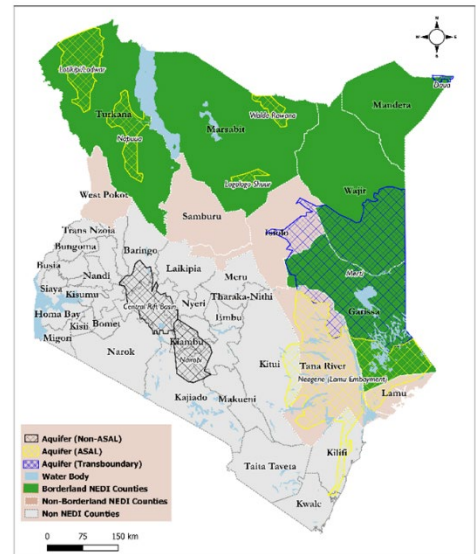


Figure 2: Map showing project counties

⁶ McSweeney, C., New, M., & Lizcano, G. (2012). UNDP Climate Change Country Profiles: Kenya.

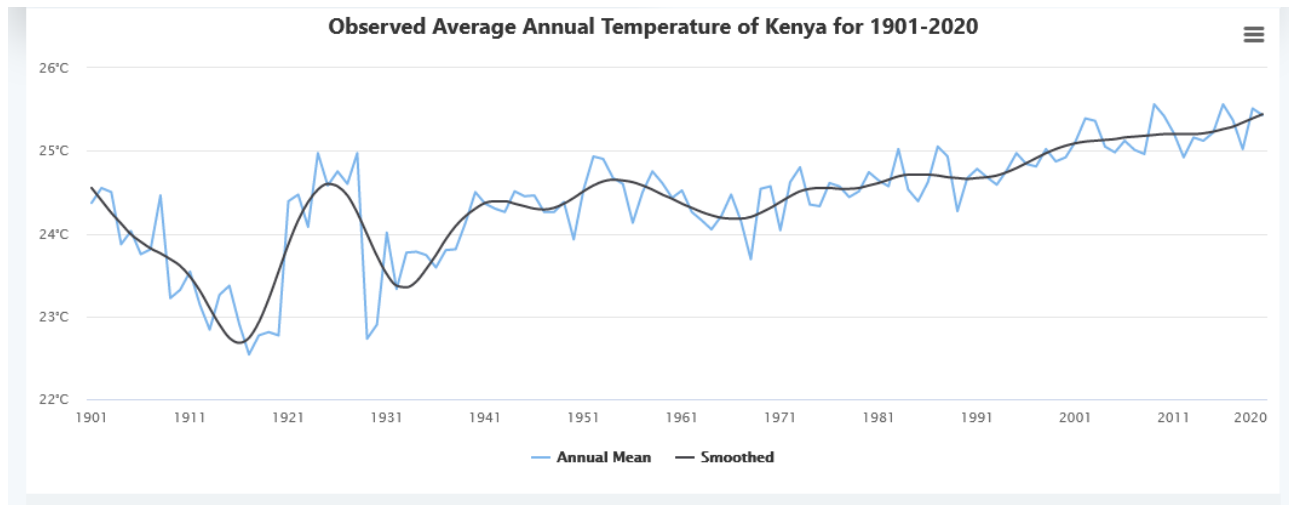


Figure 3: Observed Average Annual Temperatures of Kenya for 1901 to 2020

Climate Change

Climate change in Kenya is increasingly impacting the lives of citizens and the environment. Climate change has led to more frequent extreme weather events like droughts which last longer than usual, irregular and unpredictable rainfall, flooding and increasing temperatures especially in the ASAL region.

4.1.3 Topography

The altitude in the area ranges from 200-460 meters above sea level in Garissa and Wajir counties and 300 – 970 meters above sea level across the rest of the area. The topography in these areas mostly consists of low-lying plains and isolated hills and mountain ranges. The flat plains make drainage very poor, causing flash floods during heavy rains. Major topographical features within the area include: (i) the Tana River Basin and the Lorian swamp in Garissa; (ii) the Chalbi Desert in Marsabit which is a large drainage system that receives run-off from the surrounding lava and basement surfaces of Mt. Marsabit, Hurri Hills, Mt. Kulal and the Ethiopian plateau; (iii) the Eastern African Rift System that traverses Turkana County; and (iv) Daua River, whose source is the Ethiopian highlands and flows eastwards along the country's boundary with Ethiopia.

4.1.4 Agro-ecological zones

Agro-ecological Zoning (AEZ) involves the division of Kenya into smaller units, which have similar characteristics related to land suitability, potential production and environmental impact. An AEZ is a land resource mapping unit, defined in terms of climate, landform and soils, and/or land cover, and having a specific range of potentials and constraints for land use⁷(FAO 1996). Kenya is divided into six agro-ecological zones (Figure X).

Zone I - Agro-Alpine Zone: Covers an approximate area of about 800 km² which is about 0.1 percent of Kenya's total landmass. This zone is confined to mountains and immediate surroundings such as Mt. Kenya and Mt Elgon. This zone is mainly a catchment area for rain and sources of some rivers and streams.

Zone II - High Potential Zone: This zone covers about 53,000 km² and covers about 9.3 percent of the Country's landmass. is generally restricted to the highlands of Kenya between 1,980 and 2,700 m and occurs as a forest or open grasslands. This zone is found in the surrounding of Mt Kenya (parts of Meru, Embu, Kirinyaga and Nyeri), isolated parts of the Rift Valley around Mau and Aberdares mountains (e.g around Kericho and Nyahururu respectively) and the surrounding of Mt Elgon (e.g around Kitale and Webuye). The minimum rainfall is 1000 mm. The main grasses are *Pennisetum clandestinum* (Kikuyu grass), *Themeda triandra* (Red oats), *Andropogon Chrysostachyus*, *Andropogon pralonsia*, *Exothea abyssinica*, *Digiteria scalaram*, *Eragrostis lascantha*, *Seteria sphacelata*, *Pennisetum catabasis* and *Sporobolus filipes*. The legumes include *Trifolium johnstoni*, *Medicago sativa* (Alfalfa or Lucerne), *Sesbania sesban* and *Leuceana leucusephala*.

Zone III – Medium Potential Zone: This zone covers about 53,000 km² and also covers about 9.3 percent of the Country's landmass. This zone occurs mainly at elevations between 900-1800 m with annual rainfall between 950 and 1500 mm. Trees are numerous here and somewhat of shorter stature than in Zone II. This zone is the most significant for agricultural cultivation and several legume fodders are found here in crop-livestock systems. It is also the most resettled by human. It occurs in the vast parts of Nyanza, Western and Central provinces, good proportion of Central Rift-Valley (Nandi, Nakuru, Bomet, Eldoret, Kitale) and a small strip at the Coast province. The major grasses are *Hyperenia* and *Cymbopogon*, *Themeda triandra*, *Panicum maximum*, *Seteria Sphacelata*, *Sporobolus pyramidalis*, *Bracharia brizantha* (Congo signal), *Bricharia siluta*, *Chloris gayana* (Rhodes grass) and *Cynodon dactylon* (Star grass).

Zone IV – Semi- Arid Zone: This zone covers about 48,000 km² and also covers about 8.5 percent of the Country's landmass. This zone occupies the same elevation (900-1800 m) as the previous or may be at times lower. However, it has lower rainfall of about 500-1000 mm. This is typically represented in surroundings of

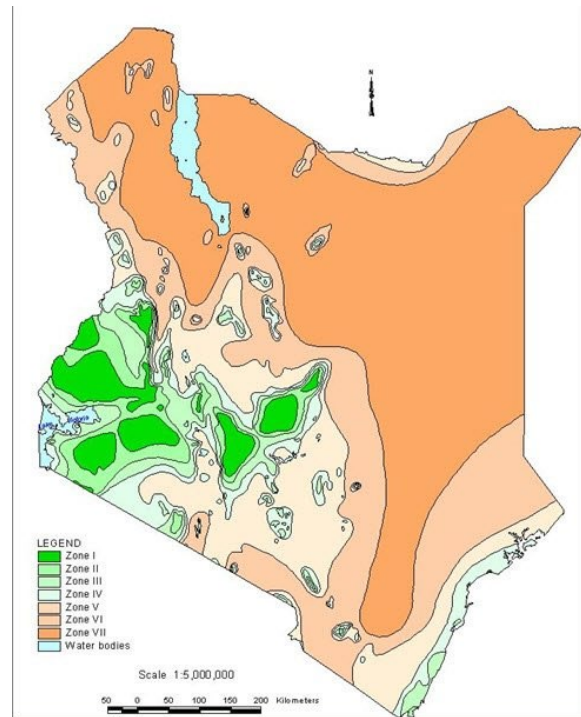


Figure 4. Kenya's Agro-ecological zones

⁷ FAO (1996). Agro-ecological Zoning Guidelines. FAO Soils Bulletin 73. Rom. www.fao.org

Naivasha, vast parts of Laikipia and Machakos districts vast parts of central and southern Coast Province. It is the home of most Acacia trees and shrubs including *Acacia seyal*, *Acacia Senegal*, *Acacia brevispica*, *Acacia drepanolobium* and *Acacia gerrardii*. Euphobia trees occur in some drier parts of this zone. *Combretum* and *Terchonanthus spp.* are also common here. Grasses found include *Themeda triandra*, *Pennisetum mezianum*, *Pennisetum straminium*, *Pennisetum massaiense*, *Eragrostis spp.*, *Hyperenia spp.* *Seteria spp.*, *Digitaria spp.*, *Bothriochloa insculpta*, *Cenchrus ciliaris*. Rare grasses include *Chloris spp.* and *Cynodon spp.* Besides acacia, other important legumes include Indigoferra and Crotonaria.

Zone V – Arid Zone: This zone is much drier than Zone IV and occurs at lower elevations. Annual rainfall is 300-600. This Zone is prevalent in northern Baringo, Turkana, lower Makueni and vast parts of North Eastern region. Low trees and shrubs found here include *Acacia mellifera*, *Acacia tortilis*, *Acacia horrida*, *Acacia reficiens*, *Acacia nubica*, *Acaia paslii*, *Acacia Zanzibarica*, *Adansonia digitata*, *Terminalia prunioides*, *Dobea spp.*, *Dioppsyros spp.* and *Commiphora spp.* Common grasses are *Eragrostis superba*, *Cenchrus ciliaris*, *Cymbopogon spp.*, *Bothriochloa spp.* and *Heteropogon contortus*.

Zone VI – Very Arid Zone: This zone covers about 112,000 km² and also covers about 19.8 percent of the Country’s landmass. This zone is considered as semi desert and is the driest part of Kenya. Annual rainfall is 200-400 mm and is quite unreliable. The zone is found in Marsabit, Turkana, Mandera and Wajir counties. Dominant in this zone are Acacia and Commiphora shrubs with scattered taller trees of *Delonix elata*, *Acacia tortilis* and *Adansonia digitata*. *Balanites egyptica*, *Boscia coriacea*, *Salvadora persica*, *Acacia mellifera* and *Acacia reficiens* are important shrubs or low tree species. The very common and important dwarf shrubs are *Indigofera spinosa* and *Sansevieria spp.* Other important shrubs are *Sericocomopsis*, *Barberia* and *Duosperma eromophylum*. Being the most delicate zone both annual and perennial grasses are important here. Important grasses include *Aristida adoensis*, *Stipagrostis hirtigluma* are very characteristic and may occur as annuals or perennials. Other grasses also found here are *Aristida mutabilis*, *Chrysopogon aucheri*, *Tetrapogon spp.*, *Enneapogon cenchroides*, *Chloris roxburghiana*.

4.1.5 Water resources

Table 3 presents the distribution of various water resources in the project area including the water pans, shallow wells, and boreholes.

Table 3: Water resources in the project area include pans, shallow wells and boreholes.

Water Source	Turkana	Marsabit	Wajir	Mandera	Garissa	Total
Shallow wells	531	560	1100	16	25	2232
Boreholes	1267	113	272	69	109	1830
Waterpans	129	220	275	61	95	780
Perennial Rivers	2	0	0	1	1	4

Source: County Integrated Development Plans

4.1.6 Surface hydrology

The ASALs are characterized by low and erratic rainfall, periodic droughts and floods, irregular agricultural productivity and high-water scarcity. The hydrology of ASALs influences water security, environmental sustainability and agricultural production and availability of fish and energy resources (Ondieki, 2018). The influences are pronounced in the tropical environments where land degradation threatens the livelihoods of poor communities. Some of the perennial Rivers include Turkwel, Kerio, Lokichar, Ol Arabel, Tana River, and the upper section of Ewaso Ng'iro. Seasonal Rivers include River Suguta and many forming open lager during dry season (see **Figure 4-2**).

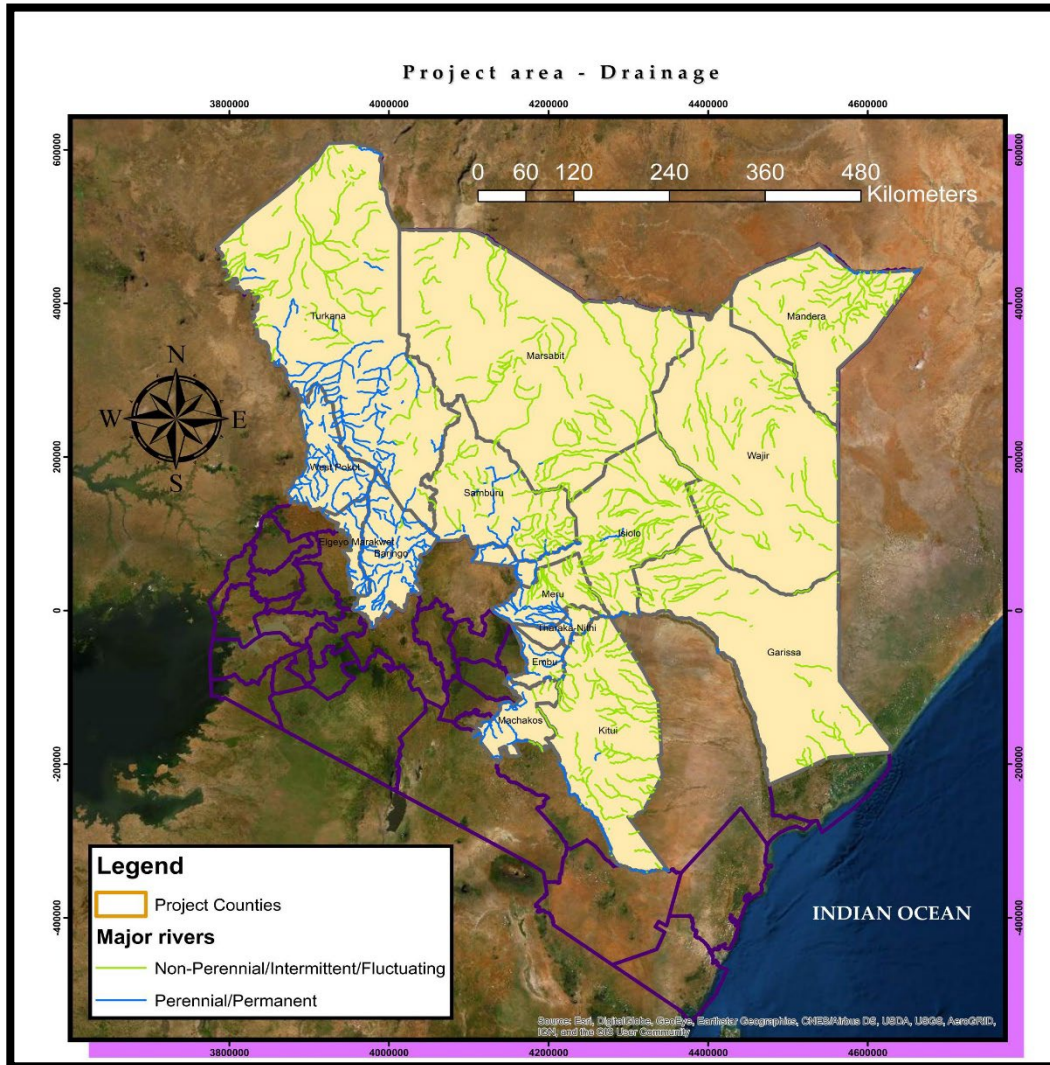


Figure 5: Drainage of the Project Area (Source: ELRP ESMF, 2020)

4.1.7 Vegetation Cover

Acacia and *Commiphora spp* dominate the desert thorn-scrub lands. Grazing is characterized as nomadic and is the primary occupation of the local communities. The low montane forests in the ASALs are dominated by tree species, and in some cases such trees form closed forest vegetations. The main tree species include:

Juniperus procera (cedar), *Podocarpus gracilior*, *Olea africana*, *Olea hochstetteri*, *Lawsonia inermis*, *Combretum molle*, *Casipourea malosana*, *Diospyros abyssinica* and *Teclea simplicifolia*.

The deciduous woodland occurs throughout the ASALs and is dominated by *Acacia tortilis*. Other more notable species include: *Hyphaene ventricosa*, *Salvadora persica*, *Acacia nubica* on the Northwest and northern Kenya and *Commiphora* and *Acacias* in the southern parts. Deciduous and evergreen thorn bush constitute another extensive vegetation cover type. The main species in the north include: *Acacia reficiens*, *Acacia senegal*, *Euphorbia sp.*, *Pappea capensis* and *Combretum molle*. The dominant species of the shrub land vegetation are *Acacia mellifera*, *Acacia senegal*, *Acacia reficiens* and *Acacia tortilis* in the more northerly parts. In the south, *Acacia reficiens* and *Commiphora ssp* are the dominant species (Kigomo N B., 2001). *Acacia* are critical in maintaining the ASAL areas as they provide a highly nutritious source of food for livestock especially during the dry period, their leaves and pods are usually a welcome substitute for grass and other forage during times of drought.

ASALs experience a notable problem of expansion of invasive plant species, which have reduced pasture production on grazing lands and rangelands and continue to cause loss of biodiversity. A couple of species of concern are *Prosopis juliflora* tree (locally known as 'Etirae' in Turkana) – native to South America which was introduced in the ASAL in Kenya in the 1970-80s to help with rehabilitation efforts. *Prosopis* has a very aggressive growth habit - making it very difficult to eradicate after establishment. Currently, *prosopis* covers over 1.5 million ha in 15 ASAL counties in Kenya and continues to expand (FAO, WB & UNHCR, 2018).

4.1.8 Current and projected Climate Change and Variability

Kenya's most vulnerable areas to climate change are the ASALs in the north and east, where both crop and livestock production are expected to suffer increasingly from droughts. In these areas, the population is poor with limited access to infrastructure and markets. According to the ND-GAIN matrix that illustrates the vulnerability to and readiness for climate change, Kenya is the 31st most vulnerable⁸ country and the 37th least ready country – meaning that it is highly vulnerable and very unprepared to combat climate change effects. Current climate change projections confirm this vulnerability with predictions that the temperature will rise by 2.5°C between 2000 and 2050, while rainfall will become more intense and less predictable. Increases in frequency of droughts will pose major challenges to food security and water availability, especially in Kenya's ASALs while the other parts of the country, especially the Rift Valley province, will also be vulnerable to climate change due to increasing extreme events like droughts, floods, and landslides while glacier melt will further reduce future water availability. The coastal areas will suffer from rising sea levels and associated floods and saltwater intrusion (Ministry of Foreign Affairs of the Netherlands, 2018).

Current climate trends for Kenya show that the long-wet season (October to December) rains across the Country have become unreliable and significantly reduced, sometimes inadequate for rangeland and crop production especially in the eastern part of the country. The number of rainy days have reduced by almost half from 60 to 30, become more intense and the season extended into January and February increasing the cumulative amounts for this season. There has been an increase across the country in rainfall intensity particularly in the coastal area while in west-central Kenya, the areas used to receive 500 mm of rain or more but this has shrunk since 1960 and is projected to continue diminishing over the next 30 years (Ministry of Foreign Affairs of the Netherlands, 2018). Meanwhile mean annual temperatures have increased at a rate of 0.34°C per decade over the last 30 years. There has been an increase in extreme climate events such as

⁸ The ND-GAIN Matrix illustrates the comparative resilience of countries. <https://gain-new.crc.nd.edu/country/kenya>

droughts and floods. In 2021 Kenya was ranked sixth worldwide in terms of population affected by natural disasters and most affected among East African countries, it was ranked 7th by number of victims caused by disasters of which half concerned climatological and the other half hydrological events. Major droughts currently occur every decade while moderate droughts or floods every 3 - 4 years with significant impacts on households.

Future projections point to current temperature and rainfall trends as well as the increasing frequency of extreme events. Rainfall forecast projections suggest a likely increase in annual total precipitation ranging from +3% to +41% is likely for 2100. There will be an increase in heavy and intense rainfall events with a decrease in dry spells. Generally, rainfall amounts are projected to increase across the country but will vary according to seasons and locations with the highest variations expected in northern Kenya with up to 40% increase in rains, the long wet season (April – June) is expected to see a decline in about 100mm in cumulative amounts. However, some areas like the highlands and the coast will likely see increases. An increase in rainfall is predicted for the short wet season (October – December) particularly for the Rift Valley⁹.

4.1.9 Climate change Impacts in the water sector

Climate change poses a great challenge to the sustainable growth of the Kenyan economy (IPCC, 2014). It affects several sectors of the economy, which are critical to the livelihood of the communities. Increase in extreme climatic events and climate change has been attributed to several impacts on agriculture, water resource, health and even in the energy sector (Bates et al., 2008; Brown and Funk, 2008; Hartmann et al., 2013). With the rising demand for water due to population increase, climate change poses a great threat to water availability in Kenya. Rainfall variability creates significant implications for hydrology and water resources. Future changes in precipitation will increase the threat to the availability of water for human activities (MacDonald et al., 2009). It is projected that the mean annual temperature is expected to increase by 1.0°C to 2.8°C by 2060 while annual rainfall is expected to consistently increase with the largest increases expected in October, November and December (-3 to +49 mm per month), and in March, April and May¹⁰. The likelihood of the high variability of rainfall over Kenya will affect water resources while the rising temperature will increase water scarcity especially in arid and semi-arid regions by increasing the energy available for evaporation and by altering the precipitation patterns. This will likely be manifested through flooding, drought, low river discharge, rising sea level, poor water quality in surface and groundwater systems, receding water bodies and landslide (Obaigwa S P., 2019).

Drought and its impacts in Kenya

Drought is considered one of the single most important natural hazards in Kenya. It affects livelihoods causing hunger, nutrition-related diseases, and even death. Droughts lead to a decline in food production, affect the migratory patterns of pastoralists, exacerbate resource-based conflict, and cause substantial loss of assets, triggering acute food insecurity among vulnerable households and placing a heavy strain on both the local and national economies. Sectors like livestock are usually the hardest hit of which most communities in the ASALs derive their income from. Droughts have significant social impacts – on gender roles, on young people’s prospects (when children are withdrawn from school, for example), on customary support systems, on the incidence of conflict, and on inequality (since the poorest have least capacity to recover, leading to a downward spiral of vulnerability). While climate variability is a normal characteristic of dryland ecosystems,

⁹ Climate Change Profile: Kenya. 2018. Ministry of Foreign Affairs of the Netherlands.

¹⁰ World bank Group. Climate Change Knowledge Portal.

<https://climateknowledgeportal.worldbank.org/country/kenya/climate-data-projections>

it will become more pronounced and unpredictable with climate change. Between 1975 and 2021 there were at least twelve serious droughts, three of them in the last ten years (2010-11, 2016-17 and 2021). The number of people affected by repeated drought emergencies appears to be rising even though increasing population in these areas is a factor, the rise in these numbers is attributable to the deepening vulnerability of drought-affected populations, or to the growing severity of drought conditions. According to the inter-agency Kenya Food Security Steering Group (KFSSG) in August 2021¹¹, an estimated 2.1 million people were food insecure in the ASAL areas and in need of humanitarian assistance. Vulnerability to drought is also influenced by social systems¹² and by cultural values and practices which play a major role in determining the access, ownership and control over resources and the associated benefits.

4.2 SOCIAL ECONOMIC BASELINE

4.2.1 Demographics

Kenya's current population in 2021 is 54,985,698, a 2.26% increase from 2020 while the current population density is 94.74 people per square kilometer¹³. Kenya's rapid population growth continues against the backdrop of relatively high fertility and mortality rates. The urban population in 2020 was 15,053,275, while the rural population was 38,718,025, having increased by 4.09% and 1.59% respectively from 2019. The current life expectancy for Kenya stands at 66.95 years while the current fertility rate is 3.363 births per woman while the current birth rate is 27.976 births per 1000 people, a decline of 1.1% and 1.55%, respectively from 2020. The current death rate is 0.54 percent a 0.6 percent decrease from 2020¹⁴.

4.2.2 Kenya's economy and poverty levels

Around 35.5% of Kenya's population is living below the poverty line, reported in 2016. This means basically that more than one-third of the entire country is living on less than the U.S. \$1.90 per day¹⁵. Although Kenya still has a low standard of living in the global picture with a Human Development Index of .601, there has been significant progress made in the past 15 years. Kenya's poverty rate declined from 46.8% in 2006 to 36.1% in 2016 due to annual GDP growth rates of 5.3% higher than other sub-Saharan African countries. These high growth rates reflect an increase in non-agricultural income aided by innovations in mobile banking, tele-communications, and financial technology services.

The ASALs have the lowest development indicators and the highest incidence of poverty in the country. On average, 65% of the ASAL population lives below the poverty line compared to the national average of 36%. ASALs account for 18 of the 20 poorest constituencies in Kenya; some counties in the north, such as Turkana, Marsabit, Wajir and Mandera, have between 74% and 97% of people living below the absolute poverty line (Report on Richest and Poorest Counties out - Business Daily, 2019). The economic activities found in dry lands are not recognized for their true value and do not attract outside investment, thereby further undermining their productivity. Poverty in the dry lands is compounded by poor physical infrastructure, limited access to services compared to the rest of the country, and lack of organized markets including lack

¹¹ 2021 Long Rains Food and Nutrition Security Assessment Report, 2021, Kenya Food Security Steering Group.

¹² Sector Plan for Drought Risk management and Ending Drought Emergencies. Second Medium-term Plan. Government of Kenya, 2013.

¹³ Kenya Population Growth Rate 1950-2021 (accessed on 17th November 2021 from [macrotrends.net](https://www.macrotrends.net))

¹⁴ <https://www.macrotrends.net/countries/KEN/kenya/population>.

¹⁵ Kenya Economic Report, KIPPRA, 2020.

of market information. The poverty situation is worsened by inter-community conflict over water and rich-patch vegetation, problems that are likely to become more serious with the negative impacts of climate change.

4.2.3 Education

In Kenya’s ASALs the education status is very low, and this can be attributed to them being on the insecure borders with neighbouring states, having very low levels of state justice, policing, health care, education and investment¹⁶. The schools do not have enough resources nor teachers and struggle to deliver on the basic curriculum and are often not well supported by local communities and are usually forced to close during times of conflict, drought or an interruption of school feeding programmes (UNICEF, 2015). Enrolment levels are low, ranging from net enrolment of 27.2 per cent of primary-school-age children in Wajir to 65.7 per cent in Marsabit, according to MOEST statistics for 2014. At the secondary level, net enrolment is almost the lowest in Kenya: 8.7 per cent of secondary-school-age children in Turkana to 12.9 per cent in Marsabit¹⁷. with Teacher pupil ratios are below other areas of the country, and completion rates and performance are way below national averages. Large numbers of youth who have been through the education system are now disconnected from their traditional livelihoods and do not have the right skills to find employment, which has left them vulnerable to crime and extremist influence. Government’s investments in the education sector in these areas remains limited with many of the mechanisms designed to reach ASAL children, such as distance learning and non-formal provision, yet to be implemented or other like mobile schools, feeder schools, low-cost boarding schools and adult literacy classes remain under-resourced and under-supervised¹⁸.

There is currently a mixture of day schools, private provision, and low-cost boarding schools, mainly in urban areas. These schools do not have adequate infrastructure like beds, mattresses, clean drinking water and classrooms. They are also inadequately equipped, have low capitation (8 ksh per day per child for food), lack qualified support staff, face teacher shortages, and the education boards have limited capacity to undertake oversight functions. Inadequate safety and security are also major constraints to the functioning of these entities.

In the HoAGW4RP counties in Kenya the enrolment rates in schools are relatively low compared to other counties especially at secondary school level. The net enrolment rates for the project counties are presented in the table below.

Table 4: The Net Enrolment Rate in Basic Education in 2018

County	ECDE	Primary	Secondary
Turkana	82%	69%	9%
Marsabit	51%	66%	13%
Wajir	24%	27%	9%
Mandera	19%	25%	7%
Garissa	66%	58%	2%
Best County in Kenya	(Isiolo =98%)	(Kisii = 99%)	(Kirinyaga=93%)

¹⁶ A Study of Education and Resilience in Kenya’s Arid and Semi-Arid Lands, UNICEF, 2015

¹⁷ Republic of Kenya (2015). 2014 Basic Education Statistical Booklet. Ministry of Education, Science and Technology. Nairobi, Unicef

¹⁸ Framework for Improved Integrated Education in the Arid and Semi-Arid Lands of Kenya, DLCI, 2015.

Source: KNBS (2020) Inequality Trends and Diagnostics in Kenya 2020: A Joint Report of KNBS on Multidimensional Inequality. Nairobi: KNBS, Page 76

Non-formal education

Though still operational in some ASALs, they face many constraints like inadequate funding and supervision; and lack of support by the community due to the poor quality of education provided. There is a variety of non-formal education provision in the ASALs, mainly by NGOs and religious institutions including shepherd schools and *duksis*. There is however a need for support by the Government to those that are making good progress.

Adult literacy and Vocational training

With literacy rates so low in ASALs, particularly for women in rural areas, there is an urgent need to increase adult literacy and numeracy in ways that are culturally appropriate and take into account women's time availability and preferences. Vocational training for the practical skills required and in-demand in the ASALs should be prioritised to provide the necessary skills for economic development and promote employment prospects for school leavers and in these areas. For example, training in the areas of animal health, health, education, local governance, and in the emerging mineral and infrastructure sectors will be relevant and lead to absorption into the job market. Marketing and business skills should be prioritised and linked to the governments' youth and women's credit, start-up finance and work placement schemes to help cushion the many people who will venture into self-employment.

4.2.4 Gender

In pastoral communities, like other parts of the country, the roles, responsibilities and activities of women and men are distinct yet inter-dependent. Men dominate the public sphere, in areas of leadership, decision-making and politics. Even though, women and men may have equal access to productive resources including land, water, livestock and wildlife, the control of and benefits from these resources remains with men. Though livestock ownership and control is mainly the domain of men, women also own livestock through marriage or inheritance. While men's work is more associated with herd management and decision-making, the gender division of Labour is not clear cut, as women are often involved in decision-making related to livestock and spend as much time as men on animal care. Women are responsible for milking, food processing and distribution, managing small stock, and for daily food provisioning in the homestead. Men's responsibilities include planning and decision-making about livestock movement, feeding and watering, castration, vaccination, slaughter, building of enclosures, digging wells and livestock marketing. Young men and women as well as children perform most of the herding.

To a large degree, it is men who control the income from livestock and its products, although women have a say in how the income is spent. Conflicts over the use of income are one of the factors for the high level of divorce in the ASAL and contribute to women's poverty. Access to social services is very poor, coupled with the low per capita infrastructure network in the ASAL compared to other parts of the country (IUCN, 2007; Elhadi et al., 2015). Gender roles are changing under the impact of urbanization and commercialization. The latter may reduce women's control over resources they previously managed, such as dairy production. The welfare of women and girls is also directly threatened by environmental problems, which increase the pressures of providing for the household, particularly water and fuel-wood collection. High levels of unemployment and few opportunities to generate income mean youth, especially young men, are challenging traditional power and decision-making systems, which have previously resided with elderly men.

Some of these young men have been involved in inter and intracommunity cattle raids; others are getting caught up in other social vices.

Gender-based violence is rooted in unequal power relations - social, economic, cultural, and political between males and females. It takes many forms, and can include physical, emotional, or sexual abuse. While both males and females can suffer from GBV, studies show that women, young women, and children of both sexes are most often the victims.¹⁹ The most pervasive form of GBV is violence committed against a woman by her intimate partner. In Kenya, the forms of GBV vary across traditions/cultures, economic backgrounds and regions, some of the common GBV in Northern Kenya include:

- i. Sexual violence, in forms such as sexual exploitation/abuse and forced prostitution;
- ii. Domestic violence;
- iii. Trafficking;
- iv. Forced/early marriages,
- v. Intimate partner violence,
- vi. Rape; and
- vii. Harmful traditional practices such as female genital mutilation (FGM), family disputes and widow inheritance.

Sexual and Gender Based Violence in Kenya has its roots in ‘a historical and cultural context of traditional patriarchal domination, colonial rule and attendant introduction of new economic and social structures that disrupted kinship relations. GBV/SEA cases are increasing in diversity and magnitude across the country. The lack of support for survivors emboldens perpetrators (Njeri & Ogola, 2014).

Table 4: Gender analysis table

Roles and responsibilities	Division of labour amongst men, women, boys and girls. They include: productive, reproductive and community roles
Capacities and vulnerabilities	Capacity refers to the ability of men, women, boys and girls to manage and cope with their affairs successfully. Vulnerability refers to the diminished capacity of an individual or group to anticipate, cope with, resist and recover from the impact of a natural or man-made hazard.
Access to and control over assets, resources, benefits and services	Understand social relations between men and women at household, group and community level; markets, control of products, sales, (use of) income, decision-making both in private and public domains; the extent and nature of participation in public domain, formal and informal groups, activities.
Different needs, priorities and perceptions.	Men, women, boys and girls have different practical and strategic needs; priorities at the individual, household and community levels; perceptions of risks, benefits and constraints Experience and views on delivery systems: choice of technology, location, and cost of services, systems of operation, management and maintenance.

4.2.5 Health and Nutrition

Many children are affected by poor development and iodine, iron and Vitamin A deficiencies. The major drivers of the poor nutrition in Kenya include low food access, poor dietary intake, high morbidity, disease outbreaks, poor delivery of health and nutrition services, insecurity, poor child and maternal care practices and poverty. In Kenya, where out of a total under-5 population of 7 million, 1.82 million children (26 percent)

¹⁹ Addressing the links between gender-based violence and HIV in the Great Lakes region, Country report: Kenya (2013). Mary Amuyunzu Nyamongo, PhD.

are suffering from chronic malnutrition (stunting or low height-for-age)²⁰. In addition, although malnutrition indicators are improving, it is estimated that from 2010–2030 undernutrition will cost Kenya approximately US\$38.3 billion in GDP due to losses in workforce productivity²¹. Health indicators in Northern Kenya are very poor, particularly for women and children, with high maternal, infant and child mortality, high levels of acute malnutrition, and low immunization coverage. The average distance to a health facility in Northern Kenya is 52 km, ten times further than the national target of 5 km; the percentage of children delivered with trained care in ASAL is less than one-third of the national average; there are also significant differentials between the arid and non-arid parts of Rift Valley and Eastern regions of Kenya. ASALs of Kenya is also characterized by a high prevalence of trachoma and diseases such as kalazar. Levels of HIV/AIDS infection in the north are lower than the national level but thought to be rising. Risk factors include rural-urban migration, mobility, and congested refugee camps (GoK, 2012). Most communities have both formal and informal social protection systems to care for the vulnerable, although these are coming under greater pressure; PWDs and those with HIV/AIDS still face high levels of stigma.

4.2.6 Labor and Employment

Employment in Kenya is categorized into three sectors namely: formal (modern); informal - which includes those employed in the household sector; and small-scale agriculture and pastoralist activities. According to KNBS, total employment excluding those engaged in small-scale farming and pastoralist activities, is estimated to have increased from 17.3 million in 2018 to 18.1 million in 2019. Out of this total number, 70.5% are employed by the private sector with the lead industries providing wage employment being manufacturing; agriculture, forestry and fishing; and wholesale and retail trade and repair of motor vehicles. The public sector accounts for the remaining 29.5 percent with the major activities in this industry being education; public administration and defence; and compulsory social security most recently.

Employment growth still trails the GDP growth rate and the total employment growth revealed a downward trend between 2014 and 2019. The greatest decline was witnessed in formal employment from a 5.8 per cent growth in 2014 to 2.6 per cent in 2019 attributed to a freeze in formal employment by the Government in 2015 to cut on the public sector wage bill and restricted employment to only essential services such as health, education and security. The largest employer is agriculture (57.5%), followed by the service sector (35.0%) and the least being the industry sector (7.8%). The education sector is responsible for the largest share of wage employment at 20.4% followed by agriculture at 12.2% and the manufacturing sector at 11.1%. The sectors that employ the most women are education, public administration and health while the manufacturing, transport, construction and trade sectors tend to have more male employees.

According to statistics from the KNBS and a study by KIPPRA (2020), unemployment is more acute among the youth and stood at 10.8% compared to the non-youth at 2.5% and was high to 5.3% for male. Therefore, unemployment among the youth and women is higher than the overall unemployment rate of 7.4%. In addition, significant disparities exist in urban and rural areas where it is 11.6% in urban areas compared to 3.4% in rural areas. In the ASALs, a big percentage of the population remains unskilled and works in farms, quarry sites, in family-run businesses while the self-employed are mostly in the livestock, agriculture and trade sub sectors.

²⁰ Kenya National Bureau of Statistics, Ministry of Health, National AIDS Control Council, Kenya Medical Research Institute, National Council for Population and Development and ICF International. 2015. Kenya Demographic and Health Survey 2014. Nairobi, Kenya and Rockville, MD: KNBS and The DHS Program/ICF International.

²¹ USAID. 2017a. "Country Profile: Kenya."

Table 5: Labour force availability and unemployment rates in the ASALs

	Turkana	Marsabit	Wajir	Mandera	Garissa
Labor force (as a percent of the total population)	49.34	49.1	32%	36%	35%
Unemployment rate	70%	65%	63%	69%	28.4

4.2.7 Land Tenure and Land Use

There are three systems of land occupancy in Kenya. These are: individual (freehold), communal (customary, previously as trust lands), and public (leasehold). Individual title confers security of tenure by registering the absolute rights of ownership to the holders. This can encourage investment on land, make farmers more credit-worthy, create a land market, minimize land disputes, and promote intensification of agriculture. Communal land tenure is found mainly in the ASALs, although there are still some remnants of it in the high to medium potential lands. Public (leasehold) tenure system confers right of occupation and use for a given period, usually 99 years, and is generally subject to conditions of use and payment of rent. Both freehold and leasehold tenure systems mainly apply to urban, and to high and medium potential lands, though many private (individual or company) and group ranches have secure freehold rights in some dry lands. Another form of public tenure is vested in Government for such uses as state farms and ranches, national parks and reserves of various types, and gazetted forests.

The total surface area of Kenya is about 580,367km², out of which the land area is about 569,150 km² and the remainder is under water. Only about 16% of the land area is high and medium potential, while 84% is classified as ASAL. The high and medium potential lands are dominated by crop and dairy farming, both of which occupy 31% and 30%, respectively, of the land area. The remaining land is devoted to forest (22%), parks (12%) and urban development, homesteads, and infrastructure (5%). The major economic activity in the ASAL is nomadic pastoralism, which occupies about 50% of the ASAL landmass, while ranching and other forms of livestock keeping utilize 31% and the remaining 19% can support some agriculture, including agro pastoralism. There are very few incidences of landlessness because the land is mostly community owned.

In the ASALs, the land is mostly community owned in the rural areas where it is used for pastoralism but subdivided and individually owned in the urban areas with about 1-2% of the population holding title deeds²². Land is recognized as a commodity for trade and a means of livelihood. Mean holding size is about 0.4 – 4 hectares apart from Wajir where it is up to 7.8 hectares. Arable land along rivers in some of the project counties is divided into parcels and used for agriculture (in Garissa along the River Tana, in Mandera along the River Daua). The rest of the land is largely used communally for pastoral production. Majority of the local communities live in informal settlements in urban centres where infrastructure is well developed and accessible while in the rural areas, the settlement patterns are highly dispersed and scattered, primarily influenced by access to water, land productivity, proximity to roads and other services like security.

²² CIDP (2018). County Integrated Development Plan(s) 2018 - 2022. County Government (s), Kenya

4.2.8 Cultural Heritage

Cultural heritage in its many manifestations is important as a source of valuable scientific and historical information. It is both an economic and a social asset for development and an integral part of people’s cultural identity and practice. The Environment and Social Standard (ESS8) for the WB sets out general provisions on risks and impacts to cultural heritage from project activities.

The National Museums and Heritage Act Chapter 216 (revised 2012), defines “**cultural heritage**” as: (a) monuments; (b) architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of universal value from the point of view of history, art or science; (c) groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding value from the point of view of history, art or science; (d) works of humanity or the combined works of nature and humanity, and areas including archaeological sites which are of outstanding value from the historical, aesthetic, ethnological or anthropological point of view, and includes objects of archaeological or palaeontological interest, objects of historical interest and protected objects. The project will need to identify and protect these items based on the provisions provided in ESS8.

4.2.9 Security and Conflict

People living in the ASALs face significant challenges related to security and their livelihoods. The ASALs are characterized by a scarcity of water and pasture and mostly, conflicts revolve around livestock, divergent modes of livelihoods and cultural identity. For the counties bordering Somalia, terrorist activities perpetrated by Al Shabaab are a constant source of insecurity. Conflicts result in displacement of populations, loss of lives and increase of widows and orphans, hence increased poverty. Women are most affected and are in the end unable to maintain their livelihoods, making the lives of their children even more precarious and uncertain. Drought normally worsens conflicts, as it affects agricultural practices, social factors that intensify the effects of diminished rainfall, land use, drives migration and increases competition for forage and water resources which normally occurs during the lean seasons that occur in January to February and July through September (KFSSG, 2010). Households lose their livestock, and access to markets and grazing and watering areas for livestock is normally restricted constraining their livelihood activities.

The map below shows incidents and fatalities in the last 2 years, based on ACLED data.

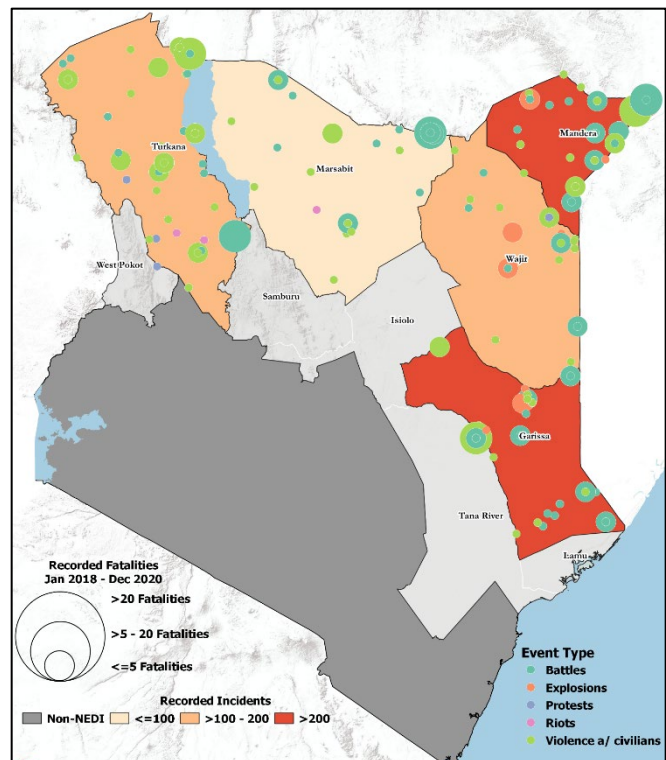


Figure 6. Recorded security incidents from January 2018 – December 2020

4.2.10 Vulnerability and Social Exclusion

Due to their socio-economic position in society, some individuals and groups, are more vulnerable than others to the negative consequences of economic, political, and social trends, cyclical changes or 'shocks'. Generally, women, children, the unemployed, households and communities with limited assets are least able to cope with the effects of a negative development impacts. Specifically targeted efforts should be made to enhance the participation and access to project benefits for these types of groups of people in the project sites. Free, Prior and Informed Consultation (FPIC) is the best way to ensure inclusion and mitigate vulnerability of certain social groups who are faced with social exclusion and vulnerability.

4.2.11 Youth as a Vulnerable Group

In some communities and especially in ASALs the youth have limited access to productive resources such as livestock because it takes time to accumulate through inter-generational transfer. Majority of them are therefore vulnerable to negative project impacts and risks such as exclusion. Development projects should thus involve the youth in development activities through capacity building and other targeted interventions to enable them benefit from projects.

4.3 4.3 SOCIO ECONOMIC STATUS AND LIVELIHOOD

The economy of ASALs is dominated by nomadic pastoralism, while in the well-watered and better-serviced semi-arid areas a more mixed economy prevails; supported by rain-fed and irrigated agriculture, agro-pastoralism, small-scale businesses based on dry land products, and conservation/tourism related activities. The ecology of semi-arid areas allows for the intensification of production in a way that the ecology of arid areas does not²³. Other groups within the selected Counties depend on fishing, hunting, and gathering for their subsistence. Meanwhile, towns across ASALs are growing, creating an urbanized population with different needs and aspirations.

4.3.1 Pastoralism

Around 60% of the population in North-Eastern and Eastern regions rely on livestock for living, although increasingly transhumance rather than nomadism is practiced and livestock owners employ herders for their cattle or men travel without their older wives and children²⁴. Pastoralists use water management as a means to manage the wider rangelands, aware that access to and availability of water affects who and how many have access to surrounding pasture and grazing areas. At the same time, some pastoralist-led water developments have been shown to hinder pastoral livelihoods. The negative consequences of birkado for rangeland health and pastoral mobility were observed when people began to permanently settle in wet season grazing areas, using the rangelands year-round in areas formerly allowed to rest and regenerate for parts of the year. The concentration of livestock in limited areas also made herds more vulnerable to disease..²⁵Traditionally range and water was regulated by sophisticated governance systems within pastoral

²³ K.O. Farah et al, 1996: The Management and Development of the Arid Communal Rangelands in North-Eastern Kenya: A Critical Analysis of the Past and Present, The African Pastoral Forum Working Paper Series No. 7

²⁴ 'Counting Pastoralists' Determining the magnitude of the pastoralist sector in Kenya By Saverio Krätli and Jeremy Swift, 1 April 2014, <https://www.dlci-hoa.org/assets/upload/studies-and-reviews/counting-pastoralists-in-kenya-FINAL-30-April-2014.pdf>

²⁵ <https://www.dlci-hoa.org/assets/upload/key-resilience-and-climate-change/20200804020626826.pdf>

societies²⁶, however with increasing settlement and undermining of traditional systems, there have reduced influence.

4.4 County Specific Environmental and Social Baseline of the Targeted Counties

County Specific Environmental and social baseline information for the four targeted counties is presented on Table 5-1: The information is based on the County Integrated Development Plans²⁷ and Kenya Housing and Population Census, 2019.

Table 6: Counties' Baseline Information

County Baseline Information / Description of the Baseline information		VMG (ESS7)
Mandera		
Size and Population	Its capital and largest town is Mandera . The county is bordered by Ethiopia to the north, by Somalia to the east and by Wajir County to the southwest. According to the 2019 census, the county has a population of 867,457 of which 434,976 are males, 432,444 females and 37 intersex persons. There are 125,763 households with an average household size of 6.9 persons per household and a population density 33 people per square kilometer. The county occupies an area of 25,939.8 km ² .	Somali, Garre, Degodia
Landscape	The county mostly consists of rocky hills, located on a plain that rises from 400m in altitude near El Wak , to 970m near the Ethiopian border. The seasonal Dawa River (also 'Daua River') forms the border between Mandera County and Ethiopia, for about 150km from the northern most point of the county up to the Somali border . The river's flood plains are used for cultivating crops. Most of the county has a semi-arid climate.	
Economic Activity	The main economic activity is pastoralism. Other activities include cross-border trade with Ethiopia, artisanal mining, beekeeping and agriculture along the Dawa River .	
Climate Change Effects	Mandera County has a climate change vulnerability index of 0.3691. The county is characterized by high poverty levels (89%) and food insecurity, with 36% of children below the age of five being stunted, and a high dependence on food relief for both humans and livestock. These are largely attributed to the harsh climate and historical insecurity in the county. The main wildlife conservation area is Malkamari National Park that is a home to most of the wildlife population in Mandera County. Mandera has 5 gazetted forests and 2 non-gazetted forests.	
Social Issues and Conflicts	Clan conflicts between the Garre and Murule groups in Mandera County are fueled by competition over scarce natural resources, administrative and electoral border issues, political competition, business rivalry, and proliferation of small arms (Rohwerder B, 2015).	
Marsabit		
Size and Population	The County covers a surface area of 66,923,1 km ² . Marsabit is the largest county in Kenya. Its capital is Marsabit town and its largest town Moyale . According to the 2019 census, the county has a population of 459,785 of which 243,548 are males, 216,219 females and 18 intersex persons. There are 77,495 households with an average household size of 5.8 persons per household and a population density six people per square kilometer. It is bordered to the north by Ethiopia , to the west by Turkana County to the south by Samburu County and Isiolo County , and to the east by Wajir County .	Gabbra, Turkana, Burji, Sakuye
Landscape	The county constitutes an extensive plain at an altitude between 300m and 900m above sea level. The most notable topographical features of the county are Ol Donyo Ranges (2,066m above sea level) in	

²⁶ WISP, 2008: Policies that Work for Pastoral Environments.

²⁷ CIDP (2013). County Integrated Development Plan(s). County Government (s), Kenya.

County Baseline Information / Description of the Baseline information		VMG (ESS7)
	the southwest, Mt. Marsabit (1,865m) in the central part of the county, Hurri Hills (1,685m) in the north-eastern part of the county, Mt. Kulal (2,235m) in the northwest and the mountains around Sololo-Moyale escarpment (up to 1,400m) in the northeast. The main physical feature is the Chalbi Desert which forms a large depression covering an area of 948 km ² , lying between 435 and 500m altitude.	
Economic Activity	Economic activities include agriculture (main cash crops are vegetables and fruits, maize, teff, beans and millet), livestock rearing (goats, sheep, cattle, camels, donkeys and chickens) and beekeeping. The main livestock products are milk, beef, mutton and camel meat. There are no registered group or company ranches. However, different communities have their own grazing areas. This contributes to resource-based conflicts especially during periods of drought when communities compete for grazing fields.	
Climate Change Effects	Climate change has affected the county's bimodal rainfall pattern making it difficult to predict the onset of the short or the long rains. This has affected farming activities regarding land preparation and has impacted negatively on agricultural productivity. Water resources have also been affected as many springs located in forests such as Marsabit National Park and Mt. Marsabit tropical rainforest which are protected areas are drying up. Other forests include Mt. Kulal and Hurri Hills that are unprotected areas. Prolonged and recurrent droughts have also led to reduced forage, degradation of the environment and an increase in destitution. The 2006-2009 droughts caused devastation to the livestock sector. Marsabit also boasts a number of protected areas such as Marsabit Game Park, South Island Game Reserve, Sibilo Game Reserve, Losai Game Reserve.	
Social Issues and Conflicts	Marsabit County has experienced a wave of violent conflicts, mainly between the Gabra and Borana communities. A combination of neglect, suspicion, prejudice and remoteness is associated with residents living in Marsabit County as well as other frontier counties in Kenya. Exacerbating this situation is environmental stress, with pressure on natural resources giving rise to new conflicts over water and pasture, as well as poorly defined boundaries between communities, with previously experienced shifting boundaries have affected Marsabit's stability and longer-term peace. ²⁸	
Wajir		
Size and Population	Its capital and largest town is Wajir . The county has a population of 1,201,007 and an area of 55,840.6 km ² . The county is bordered to the north by Ethiopia , to the northeast by Mandera County , to the east by Somalia , to the south by Garissa County , to the west by Isiolo County and to the northwest by Marsabit County .	Somali, Sanye, Ajuuran
Landscape	The county consists of a featureless plain that rises from around 150m above sea level in the south and east up to 400m in the north.	
Economic Activity	The County is the livestock capital of Kenya. It is home to the largest camel herd population in the country and a newly installed ultra-modern abattoir with a capacity to process 1,500 cattle per day. The county possesses abundant natural resources that include but are not limited to: long periods of sunshine (for solar power generation); high wind speeds (for wind power generation); and a variety of other resources such as limestone, petroleum, precious stones, wildlife, gum and resin. The county also possesses a reservoir of both skilled and unskilled human capital crucial for business and development. There are no game reserves or game parks in the county. However, the KWS is ensuring safety and protection of the wildlife in their current habitation outside any protected area. The county has no gazetted forest. However, most of the forest cover is comprised of woody trees and shrubs used for grazing camels, goats and wildlife.	
Climate Change Effects	Wajir County is highly dependent on agricultural production that is rain-fed and therefore highly vulnerable to climate variability and change. Rising temperatures and changing rainfall patterns result in increased frequency and intensity of extreme weather events such as droughts and flooding. These in turn adversely affect livelihoods and destroy infrastructure thereby hindering the county's development.	

²⁸ Saferworld briefing: Marsabit County conflict analysis June 19, 2015.

County Baseline Information / Description of the Baseline information		VMG (ESS7)
Social Issues and Conflicts	Clan conflicts between the Degodia and Ajuuran groups in Wajir County are fueled by competition over scarce natural resources, administrative and electoral border issues, political competition, business rivalry, and proliferation of small arms (Rohwerder B, 2015).	
Turkana		
Size and Population	The county occupies an area of 77,000 km ² . According to the 2019 census, Turkana County has a population of 926,976. With its capital situated in Lodwar, Turkana County is the second largest county, covering more than 13% of Kenya's surface. This vast land in the northwest of Kenya is an emerging economic giant owing to substantial oil deposits that are currently being explored. Industrial scale extraction is anticipated in the coming years– a windfall for a county with a population of about 1 million people.	Turkana, and Elmolo
Landscape	Turkana county lies at an elevation of 360m (1,181ft) while the surrounding basin is anywhere from 375-914m (1,230-3,000ft). The main mountain ranges of the county are Loima, Lorengippi, Mogila, Songot, Kalapata, Loriu, Kailong'kol and Silale mountains. Due to their high elevation, the mountain ranges are normally green and covered with dense bushes and high woody cover.	
Economic Activity	The Turkana people are traditionally pastoralists, although loss of livestock, increasing population and settlement means that they increasingly rely on unsustainable livelihoods such as charcoal burning. Turkana West has significant number of refugees in the Kakuma and Kalobeyi refugee camps. Turkana County is the home to Kakuma Refugee Camp located on the outskirts of Kakuma town, which is the headquarters for Turkana West Sub-county of Turkana County. Kakuma has two areas of operation; Kakuma Refugee Camp and Kalobeyi Integrated Settlement. Kakuma Camp is divided into four namely: Kakuma 1, 2, 3 and 4 while Kalobeyi Settlement comprises of 3 villages: Village 1, 2 and 3. Kakuma is the host to 219, 901 refugees as at the end of October 2021.	
Climate Change Effects	Rainfall in the county follows an erratic pattern varying significantly both over time and space. The county, however, experiences both short and long rains. The driest months are January, February and September. The long rains season falls between the months of April to July. Short rains occur during the months of October, November and December. The main forest types in Turkana are riverine, mountain, lake-shore, woodland and range-land forests, as well as Prosopis juliflora (invasive) pockets. The areas covered by these forests have not been ascertained since they have not been gazetted. The county has one gazetted forest (Loima Mist Forest) covering 19 739 ha of land. Other non-gazetted forests are Turkwell Riverine Forest, Loriontom-Mountain Forest, Mogila-Mountain Forest, Pelekech-Mountain Forest and Kailongkol Mountain Forest. Protected areas include Sibiloi National Park, South Turkana Game Reserve in the far south and Lotikipi National Game Reserve in the west. The main wildlife found in the county are lions, cheetahs, hyenas, elephants, gazelles, and dikdiks. These are mainly found in the game reserve in Turkana South. There are also hippos, crocodiles, and tilapia fish in addition to the various fish species in the lake. There exists various bird species, key among them the flamingos in Lake Turkana	
Social Issues and Conflicts	The County is prone to famine and cattle rustling due to constant migration by pastoralists from its different parts and from neighbouring Counties in search of pastures for their livestock. Cattle theft is also prevalent during initiation rites of passage when young men may raid other communities for livestock. This has led to a cycle of cattle rustling between the communities in Turkana and neighbouring Counties which has in turn led to committees of elders are set up to resolve conflicts (CRECO, 2012).	
Garissa		

County Baseline Information / Description of the Baseline information		VMG (ESS7)
Size and Population	It is an administrative county in the former north-eastern Province of Kenya. Its capital and largest urban area is Garissa town. The county had a population of 841,353 at the 2019 Census, of which 458,975 are males, 382,344 females and 34 intersex person. There is a total of 141,394 households with an average size of 5.9 persons per household. It has a population density of 19 persons per square kilometer and a land area of about 44,753 km ² (17,279 sq mi). As of 31 August 2016, Garissa County had more than 260,000 Somali refugees in refugee camps at Dadaab. As a result, the County is mostly inhabited by ethnic Somalis.	Jareer, Mushunguli, Gosha, Sanye
Landscape	The county is mostly arid, desert terrain. The Tana River, which rises in Mount Kenya east of Nyeri, flows through the Garissa. The Bour-Algi Giraffe Sanctuary, situated 5 km south of Garissa, is home to endangered wildlife including the Rothschild Giraffe, Gerenuk and other herbivores including Kirk's dik-dik, Lesser Kudu, Warthog and Waterbuck.	
Economic Activity	The main crops grown are maize, green grams, sorghum, rice, cowpeas, bananas, mangoes, pawpaw, water melon, tomatoes, capsicum and onions. The average size of crop fields is 1.5 hectares for small scale farms and 20 hectares for large scale farms. Cattle (Boran), goats (Galla), sheep (black headed Persian) and camel (dromedary one humped) are kept as the main livestock for producing key livestock products, namely meat, milk, hides and skins. Garissa county is the home to The Dadaab refugee complex has a population of 232,903 registered refugees and asylum seekers as at the end of October 2021. Dadaab refugee complex consists of three camps; Dagahaley, Ifo and Hagadera. The first two are located in Lagdera (Dadaab) Sub-county while Hagadera is located in the neighbouring Fafi Sub-county.	
Climate Change Effects	The county is impacted by climate change mainly through increased periods of drought, erratic rainfalls, and an increase in temperatures. The county has the following game parks, reserves, conservancies and game ranches: Garissa Giraffe sanctuary, Ishaqbin Community Conservancy, Waso Conservancy, Arawale National Reserve, Rahole National Reserve and Boni National Reserve. There are two non-gazetted indigenous forests in the county, namely Boni and Woodlands.	
Social Issues and Conflicts	Clan conflicts within the Ogaden clans in Garissa County are fuelled by competition over scarce natural resources, administrative and electoral border issues, political competition, business rivalry, and proliferation of small arms (Rohwerder B, 2015). The Dadaab Refugee Camp is in Garissa County. The camp phenomenon escalates the movement of small arms.	

5 POTENTIAL ENVIRONMENTAL AND SOCIAL RISKS, IMPACTS AND MITIGATION MEASURES

5.1 ENVIRONMENTAL AND SOCIAL RISK LEVELS

To determine appropriate risk classification, the Bank considers relevant issues such as: type; location; sensitivity and scope of the project; nature and magnitude of potential E&S risks and impacts; as well as Borrower's (including any other agency responsible of project implementation) capacity and commitment to manage E&S risks and impacts in a manner consistent with the ESSs.

5.2 PROJECT CONSISTING OF MULTIPLE SMALLER SUB PROJECTS

For projects comprising several smaller subprojects under the auspices of a Bank supported project, the WB requirements involve mandatory review of adequacy of local E&S contexts relevant for the subprojects, as well as assessment of the Borrower's capacity to manage the E&S risks and impacts of such subprojects, particularly, Borrower's capacity to: (a) perform subproject screening; (b) ensure necessary expertise for conducting E&S assessment; (c) review findings of E&S assessment for individual subprojects; (d) implement mitigation measures; and (e) monitor E&S impacts during project implementation. If necessary, the project may envisage and plan for measures to strengthen Borrower's capacities.

The Borrower is obliged to carry out appropriate E&S assessment of subprojects and prepare and implement such subprojects as following: (a) High-risk subprojects in compliance with ESSs; and (b) Substantial, moderate and low risk subprojects - in compliance with local legislation and requirements of ESSs which the Bank finds relevant for such subprojects. In case that risk ranking of certain project is increased, the Borrower is obliged to apply relevant ESSs requirements as agreed with the Bank.

5.3 HOAGW4R PROJECT POTENTIAL ENVIRONMENTAL RISKS AND IMPACTS

This section presents the assessment of potential E&S impacts associated with the construction and operation of the project. The section provides potential impact throughout the project phases. The section distinguishes between the impacts associated with generic construction activities that would be the direct responsibility of contractors from sector-specific impacts that would be the responsibility of HOAGW4R. Impacts that are directly related to construction activities would be managed by contractors. The impacts to be managed by the contractor include those related to the construction or management of project related facilities by the contractor, such as offices, storage facilities or guard houses.

The subprojects under Component II of the project will include:

- Drilling of high yielding boreholes;
- Drilling of exploration and monitoring wells;
- Rehabilitation of existing boreholes;
- Expansion of rural water distribution infrastructure
- Construction of nature-based infrastructure solutions for MAR such as sand dams, subsurface dams, water pans/ponds;
- Implementation of sub-catchment Management Plans; and
- Gazettement of aquifer recharge zones.

Under these subprojects, the associated activities will potentially have impacts such as restrictions on access to and or use of land in gazetted areas, generation of soil waste from excavation, noise pollution from vehicles, generators and pumps, increased vehicular traffic, air pollution from exhaust and dust, solid and water waste generation, hazardous waste generation from chemical and oil spillage and battery disposal,

conflict and insecurity due to an influx of labour, vegetation clearance and loss from the project sites, loss of habitat for various flora and fauna, occupational hazards for the workforce working in different areas of the subprojects, increased water abstraction from the aquifer, increased access to water by the local community, insecurity by virtue of being in border counties and prone to terrorist attacks by *Al Shabaab*. For all these impacts, both positive and negative, management measures shall be specified to mitigate the negative impacts and enhance the positive ones in the sub-project specific Environmental and Social Impact Assessments (ESIAs) and Environmental and Social Management Plans (ESMPs) and additional instruments such as Labour Influx management Plans, Waste Management Plans, protocols on storage, handling, and disposal of hazardous materials and Traffic Management Plans.

5.4 SOCIAL RISKS AND IMPACTS

The social risk rating is rated Substantial. Activities under Component 2, which focus on groundwater infrastructure for people and to support livelihoods, could lead to a range of social risks and impacts. There is the potential for exclusion of disadvantaged and vulnerable groups from decision making and project benefits (particularly women, minority groups, PWDs and nomadic pastoralists). In addition, the project will require land to develop water infrastructure, small scale irrigation etc., in locations where land is undergoing registration as community land, has been subject to land grabbing and has a range of claims. Lack of access to an adequate network of water structures that supply water for both livestock and domestic purposes has often been a cause of conflict between and among pastoralists as well as with settled communities, which would need to be managed through consultations between communities. It would be critical to include women in these consultations due to their critical domestic use water needs.

There are a range of contextual risks of operating in conflict affected areas with complex social contexts where effective and inclusive community consultations and meaningful stakeholder engagement is challenging. Furthermore, developing effective grievance mechanisms (GMs) will be complex due to the presence of remote and inaccessible rural locations, traditional decision-making structures, and existing social tensions. The extent of any labour influx will be determined during preparation. However, the presence of even relatively small numbers of external workers can result in social tensions, increased risk of transmission of diseases and the risk of sexual exploitation and abuse (SEA), sexual harassment (SH), and other forms of gender-based violence (GBV). The project will be subject to a range of labour risks including OHS risks, safety and security risks and the potential use of child labour. Local contracting arrangements may also mean that project workers do not have contracts or are subject to unfair conditions (lack of breaks, irregular pay, etc.). Female workers may be discriminated against in terms of employment but are also at higher risk of SEAH and other forms of GBV. Covid-19 may continue to play a role in influencing project implementation notably around stakeholder engagement and face-to-face gatherings. Furthermore, the use of virtual options for meetings may be limited due to poor connectivity and lack of familiarity with such forums.

To mitigate these risks, social consideration will be integrated into the project process including selection of potential water points, PBG criteria which will include completion of E&S documents. These requirements will be outlined in the Stakeholder Engagement Plan (SEP), ESMF and Resettlement Planning Framework will be developed before appraisal and Labour Management Procedures (LMP) and a SEAH Prevention and Response Plan will be developed before contracting and initiation of activities.

5.5 INCLUSION PLAN

1. The project is being implemented in areas where most of the population fit the criteria for ESS7, as Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities thus

considerations will be included in the design. The Borrower will proactively engage with the relevant stakeholders to ensure their ownership and participation of all groups fitting these criteria in project design, implementation, monitoring and evaluation. The Borrower will also consult with them as to the cultural appropriateness of proposed services or facilities and will seek to identify and address any economic or social constraints (including those relating to gender) that may limit opportunities to benefit from, or participate in, the project. Thus, relevant channels including local FM radio stations in local languages will be used for communication and reference to traditional structures e.g., elders or traditional leaders who are responsible for water management and conflict resolution etc.

2. There are, however, additional vulnerabilities that affect the community, relegating some categories of people and groups to further disadvantage. These individuals and groups include: (i) minority groups such as minor clans and sub-clans; (ii) IDPs; (iii) those who live in remote rural bereft of social services and amenities; (iv) nomadic pastoralists; (v) PWDs; (vi) female/child-headed households; and (vii) older people and those with chronic illnesses. Women and youth may encounter difficulties due to the way in which the communities are structured culturally and religiously, with authority vested in older men who then tend to make decisions with little or no regard to them.

3. There are social, economic, and physical barriers that prevent disadvantaged and vulnerable individuals and groups from fully participating in development projects. These include lack of financial resources, inaccessibility of meeting venues, social stigma, low levels of literacy, lack of awareness and/or poor consultation. In this regard, the project will map out the distribution of these individuals and groups in the respective counties. The outcomes of the mapping will inform the strategies to be adopted by the project. The project will adopt and strengthen the WWUAs in Mandera County, support the formation of the WWUAs in the other four project counties to promote inclusion and ensure the representation of the disadvantaged and vulnerable groups in all project activities. Project teams will be trained on inclusion of disadvantaged and vulnerable the individuals and groups. In addition, the monitoring tools will have questions on inclusion and the results will be used to strengthen the project strategies.

4. The WWUAs will focus on embedding inclusivity in the project and creating a culture of inclusivity in the water sector. To ensure continuity of this focus even after the project and mitigate institutional competition and rivalry, the WUA leaderships will be trained on accountability and inclusive development. This way the WUAs will be better prepared for being held accountable by the WWUAs. This will deepen the culture of accountability and inclusivity in the water sector in the ASALS. The social specialists in the respective counties will be very critical in promoting the social accountability and cohesion agenda and strengthening the WWUAs.

5. Due to likely clannism and elite capture and potential exclusion of the disadvantaged and vulnerable individuals and group during project implementation, the WWUAs will report directly to the social specialists at county level or at the PCU level. The WWUAs will promote accountability and transparency in the management of the project at the local level and receive complaints or concerns from the community, which will be channeled to the county social specialist. They will also be the intermediaries between the community and the county teams. They will use various means to capture the project progress including photography and phone calls. The committee members shall reflect the diversity of the community including representatives from the various categories of disadvantaged and vulnerable groups. The PIUs and county project teams will engage with the WWUAs to develop and adopt a code of conduct for their operations.

6. The selection of project investment sites shall take into consideration the disadvantaged and vulnerable groups. For instance, borehole rehabilitation and/or construction will put into consideration the access for minority groups and PWDs (e.g., the access to the borehole will need to be made friendly to PWDs).

5.5.1 Proposed strategies to incorporate the view of disadvantaged and vulnerable groups

7. The project will take deliberate measures to ensure that those who are disadvantaged and vulnerable are consulted and have equal access to project benefits. This will include ensuring that they are involved in consultations on project siting and design, have access to employment and training opportunities and are involved in project management, and have access to benefits. In addition, efforts will be made to promote diversity in staffing and community level committees to be reflective of the local context. Communities know vulnerable members of their communities than external actors and should be engaged in the identification of these individuals and groups.

8. Stakeholder and community engagement will be key in the sensitization of community level structures on the grievance mechanism.

9. The selection of sites will be discussed and agreed upon with the local communities to ensure that they are not placed in one clan area or in areas inhabited by the dominant clans and/or groups. To ensure equity in the distribution of the water resources and points, the engagement of representatives and members of disadvantaged and vulnerable groups is critical. Where adverse impacts are likely, the PCU/PIUs will undertake prior and informed consultations with the affected communities, based on the results of a local mapping exercise. The primary objectives will be to:

- i. Understand the operational structures in the respective communities;
- ii. Seek the input/feedback of the disadvantaged and vulnerable individuals and groups into the project to avoid or minimize the potential adverse impacts associated with the planned interventions;
- iii. Ensure equitable access to the water resources and other project benefits;
- iv. Identify culturally appropriate impact mitigation measures; and
- v. Assess and adopt economic opportunities, which the MoWSI could promote to complement the measures required to mitigate the adverse impacts.

10. Consultations will be carried out broadly in two stages. First, prior to commencement of any project activities the PCU will arrange for consultations with community leaders, the existing local level development committees and representatives of disadvantaged and vulnerable individuals and groups about the need for, and the probable positive and negative impacts associated with the project activities. Secondly, after initial roll-out of the project activities, a rapid assessment (perception survey) will be conducted to ascertain how the disadvantaged and vulnerable individuals and groups, in general perceive the interventions and gather any inputs/feedback they might offer for better outcomes, which would inform the project delivery. The PCU and PIUs will:

- i. Facilitate the active participation of disadvantaged and vulnerable individuals and groups with adequate gender and generational representation; community elders/leaders; and CBOs;
- ii. Provide the disadvantaged and vulnerable individuals and groups with all relevant information about project activities including on potential adverse impacts;
- iii. Organize and conduct the consultations in forms that ensure free expression of the participants' views and preferences;

- iv. Document details of all consultation meetings, with disadvantaged and vulnerable individuals and groups on their perceptions of project activities and the associated impacts, especially the adverse ones;
 - v. Share any input/feedback offered by the target populations; and
 - vi. Provide an account of the conditions agreed with the people consulted.
11. Once the disadvantaged and vulnerable individuals and groups are identified in the project area, the provisions in this Inclusion Plan will ensure mitigation measures of any adverse impacts of the project are implemented in a timely manner. The project should ensure benefits to the disadvantaged and vulnerable individuals and groups by facilitating their consultation, access to trusted complaints mechanism and benefits from project interventions.
12. The following activities will be undertaken during the implementation stage of the project:
- i. Provision of an effective mechanism for monitoring the implementation of this Inclusion Plan;
 - ii. Establishment and strengthening of WWUAs;
 - iii. Development of accountability mechanisms to ensure that planned benefits of the project are received by disadvantaged individuals and groups;
 - iv. Involve suitably experienced CBOs/NGOs to address the disadvantaged individuals through developing and implementing action plans;
 - v. Ensuring appropriate budgetary allocation of resources for the Inclusion Plan;
 - vi. Provision of technical assistance for sustaining the activities that address the needs of the disadvantaged and vulnerable individuals and groups; and

Ensure that disadvantaged and vulnerable individuals and groups' traditional social organizations, cultural heritage, political and community organizations are respected and protected.

5.6 SEXUAL EXPLOITATION AND ABUSE/HARASSMENT (SEA&SH) RISKS AND IMPACTS

In this project, the beneficiaries or members of project-affected communities including women, girls, men and boys may experience SEAH from working on the project or while accessing the water facilities. Contractors and their workers, who will be in control of resources, may leverage and pressure a community member into an unwanted sexual act, thereby sexually exploiting a project beneficiary. Sexual harassment may occur between project personnel/staff in the form of unwelcome sexual advances, verbal or physical conduct of a sexual nature. The project should assess SEA/SH risks, identify and implement prevention and mitigation measures to address these risks. The risk assessment would include: (i) project-related SEAH Risk Assessment: assessment of the risk of exacerbation/introduction of SEA or SH at the community level; and (ii) Capacity Assessment: assessment of the local capacity to prevent and respond to SEA/SH including other forms of GBV, and the availability of safe and ethical service provision for survivors.

5.7 SECURITY RISKS AND IMPACTS

The project area is situated in the northern and north-eastern region of Kenya that is prone to conflict and insecurity. Conflicts between the mostly pastoralist ethnic groups of northern Kenya take the form of battles over pasture and water sources, raiding of livestock, and banditry and are driven by survival needs, climatic variability, culture, and ethnic politics. State security is often thin on the ground and unable to respond promptly given the challenges of distance, terrain, climate, human resource, and budgetary constraints, while historically there has been a poor relationship between the communities and the state security which has

carried out forceful operations at various points in time to subdue and disarm pastoralist communities. The northeast is particularly vulnerable to terrorism and radicalization, particularly near the Kenya-Somali border where the Somalia-based terrorist organization Al-Shabaab often dwell in close contact with communities. Violence takes the form of frequent attacks on police posts and police, army or public vehicles using firearms or improvised explosive devices, occasional kidnaps and executions of civilians, and attacks on telecommunication masts. Importantly, the fragility and conflict prone nature of the surrounding countries of the Horn of Africa (South Sudan, Ethiopia, and Somalia) has a spill-over effect on the northern counties of Kenya. Arms trading routes have been documented from all three countries and arms are acquired by almost all pastoralist households. Other organized crime occurs over international borders and supports criminal activities in the region.

These risks may pose a threat to the water projects and could also potentially be exacerbated by the projects, risking increased harms to citizens. This calls for a combination of: (i) conflict sensitive approaches such as equitable distribution of benefits/control of resources; avoidance of adverse social and ecological harms; and effective and ongoing citizen participation, together with (ii) judicious deployment of community and public security personnel according to risk, who are adequately resourced and effectively supervised so as to avoid corruption and conflict.

County level security management plans will be developed by the County departments of water, together with the County Commissioners office. This will require an assessment of risks for staff, civil servants and contractors travelling to the sites and contractors including the use of police and GSU for protection. They will meet the standards of ISO 31000, following the outline below:

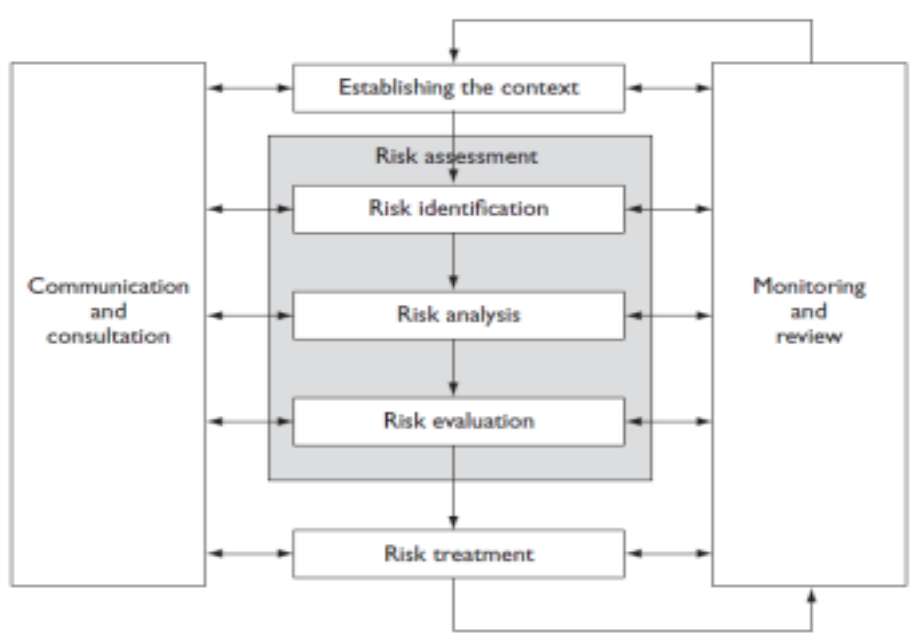


Figure 7. Risk Management Framework

5.8 POTENTIAL ENVIRONMENTAL AND SOCIAL RISKS AND IMPACT AND MITIGATION MEASURES

Table 7: E&S risks and mitigation measures

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
DESIGN PHASE			
Drilling of exploration and monitoring wells	Influx of water users; increased settlement and disruption of grazing patterns	Degradation and conflict and livelihood impacts	Screening of sites and inclusive consultation and conflict mitigation measures
CONSTRUCTION PHASE			
Drilling of exploration and monitoring wells Drilling of high yielding boreholes and rehabilitation of existing boreholes	Loss of vegetation	<ul style="list-style-type: none"> •Vegetation will be cleared for purposes of creating workers' camps, drilling sites, access roads, etc. Leaving land open to water and wind erosion. •The loss of vegetation in these fragile arid and semi-arid environments will reduce pasture for livestock, reducing their productivity, food and income for the pastoral households. 	<ul style="list-style-type: none"> •Minimize land clearing as much as possible to avoid unnecessary exposure of bare ground to the elements of the weather. •Re-vegetate cleared areas as early as possible using native plant species.
Construction of sand dams, subsurface dams, water pans/ponds	Soil erosion/land degradation	<ul style="list-style-type: none"> •Soil erosion and land degradation will likely occur with the heavy machinery and human presence on the project site as vehicles move in carrying equipment and heavy machinery is moved to the site for purposes of drilling and equipping the boreholes. This heavy presence will result in soil compaction and/or loss of the soil structure resulting in degradation. •Sourcing of construction materials, especially sand and foundation stones/rocks 	<ul style="list-style-type: none"> •Paving of access roads and working areas. •Reduce unnecessary traffic moving about in in the project sites and clearly delineate site access routes. •Re-vegetate cleared areas as early as possible using native plant species. •In sourcing materials, preference should be given to existing quarries or source the materials from the proposed sand dam sites as feasible
	Decreased air quality	<ul style="list-style-type: none"> •A high number of vehicles used on-site may result in high levels of emissions of hydrocarbons. •High vehicle traffic will raise a lot of dust as they move about on unpaved roads. This will affect visibility in the area for other vehicles, people, and animals. 	<ul style="list-style-type: none"> •Proposed investments should require that construction contractors operate only well-maintained engines, vehicles, trucks and equipment. •A routine maintenance program for all equipment, vehicles, trucks, and power generating engines should be in place. •The project should ensure the use of good quality fuel and lubricants only.

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
		<ul style="list-style-type: none"> •The reduced air quality will affect the health of workers and of nearby residents, which would increase their susceptibility to upper respiratory tract infections and ailments. 	<ul style="list-style-type: none"> •Wetting of sites especially during dry season. •Contractors to provide protection gears to the construction workers. •Wet/Cover trucks delivering sand for construction •Store materials in secure laydown areas protected from strong winds
	Noise and Vibration Impacts	<ul style="list-style-type: none"> •The vehicles and drilling equipment will result in increased noise likely above the allowable limits and cause a disturbance to the community and occupational hazard to the project workers . •Vibrations from the drilling and large vehicles could be higher than the allowable limits and are likely to cause structural damage to nearby structures and cause cracks compromising their integrity and in the case of large heaps of spoil and hilly areas there will be an increased risk of landslides. 	<ul style="list-style-type: none"> •Construction traffic speed control measures should be enforced on unpaved roads •Engines of vehicles/trucks and earth-moving equipment should be switched off when not in use. •Proposed investments should require contractors to use equipment and vehicles that are in good working order, well maintained, and that have some noise suppression equipment (e.g., mufflers, noise baffles) intact and in working order. Such provision could be part of the contractual obligations with the contractors. •Contractors will be required to implement best driving practices when approaching and leaving the site (speed limit) to minimize noise generation created through activities such as unnecessary acceleration and breaking squeal. •Contractors to provide personal protective equipment (PPEs) to the construction workers. •Contractors could consider setting up temporary noise barriers where possible. •Limit construction activities to day time only (6am to 6pm) or as agreed with the authority
	Solid and effluent waste	<ul style="list-style-type: none"> •There is a likelihood of solid waste generated from construction activities like waste and leftover material. There is also likelihood of solid waste generated from the camp sites that might not be properly managed and result in pollution. •Waste oil that is not properly disposed of is likely to persist in the environment for a long time and may find its way into water sources carried by surface runoff when it rains. 	<p><u>Solid non-toxic waste</u></p> <ul style="list-style-type: none"> •Adequate waste receptacles and facilities should be provided at project sites/camp sites. •Training and awareness creation on Safe Waste Disposal in construction sites and camps for all workers. •Final disposal should be at dumpsites approved by the government authorities. <p><u>Waste oil /fuel</u></p> <ul style="list-style-type: none"> •Spent or waste oil from vehicles and equipment should be collected and temporarily stored in drums or containers at secured locations on site. •Waste oil should be disposed of by oil marketing companies or agents approved or

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
			<p>recognized and have the capacity to undertake oil disposal.</p> <ul style="list-style-type: none"> • Prepare Waste Disposal Plan for every construction site. • Install waste disposal receptacles and signs in strategic places within the construction camps. • Provide training and awareness on need to avoid littering. • Ensure the construction camps have adequate toilets for the number of workers on site.
	Hazardous chemical waste	<ul style="list-style-type: none"> • Hazardous chemical waste may result from the depleted batteries and old solar panels. These are highly toxic and might end up poisoning the water, soil and anything that comes into contact with them with severe effects on people, such as serious illness and death. 	<ul style="list-style-type: none"> • Ensure chemicals used are of the standard provided by local and/or international law. • Proper chemical waste disposal as per relevant standards. • Community and handlers' awareness and training on safe handling and disposal methods. • ensure proper loading of fuel and maintenance of vehicles and drilling equipment
	Loss of land	<ul style="list-style-type: none"> • The identified sites for new boreholes and other investments where the subprojects will be implemented will likely require the restriction of use or acquisition of land altogether which will involve resettling the PAPs causing involuntary economic or physical displacement. 	<ul style="list-style-type: none"> • Community awareness on the need for land for the subprojects and their involvement on choosing and agreeing on the sites. • Information disclosure on the project may facilitate a quick land acquisition process. • Project team to apply appropriate land acquisition methods as provided by ESS5 and GoK laws and policies. • Site selection to preferably avoid physical and economic displacement as feasible • Adequate compensation for economic or physical displacement including squatters if any, so that no one is left worse off as a result of the project.
	Delayed compensation for land loss and/or provision of alternative livelihoods for project affected parties	<ul style="list-style-type: none"> • Due to the nature of the process and concerns such as missing documents and titles, there will be need for proper verification and proof of land ownership. The process of compensation is a long process and may breed mistrust by the community members giving room for misinformation that may cause conflict and unnecessary hostility towards the Project. 	<ul style="list-style-type: none"> • The government to ensure that PAP compensation is planned and budgeted for during the budgetary process and ensuring that funds are available when needed. • Establishment of a Livelihood Restoration Committee for the respective subproject.

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
	Worker and Community safety and health	<ul style="list-style-type: none"> • Ongoing works will involve construction works and workers will participate in activities that will present risks and hazards such as dust, noise, vibration, hazardous substances, working at heights, falling hazards, working in confined spaces, among others. • For the community, health and safety issues include impacts from solid and water waste generation, soil, noise, vibration, hazardous waste, reduced air and water quality, and noise pollution. 	<ul style="list-style-type: none"> • Provide workers with appropriate safety instructions before commencement of any works and ensure regular safety briefings thereafter • Insurance and emergency medical benefits for the workers to be provided. • On-site training of workers on the operations and maintenance of new machinery and health and safety procedures. • Provision of appropriate PPE for workers. • Provide adequate First Aid facilities and ensure availability of trained first aiders on each works site. The ratio of first aiders to workers on site to be in accordance with the OSHA First Aid Rules • Sensitizing communities on the construction safety and health risks and providing protection including watering the roads, placing signs on dangers around the construction and barricading/limiting access to construction sites. • Limit extent of open trenches for water distribution works to what can be worked on and backfilled within the shorted period • Ensuring there is a robust GM for the project that communities can access to submit their complaints on the project.
	Workers/ labour influx impacts	<ul style="list-style-type: none"> • Contractors will likely bring along their own workers with specific skillsets that will work on the subprojects. Local communities will likely want more of their own people employed on the Project. • The influx of migrant workers will result in interaction with the community and in an increase in communicable diseases such as Covid-19, HIV/AIDS, conflict, insecurity, theft, arson, GBV including SEAH. • Increased pressure on social amenities such as housing, sanitation facilities, water facilities, increase in commodity prices, increase in followers (people who are not working but live with workers) and increase in illicit relationships. 	<ul style="list-style-type: none"> • Ensuring that locally available labour force is given priority (70% of unskilled labour according to Employment Act of 2007) during recruitment. • Community awareness and sensitization on HIV/AIDS and Covid-19 protocol. • Clear and culturally sensitive GM and GM related to SEAH/GBV. • Workers have access to HIV information and are linked to facilities that offer HIV/AIDS services including VCT and treatment. The contractors provide adequate accommodation for their staff. • All contractors and their workers sign the CoC that has provisions on interaction with communities, personal responsibilities and contractors' obligations.

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
	GBV/SEAH	<ul style="list-style-type: none"> • GBV risk is rated <u>High</u> in the selected project counties due to the traditional /cultural aspects of the respective communities. • GBV risks may be exacerbated by the project grants given to the Community Investment Groups as patriarchal and male dominant roles may come into play. • Legal, moral, social and religious norms are different sets of rules which guide on how people should behave and these may lead to project risks especially when workers from other regions or areas who do not share these norms start exercising their own norms in the subproject areas. There is a likelihood that social conflicts may erupt. 	<ul style="list-style-type: none"> • The project will develop a stand-alone SEAH Prevention and Response Plan that will guide the PCU, PIUs and contractors on how to plan for and management the GBV/SEAH risks. • Clearly define the GBV/SEAH requirements and expectations in the bid documents. • Clearly explain and define the requirements of the CoC to bidders before submission of the bids. • The project’s social assessment to include assessment of the underlying GBV/SEAH risks and social situations, using the GBV risk assessment tool to provide guidance on safety and ethical considerations related to GBV/SEAH data collection. • Map out GBV/SEAH prevention and response actors in project communities and those in neighbouring areas and share information on the referral pathway with workers and community members. • Induct all project contractors and workers on GBV/SEAH. • Include clear provisions in the workers’ CoC on SEAH. • Sensitize the communities on GBV/SEAH. • Use oversight of an independent Third Party Monitor (TPM) organization/Independent Verification Agent (IVA) (CSOs, international or local NGOs, academic partners, private sector firms) with experienced GBV staff for monitoring the implementation of the SEAH Prevention and Response Action Plan and ensuring all parties are meeting their responsibilities. • Sensitize the PCU/PIUs on the importance of addressing GBV/SEAH on the project, and the mechanisms or implementation. • Undertake regular M&E of progress on GBV activities, including reassessment of risks as appropriate (no. GBV cases reported, %/resolved/referred to; no. cases on SH reported, % addressed, no. cases on SEA reported, % addressed, etc). • Ensure there is a functional GM sensitive to GBV/SEAH and that the workers and community members have access to it.

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
	Spread of HIV/AIDS, STIs and other communicable diseases	<ul style="list-style-type: none"> • An influx of migrant workers and increased incomes could drive an increase in commercial sex work, sexual violence and sexual exploitation of minors (defilement) within host communities. These may in turn drive an increase in transmission of HIV/AIDS and other STIs. 	<ul style="list-style-type: none"> • Carry out periodic HIV/AIDS awareness training for workers and the beneficiary community. • Distribution of condoms to workers and beneficiary communities, especially the CIGs. • Carryout voluntary HIV/AIDS testing for workers and community members. • If tested positive, further guidance will be offered and directed to the nearest public hospital for management. • The project team should use the services of contracted GBV/SEAH service providers to undertake community outreach activities. • Hire local workers where possible to minimize the extent of any influx. • All workers shall sign CoC/contract that has clauses on GBV/SEAH.
	Spread of Infectious Disease – Covid-19	<ul style="list-style-type: none"> • Possible spread of infectious diseases as a result of failure to adhere to Covid-19 prevention measures issued by MoH, WHO and the WB. Possible infection routes include: weak compliance with the precautionary measures for infection prevention and control on Covid-19 including handwashing hygiene, respiratory/ cough etiquette, contact with infected mask; among others for both community members and project workers especially those at the civil works areas. 	<ul style="list-style-type: none"> • Awareness creation for both community members (especially beneficiaries due to the potential to interact with the project workers) and all project workers on the signs and symptoms of Covid-19, how it spreads, how to protect themselves and the need to be tested if they have symptoms. • Use existing grievance procedures to encourage reporting of co-workers if they show outward symptoms, such as ongoing and severe coughing with fever, and do not voluntarily submit to testing. • All workers shall be subjected to rapid Covid-19 screening which may include temperature check and/or other vital signs. • Mandatory provision and use of appropriate PPE (face masks) shall be required for all project personnel including workers and visitors. • Keep records of all persons (including phone contacts) involved in project implementation. • Workers are required to observe social distancing as much as possible and use masks all the time they are working together on the site. • Consider introducing an enhanced monitoring process for activities where less than 2 meter distance may be required. • All equipment should be thoroughly and regularly cleaned before and after use.

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
			<ul style="list-style-type: none"> • Provide additional supervision to monitor distancing and teams not to be rotated. • Increased ventilation should be ensured within enclosed spaces. • Reusable PPEs and tools of work should be thoroughly cleaned after use and not shared between workers. These should be stored in suitable places. • Single-use PPEs should be disposed immediately after use to control potential reuse and contamination. • Workers deemed clinically vulnerable should not be allowed to work in crowds. • Break times should be staggered to reduce congestion and contact at all times. • Additional sanitary measures should be implemented on-site: handwashing stations attendant with protocols, hand sanitizer stations, provision of disinfectant wiping products, among others. • Train community members (beneficiaries) and project workers in respiratory hygiene, cough etiquette and hand hygiene.
	Employment of children	<ul style="list-style-type: none"> • The Project may seek to employ community members and if care is not taken to verify their ages, they may end up employing children under the age of 18 years which constitutes child labour and the risk of violence against children. 	<ul style="list-style-type: none"> • The project team and contractors should ensure that minimum age of project workers is set at 18 years and above and adequate measures are put in place to enforce this and monitor. • All contracts shall have contractual provisions to comply with the minimum age requirements including penalties for non-compliance in-line with the relevant national laws. • The PCU, PIUs and contractors to maintain labour registry of all workers with age verification. • Subproject ESMPs should clearly forbid the use of child labour.
	Forced labour	<ul style="list-style-type: none"> • There is a risk that communities may force some of their members, especially the vulnerable and disadvantaged individuals and groups to provide labour for the project. 	<ul style="list-style-type: none"> • The provisions of the ESS2 and Employment Act will guide all aspects of engagement of workers. • All workers will be required to sign a CoC which will need to be explained to them in a language that they understand. • Community members will be sensitised on labour laws requirements and have access to a GM that they will use to channel complaints

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
	Increased vehicular traffic	<ul style="list-style-type: none"> Increased vehicular traffic will result in an increased risk of injury to pedestrians, increased noise, vibration, and reduced air quality. 	<p>on the project and subprojects including forced labour.</p> <ul style="list-style-type: none"> Schedule deliveries of materials/equipment during off-peak hours. Contractors to designate flagman/woman for traffic control. Contractors to arrange for signal light at night, where necessary. Contractors to use road worthy vehicles and trucks should be used to avoid frequent breakdowns on the roads. Only experienced and duly licensed drivers should be employed. All drivers and equipment operators to be trained on defensive and considerate driving Contractors must provide training for drivers for new machineries, establish speed limits. Enforce safe driving and take disciplinary action against repeat offenders.
	Insecurity	<ul style="list-style-type: none"> There is the constant threat of insecurity from terrorism especially the threat of <i>Al Shabaab</i> along the Kenya-Somalia border. This is likely to target the infrastructure which might be destroyed and migrant workers who may be kidnapped or harmed during these attacks. Inter-ethnic and interclan conflicts are likely to spill over to the project during recruitment of workers and siting of the rehabilitation and constructions of water facilities. There is potential risk for Project workers during and off working hours. 	<ul style="list-style-type: none"> The Contractors will be required to comply with Security Management Plans that describe measures to be put in place to ensure security for the Project workers and the infrastructure like structures, worker camps, offices etc. and ensure that security forces are not abusive and do not use excessive force Conflict sensitive approaches such as equitable distribution of benefits/control of resources; avoidance of adverse social and ecological harms; and effective and ongoing citizen participation, together with (ii) judicious deployment of community and public security personnel according to risk, who are adequately resourced and effectively supervised so as to avoid corruption and conflict.
	Water resource-based conflicts	<ul style="list-style-type: none"> There is a likelihood of conflict arising between the project and the livestock owners because the land where the project is situated might be designated grazing areas or migratory routes. 	<ul style="list-style-type: none"> Engage in dialogue with the stakeholders and agree on how the project can coexist peacefully. Develop of community water sharing plan. Fair distribution of water infrastructure among communities/clans with a focus on ensuring that the vulnerable and disadvantaged individuals and groups have access. Support the implementation of peace building activities.

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
			<ul style="list-style-type: none"> • Continuous stakeholder consultations and community sensitization will be conducted to generate support of all stakeholders for the project ownership and for the community to protect the water infrastructure against threat.
	Impacts on ecosystems	<ul style="list-style-type: none"> • The construction/rehabilitation of water resources is likely to disrupt the ecosystem especially of flora and fauna in the immediate area resulting in clearing of vegetation and some environmental degradation. 	<ul style="list-style-type: none"> • During selection, the sites should be situated away from any established sensitive and incompatible animal and plant habitats/ecosystems as much as possible. Detailed screening of sites for sensitive habitats will be conducted as part of selection • Care should be taken to limit disruption to the ecosystems and where such disruption occurs, restoration should be carried out.
	Risk of drowning	<ul style="list-style-type: none"> • Even before completion, these structures such as shallow wells and dams will fill up with rainwater and surface runoff and may pose a drowning risk to people especially children and animals. 	<ul style="list-style-type: none"> • Ensure shallow wells closer to homes are capped. • Shallow wells closer to pasture areas and along the riverine areas should be fenced off using appropriate materials
	Spoil heaps	<ul style="list-style-type: none"> • These are heaps and piles of construction materials such as soil, gravel, sand or stone which may spoil the aesthetics of an area, be a nuisance in terms of waste and safety as children play on them. They also pose a hazard of collapse posing a danger to those nearby and a risk of erosion and water pollution when it rains. 	<ul style="list-style-type: none"> • Safety measures should be developed including community sensitization on the same when the works are continuing. • Heaps of spoil should be levelled or terraced to reduce their height and reduce the chance of collapse. • Places with heaps and piles of construction materials should be cordoned off to discourage children and animals from playing on/with them.
Gazettement of aquifer recharge zones	Loss of land and or restricted use/access	<ul style="list-style-type: none"> • The identified sites where the subprojects will be implemented will likely require restrictions on use or acquisition of land altogether. This may involve resettling of the PAPs causing economic and/or physical displacement. 	<ul style="list-style-type: none"> • There will be a Resettlement Action Plan (RAP) prepared for each subproject sites that will lead to involuntary resettlement. This process will be guided by the RPF developed for this project. • Community awareness on the need for land for the subprojects and their involvement in choosing and agreeing on the sites. • Information disclosure on the subproject may facilitate quick but informed land acquisition process. • Project team to apply appropriate land acquisition methods as provided for by WB and GoK laws and policies. • Adequate compensation for economic or physical displacement including squatters, to

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
			ensure that no one is left worse off as a result of the project.
	Delayed compensation for land loss and/or provision of alternative livelihoods for project affected parties	<ul style="list-style-type: none"> • Due to the nature of the process and things like missing documents, there will be need for proper verification and proof of ownership. The process of compensation is a long process and may breed mistrust by the community members giving room for misinformation that may cause conflict and unnecessary hostility towards the Project. 	<ul style="list-style-type: none"> • The government to ensure that PAP compensation is planned and budgeted during the budgetary process and ensuring that funds are available when needed. • Establishment of a Livelihood Restoration Committee
OPERATIONAL PHASE			
Operation of exploration and monitoring wells, high yielding boreholes and Sand dams, subsurface dams, water pans/ponds and Gazettement of aquifer recharge zones	Soil Erosion/ Land degradation	<ul style="list-style-type: none"> • Soil erosion and land degradation will likely occur as these water sources experience heavy usage by human beings and livestock and this movement will degrade the area leaving the bare soil exposed and susceptible to water and wind erosion and soil compaction by the large numbers of animals. 	<ul style="list-style-type: none"> • Paving of access roads and working areas. • Planting of grass within the designated areas • Having several water points that will reduce the number of people and livestock gathered at one point.
	Pollution of water sources	<ul style="list-style-type: none"> • The open water sources like water pond and ponds can be polluted by surface runoff, fecal matter as livestock wade into the water pans. 	<ul style="list-style-type: none"> • Plant grass in the surrounding area to reduce surface runoff and water erosion. • Control and supervise human being and livestock watering activities to reduce incidences of misuse of the facilities. • Undertake a health and safety risk assessment of the existing or potential pollutants • Use of alternative water supplies like surface water sources after it rains when they are available.
	Restoration technologies adopted may have adverse impact on the environment and communities	<ul style="list-style-type: none"> • Structures such as subsurface dams and dams may have adverse effects like impoundment of water creating large water masses that may change the hydrology of an area and cause flooding, result in the loss of flora and fauna and attract new flora and fauna that may be more aquatic and result in loss of land either communal for activities such as grazing and also individual land for activities such as farming or settlement. 	<ul style="list-style-type: none"> • Community sensitization on the restoration benefits. • If the restoration sites are small, fence off the area. • Use technologies/techniques that that will still allow communities to use the area but at the same time help to conserve/restore it.
	Risk of Drowning	<ul style="list-style-type: none"> • The shallow wells and water pans and ponds once full may pose a drowning risk to human beings especially children and animals. 	<ul style="list-style-type: none"> • Ensure shallow wells closer to homes are capped. • Design of water pans and dams should consider both community and animals' safety

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
			<ul style="list-style-type: none"> • Make sure surface water sources are fenced and there is restricted entry • Have an appointed community member managing the facility to ensure safety measures are adhered to.
	Inequality in access and use of water	<ul style="list-style-type: none"> • This is likely result among the different water users, such as for industrial uses, irrigation, livestock consumption, human consumption especially if these different users find themselves at the facility at the same time. Human beings versus a large herd of livestock consisting of thousands of cattle will present these problems of equality and priority. 	<ul style="list-style-type: none"> • Ensuring that all vulnerable groups and minorities are included in the decision-making structures and water sharing plans are inclusive. • Development of community water sharing plan. • Development of watering roster especially during dry season, so that all beneficiary communities including disadvantaged groups get fair share of the water when needed. • Fair pricing of water commodity to allow access by poor community. Levy waivers could be considered for the special need groups including the very poor households.
	Impacts on ecosystems	<ul style="list-style-type: none"> • The boreholes extract water from the aquifers and care must be taken so that depletion of the aquifers does not occur. The water pans/ponds and dams impound water which might result in a change in the hydrological state of the area destroying some habitats and creating others. 	<ul style="list-style-type: none"> • ESIA and feasibility studies for the infrastructure to ascertain likely impacts on flora and fauna in the immediate area and develop suitable mitigation measures. • Minimum demands from both existing and potential future users need to be clearly identified and assessed in relation to current and future low flows. • Obtain permits for abstraction from relevant authorities, including WRA and NEMA.
	Water resource-based conflicts	<ul style="list-style-type: none"> • There is a likelihood of conflict caused by the use of the water resources and depending on the location of the water points and the timing of the use, different users such as the farmers and livestock herders may conflict on what time and how much their livestock should consume. Also conflict from the needs for different uses such as irrigation vs livestock consumption. 	<ul style="list-style-type: none"> • Development of community water sharing plan. • Peace building efforts between the different tribes and clans
	Insecurity	<ul style="list-style-type: none"> • There is the constant threat of insecurity from terrorism especially the threat of <i>Al Shabaab</i> along the Kenya-Somalia border. This is likely to target the infrastructure which might be destroyed and migrant workers who may be kidnapped or harmed during these attacks. 	<ul style="list-style-type: none"> • Provide armed security either Government forces or a private company for the project workers on site and at their camps to ensure their safety • The Contractor should come up with a Security Management Plan that describes measures to be put in place to ensure security

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
		<ul style="list-style-type: none"> • Intertribal and interclan conflicts that are likely to spill over to the Project when hiring community members and the location of the Project where one side is likely to feel the other is being favoured. This may result in conflict and attacks on Project workers presenting an occupational hazard 	<p>for the Project workers and the infrastructure like structures, worker camps, offices etc.</p>
	Banks Erosion risk and sand dam failure	<ul style="list-style-type: none"> • Sand dams, when not properly sited and constructed, can alter the course of seasonal rivers following induced serious erosion upstream or downstream the dam area which in severe cases can completely render the dam redundant • Serious sand dam-induced erosion and associated alteration of seasonal river channel can result in destruction of properties in the immediate downstream reaches 	<ul style="list-style-type: none"> • Ensure engineering and environmental due diligence, including hydrological and hydraulic studies are conducted and integrated into dam design for maximum sustainability • Engage appropriately qualified engineers during sand and subsurface dam design process, as well as for construction supervision. • Conduct regular technical inspections of dam's structural integrity and provide clear notification channels for sand dam users to report any visual damage and incidents.
	Modification of subsurface flows	<ul style="list-style-type: none"> • Subsurface dams may modify the flow patterns of underground water in the affected aquifers. Though impacts may be localized, some of the already existing boreholes drawing water from the same aquifer downstream of the dam may have their recharge decimated 	<ul style="list-style-type: none"> • Undertake adequate baseline hydrogeological studies to inform siting of subsurface dams and all new boreholes, including their potential impacts on the existing boreholes
	Rangeland degradation	<ul style="list-style-type: none"> • Increased access to water from additional and rehabilitated boreholes and water troughs can induce increased stocking of livestock by the beneficiary communities. Unsustainable stocking levels may intern promote rangeland degrading through overgrazing and localized erosion at the various water points. 	<ul style="list-style-type: none"> • Undertake assessment on available pasture and stocking rates and sensitize communities on sustainable stocking levels
	Over abstraction of water Wastage of water through inefficient distribution infrastructure	<ul style="list-style-type: none"> • Water may be abstracted unsustainably leading to a reduction in the water levels in the aquifer 	<ul style="list-style-type: none"> • Undertake adequate baseline hydrogeological studies to inform siting of subsurface dams and all new boreholes, including their potential impacts on the existing boreholes • Asses potential impacts of groundwater abstraction on recharge of surface streams, as applicable • Sensitize the community on water conservation measures and put in place measures to increase water efficiency for

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
			instance reduction of spillage and evapotranspiration.
DECOMMISSIONING PHASE			
Decommissioning of exploration and monitoring wells, high yielding boreholes and Sand dams, subsurface dams, water pans/ponds and Gazetted of aquifer recharge zones	Noise and Vibration Impacts	<ul style="list-style-type: none"> •The vehicles and equipment will result in increased noise likely above the allowable limits and cause a disturbance to the community and pose an occupational hazard to the workers on the project. 	<ul style="list-style-type: none"> •Traffic speed control measures should be enforced on unpaved roads •Engines of vehicles/trucks and earth-moving equipment should be switched off when not in use. •Proposed investments should require contractors to use equipment and vehicles that are in good working order, well maintained, and that have some noise suppression equipment (e.g. mufflers, noise baffles) intact and in working order. Such provision could be part of the contractual obligations with the contractors. •Contractors will be required to implement best driving practices when approaching and leaving the site (speed limit) to minimize noise generation created through activities such as unnecessary acceleration and breaking squeal. •Contractors to provide protection gears to the construction workers. •Setting up temporary noise barriers where possible
	Solid and Effluent Waste	<ul style="list-style-type: none"> •There is a likelihood of solid waste generated from construction activities like waste and leftover material. There is also a likelihood of solid waste generated from the camp sites that might not be properly managed and result in pollution. 	<p>Solid non-toxic waste</p> <ul style="list-style-type: none"> •Adequate waste receptacles and facilities should be provided at project sites/camp sites •Training and awareness on Safe Waste Disposal in construction camps for all workers •Final disposal should be at dumpsites approved by the government authorities <p>Waste oil /fuel</p> <ul style="list-style-type: none"> •Spent or waste oil from vehicles and equipment should be collected and temporarily stored in drums or containers at site •Waste oil should be disposed of by oil marketing companies or agents approved or recognized and have the capacity to undertake oil disposal •Prepare Waste Disposal Plan for every site •Install waste disposal receptacles and signs in strategic places within the construction camps •Provide training and awareness on need to avoid littering

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
	Hazardous chemical waste	<ul style="list-style-type: none"> • Hazardous and chemical waste may result from the depleted batteries and old solar panels. These are highly toxic and might end up poisoning the water, soil and anything that comes into contact with them with severe effects such as serious illness and death. 	<ul style="list-style-type: none"> • Ensure chemical used are of the standard provided by local and/or international law. • Proper chemical waste disposal as per relevant standards. • Community and handler's awareness and training on disposal methods.
	Worker and Community Safety and Health	<ul style="list-style-type: none"> • Ongoing works will involve de-construction works and workers will participate in activities that will present risks and hazards such as dust, noise, vibration, hazardous substances, working at heights, falling hazards, working in confined spaces among others. • For the community, health and safety issues brought about are impacts from solid and water waste generation, soil, noise, vibration, hazardous waste, reduced air and water quality. 	<ul style="list-style-type: none"> • Insurance and emergency medical benefits for the workers to be provided. • On-site training of workers on the operations and maintenance of new machinery and health and safety procedures. • Provision of appropriate PPE for workers. •
	Workers/ Labour Influx Impacts	<ul style="list-style-type: none"> • Contractors will likely bring along their own workers with specific skillsets that will work on the Project. Local workers will likely want more of their own employed on the Project. • The influx of migrant workers will result in interaction with the community and result in an increase in communicable diseases such as COVID-19, HIV/AIDS, conflict, insecurity, theft, arson, Gender Based Violence including sexual exploitation and abuse and sexual harassment. • Increased pressure on social amenities such as housing, sanitation facilities, water facilities, increase in commodity prices, increase in followers (people who are not working but live with workers) and increase illicit relationships. 	<ul style="list-style-type: none"> • Ensuring that locally available labour force are given priority during recruitment. • Community awareness and sensitization on HIV/AIDS and COVID 19 protocol • Clear and culturally sensitive GM and GM related to SEAH/GBV. • Ensuring that locally available labour force are given priority during recruitment. • Community awareness and sensitization on HIV/AIDS and COVID 19 protocol
	Gender Based Violence including Sexual Exploitation and Abuse	<ul style="list-style-type: none"> • GBV risk are high in the selected project counties due to the traditional / cultural aspects of the respective communities. • GBV risks may be exacerbated by the project grants given to the 	<ul style="list-style-type: none"> • Clearly define the GBV requirements and expectations in the bid documents. • Clearly explain and define the requirements of the bidders CoC to bidders before submission of the bids.

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
	and Sexual Harassment	<p>Community Investment Groups as men and women shall be actively involved, and patriarchal and male dominant norms may come into play.</p> <ul style="list-style-type: none"> • Legal norms, moral norms, social norms and religious norms are different sets of rules which implies how we should behave and these may lead to project risk especially when workers from other regions or areas who don't share these norms start exercising their own norms in the project area, social conflicts erupt may arise. 	<ul style="list-style-type: none"> • Codes of Conduct signed and understood by all contractor workers, • The project's social assessment to include assessment of the underlying GBV risks and social situation, using the GBV risk assessment tool to provide guidance and keeping to safety and ethical considerations related to GBV data collection. • Map out GBV prevention and response actors in project adjoining communities. • Use oversight of an independent Third Party Monitor (TPM) organization/Independent Verification Agent (IVA) (civil society organization, international or local NGO, academic partner, private sector firm) with experienced GBV staff for monitoring the implementation of the GBV Action Plan and ensuring all parties are meeting their responsibilities. • Sensitize the PIU the importance of addressing GBV on the project, and the mechanisms or implementation, and • Undertake regular M&E of progress on GBV activities, including reassessment of risks as appropriate (no. GBV cases reported, %/resolved/referred to; no. cases on SH reported, % addressed, no. cases on SEA reported, % addressed, etc).
	Spread of HIV/AIDS, STIs and other communicable diseases	<ul style="list-style-type: none"> • An influx of migrant workers and increased incomes could drive an increase in commercial sex work, sexual violence and sexual exploitation of minors (defilement) within host communities. These may in turn drive an increase in transmission of HIV/AIDS and other sexually transmitted diseases. 	<ul style="list-style-type: none"> • Carry out periodic HIV/AIDS awareness training for workers and the beneficiary community; • Distribution of condoms to workers and beneficiary communities, especially the CIGs; • Carryout voluntary HIV/AIDS testing for workers and community members; • If tested positive, further guidance will be offered and directed to the nearest public hospital to receive free antiretroviral (ARVs) drugs; • The project team should use the services of contracted GBV / SEAH service providers to undertake community outreaches; • Hire local workers where possible to minimize the extent of any influx; and • All workers shall sign code of conduct / contract that has a clause against SEA
	Spread of Infectious	<ul style="list-style-type: none"> • Possible spread of infectious diseases as a result of failure to adhere to 	<ul style="list-style-type: none"> • Awareness creation for both community members (especially beneficiaries due to the

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
	Disease – COVID-19	<p>COVID-19 prevention measures issued by Ministry of Health, WHO and the World Bank. Possible infection routes include: weak compliance with the precaution measures for infection prevention and control on COVID-19 including hand washing hygiene, respiratory / cough etiquettes, contact with infected mask; among others for both community members and project workers especially those at the civil work areas.</p>	<p>potential to interact with the project workers) and all project workers on the signs and symptoms of COVID-19, how it spreads, how to protect themselves and the need to be tested if they have symptoms;</p> <ul style="list-style-type: none"> • Use existing grievance procedures to encourage reporting of co-workers if they show outward symptoms, such as ongoing and severe coughing with fever, and do not voluntarily submit to testing; • All workers shall be subjected to rapid Covid-19 screening which may include temperature check and/or other vital signs; • Mandatory provision and use of appropriate Personal Protective Equipment (PPE) shall be required for all project personnel including workers and visitors; • Keep records of all persons (including phone contacts) involved in project implementation; • Workers are to limit face to face working and work facing away from each other when possible. • Consider introducing an enhanced monitoring process for activities where less than 2 m distance may be required. • All equipment should be thoroughly clean before and after using it. • Provide additional supervision to monitor distancing and teams not to be rotated. • Increased ventilation should be provided within enclosed spaces. • Reusable PPE should be thoroughly cleaned after use and not shared between workers. These should be stored in suitable places. • Single-use PPE should be disposed of so that it cannot be reused and to control potential contamination. • Workers deemed clinically vulnerable should never work within 2 m of persons. • Break times should be staggered to reduce congestion and contact at all times. • Additional sanitary measures are implemented on-site: hand washing stations with a posted hand washing protocol, hand sanitizer stations, provision of disinfectant wiping products. • Avoid concentration of persons at one location, where more than one person are

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
			<p>gathered, maintain social distancing of at least 2 meters; and</p> <ul style="list-style-type: none"> • Train community member (beneficiaries) and project workers in respiratory hygiene, cough etiquette and hand hygiene.
	Employment of Children	<ul style="list-style-type: none"> • The Project may seek to employ community members and if care is not taken to verify their age, they may end up employing minors that are under the age of 18 years which constitutes child labor and is likely to increase the likelihood of violence against children. 	<ul style="list-style-type: none"> • The project team and contractors should ensure that minimum age of project workers is set at 18 years and above and adequate measures are put in place and monitored. • All contracts shall have contractual provisions to comply with the minimum age requirements including penalties for non-compliance in-line with the relevant national laws. • The PCU, SPIUs and contractors to maintain labour registry of all workers with age verification. • Subproject environmental and social management plans should clearly forbid the use of child labour.
	Increased vehicular traffic	<ul style="list-style-type: none"> • Increased vehicular traffic will result in an increased risk of injury to pedestrians, increased noise, vibration, and reduced air quality. 	<ul style="list-style-type: none"> • Schedule deliveries of material/ equipment during off-peak hours • Contractors to designate flagman/woman for traffic control • Contractors arrange for signal light at night • Contractors to use road worthy vehicles and trucks should be used to avoid frequent breakdowns on the roads • Only experienced drivers should be employed • Contractors must provide training for drivers for new machineries, establish speed limits; Enforce safe driving and take disciplinary action against repeat offenders
	Insecurity	<ul style="list-style-type: none"> • There is the constant threat of insecurity from terrorism especially the threat of Al Shabaab along the Kenya-Somalia border. This is likely to target the infrastructure which might be destroyed and migrant workers who may be kidnapped or harmed during these attacks. • Intertribal and interclan conflicts that are likely to spill over to the Project when hiring community members and the location of the Project where one side is likely to feel the other is being favoured. This may result in conflict 	<ul style="list-style-type: none"> • Locate the project infrastructure in a relatively secure area close to security personnel installations like police stations and police posts, army barracks and administrative facilities. • Provide armed security either Government forces or a private company for the project workers on site and at their camps to ensure their safety. • The contractors should come up with a Security Management Plan that describes measures to be put in place to ensure security for the Project workers and the infrastructure like structures, worker camps, offices, etc.

Type of Subproject and Project Phase	Impact Issue	Potential Environmental and social negative impacts	Proposed mitigation measures on negative impacts
		and attacks on Project workers presenting an occupational hazard.	
	Impacts on ecosystems	<ul style="list-style-type: none"> •The construction/deconstruction activities will likely disrupt the ecosystem especially of flora and fauna in the immediate area and some environmental degradation is expected to occur. 	<ul style="list-style-type: none"> •Care should be taken to limit any disruption to the ecosystems and where possible restoration is carried out in a timely manner.
	Borrow Pits	<ul style="list-style-type: none"> •These are areas where construction materials such as soil, gravel, sand or stone are “borrowed” or sourced from. In this case this will be done to fill in the water pans and ponds that are no longer in use and usually results in gaping holes that pose a hazard in terms of falling, filling with water posing a drowning risk and also aesthetically where they might affect the aesthetic value of an area. 	<ul style="list-style-type: none"> •Safety measures should be developed including community sensitization on the same when the works is continuing. •Borrow pits should be covered completely once the works is complete and covered with vegetation. •The contractors will be paid final dues after the E&S officers confirm that all borrow pits have been rehabilitated and no mounds/heaps of soil, sand and other materials are left in the subproject sites.

PROCEDURES FOR PREPARATION, REVIEW, CLEARANCE, AND IMPLEMENTATION OF ESF INSTRUMENTS

5.9 THE ENVIRONMENTAL AND SOCIAL RISK ASSESSMENT PROCESSES

This chapter documents the approaches of conducting E&S assessments for potential subprojects under the HOAGW4R project. The PIUs will carry out E&S assessments of the project/activities to assess the environmental and social risks and impacts consistent with the requirements of ESS1. The assessment should be proportionate to the potential risks and impacts of the subproject, and will assess, in an integrated way, all relevant direct, indirect, cumulative, and residual E&S risks and impacts throughout the project lifecycle, including those specifically identified in applicable ESSs. In summary, the specific steps will include:

- i. Screening potential E&S risks and impacts of a subproject and classifying its risk levels (Screening Form);
- ii. Developing subproject-specific E&S instruments;
- iii. Consultation and disclosure of the E&S instruments;
- iv. Review and approval of the E&S instruments; and
- v. Implementation and monitoring of E&S action plans.

Consideration of Environmental Health and Safety Aspects: EHS aspects under the project require important consideration especially for the Sub-projects involving works. Though lacking a specific instrument, if not properly considered not only negatively affects the traditional construction project parameters of cost, quality and schedule, but the sustainability of the environment. This can be considered as part of the contractual agreement where a Contractor is required to take proper consideration of EHS aspects such as having qualified staff and ensuring their labor force has the necessary insurance.

Technical Capacity and Capacity Building: The planned Project will be implemented under the Environment and Social Framework (ESF), which has extensive E&S requirements. There is the need for capable and proactive long-term E&S staff is essential for any meaningful capacity building to take place. It will include a sub-component on E&S capacity building for this project as well as across the water sector using a combination of strengthening the staffing of MoWSI by seconding highly experienced ESF specialists from other parts of the National Government, and having devoted experienced staff within the main implementing institutions, i.e. Water Sector Trust Fund (WSFT) and Water Resources Authority (WRA) and county water departments on social, environment and GBV/SEAH.

5.9.1 Step 1: Environmental and Social Screening

All the subprojects to be financed under the Project must undergo E&S screening in the manner described in this ESMF. The PCU/PIU would do the screening when reviewing and evaluating subprojects and inform potential applicants on E&S requirements for evaluation, in order to be able to implement them in environmentally and socially acceptable manner. Screening is the first step in the process of thorough analysis of subprojects, and its purpose is to identify potential impacts of the proposed subprojects and define measures aimed to prevent or minimize negative impacts. Specifically, the screening would identify E&S risks related to the proposed subproject and determine the type of impact assessment documentation needed for the subproject implementation. Subprojects unacceptable due to the nature of the proposed activities would be dropped at this stage.

The HOAGW4R project at a program level has been classified to have Substantial Risk project however, the screening carried out at the Subproject level will determine the nature, extent of potential environmental social risks and impacts and inform the decision makers on the most appropriate actions to take.

The screening will be done by means of a checklist which will be completed by the project team and technical staff who are able to accurately capture environmental and social risk. Engagement of key informants and community/existing WRUA leaders shall play a crucial role in the screening process as the Project will benefit from their understanding of the E&S issues in their localities, to inform potential EHS risks at each sub-project level. The engagement with these stakeholders is captured by means of stakeholder consultation minutes of meetings and workshops (See Annex 7 and Annex 8) and can be considered part of the screening process documentation.

At the national level, the PCU through the E&S Focal Points will take the lead on E&S screening of identified subprojects and prepare the supplementary safeguards instruments Summary Project Reports (SPR) or ESMPs for low-moderate risk subprojects, while for Substantial-High Risks subprojects the County Sub-PIUs will hire independent consultants to prepare the ESIA or Comprehensive Project Reports (CPR) and Environmental Impact Assessment Study Report. The E&S focal points will undertake regular supervision of the subprojects during implementation. The PCU E&S safeguards team shall provide technical support to the PIU and ensure E&S screening process is undertaken appropriately.

5.9.2 Step 2: Assigning of Environmental and Social Risk Classification

Assigning appropriate E&S risk classification to a subproject activity shall be based on information provided in the E&S screening form (Annex 1). E&S focal points shall screen and assign the appropriate risk classification for the subproject (s) – Low, Moderate or Substantial or High. The classification should be assigned based on the criteria provided in ESF ESS1 Guidance Note.

The following types of activities as ineligible for financing under the Project:

- Activities that may cause long term, permanent and/or irreversible (e.g. loss of major natural habitat) impacts.
- Activities that have a high probability of causing serious adverse effects to human health and/or the environment.
- Activities that may have significant adverse social impacts and/ or may give rise to significant social conflict.
- Activities that may involve physical resettlement or extensive economic resettlement
- Activities that may impact on known cultural heritage sites including sites that are important to local communities.

According to the World Bank procedures, the subprojects shall be screened and thereafter classified as follows:

- (i) High Risk: Subprojects with particularly high environmental, indigenous peoples, cultural heritage, or resettlement risks, as determined by an analysis of the nature and scope of civil works proposed and the ecological and socio-cultural sensitivity of the project site. These subprojects will require a full ESIA and detailed ESMP. They might also require an ARAP or a RAP. The ESIA ToRs will be reviewed and cleared by the Bank and an independent Consultant recruited to prepare the ESIA. As part of statutory requirements, the ToRs will be submitted to NEMA for approval and final ESIA for review and licensing. Projects that may not have adequate controls to contain and manage the risk should be screened out and excluded from financing;

- (ii) Substantial risk: Subprojects with moderately high environmental or social risk. The proposal presents some risks due to the sensitivity of the setting and the nature and scope of civil works planned. However, mitigation measures are readily available and the Subprojects will not have a major impact that places the natural environment, its biodiversity, society, or its cultural property at risk. These subprojects will require a full ESIA and detailed ESMP. They might also require an ARAP or a RAP. The ESIA ToRs will be reviewed and cleared by the Bank and an independent Consultant recruited to prepare the ESIA. As part of statutory requirements, the ToRs will be submitted to NEMA for approval and final ESIA for review and licensing. Substantial risk projects will be cleared to proceed with full compliance with the E&S risk management tools to be prepared proportionate to the associated E&S risk;
- (iii) Moderate risk: subprojects with moderate environmental, indigenous peoples, cultural heritage, or resettlement risks. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigation measures can be designed more readily than for Substantial risk projects. The County SPIUs will prepare an ESMP presented to NEMA as a Comprehensive Project Report (CPR) or Environmental and Social Impact Assessment Study Report that will be submitted to NEMA for approval and final ESIA for review and licensing. The Contractor will then prepare a C-ESMP following the approval of the ESMP to guide their activities.
- (iv) Low risk - subprojects likely to have minimal or no adverse environmental or social impacts. The County SPIU will submit an ESMP which will be based on a quick assessment, and the ESMP will be reviewed by the World Bank.

Considering that the possible screening outcomes above may differ with the requirements of NEMA (see Section 3.2 on risks categorisation under EMCA), it is important to note that even if the screening is done to meet the Bank requirements and a decision is made that an ESMP alone is sufficient for the Bank, the Bank will not prevent the implementing agency for the sub project in preparing a comprehensive project report or full ESIA if NEMA determines so. Similarly, if NEMA determines that no ESIA is required following screening and submission of a summary project report but the Bank feels that project requires an ESIA, then the sub project implementing agency will need to prepare the same to satisfy and get approval for the sub project from the Bank.

5.9.3 Step 3: Environmental and Social Assessment

All the subprojects to be financed under the project would be subject to E&S screening by the PCU/PIU, following the procedures described in this Framework. The screening would identify potential impact of the subprojects and identify preventive measures or measures to minimize such adverse impacts. Upon review and approval of the screening report and risk rating, MoWSI will consult with the WB and decide on the type of Environment and Social Assessment (ESA) to be undertaken. This is likely to be an ESIA for substantial risk or ESMP for moderate or low risk. Depending on screening results and assigned environmental category, recommended contents of ESIA document are as follows:

- i. Executive Summary;
- i. Project description;
- ii. Policy, legal and administrative framework;
- iii. Baseline conditions;
- iv. Summary of predicted adverse E&S impacts related to project;
- v. Part I - Mitigation plan (Table);
- vi. Part II – Monitoring plan (Table);

- vii. Institutional arrangements and reporting procedures;
- viii. Stakeholder engagement – information disclosure, public consultations and participation;
- ix. ESMP summary table for the contractor – including required provisions of the SEP, LMP, RPF, GBV action plan, and Security management plan; SEAH prevention and response plan.
- x. Social safeguards summary report for the broader project implementation;
- xi. Analysis of alternatives;
- xii. Design measures; and
- xiii. Appendices; List of the individuals or organizations that prepared or contributed to the environmental and social assessment, references, Record of meetings including both minutes and signed attendance registers, consultations and surveys, including land agreements (see the RPF).

The security risk assessment and management plans including LMP and a SEAH prevention and response plan will be carried out in tandem with the ESMPs and be cleared at the same time before projects implementation starts.

The PIUs at county-level will then competitively select consultants to prepare ESIA for subprojects classified as substantial risk under the risk classification provided in section 6.1.2. Prior to the selection of the consultants, the draft TOR for the ESIA will be reviewed and cleared by the Bank. The designated safeguards staff within the PCU/PIU will supervise the preparation of the instruments and interact with the consultants. The Project Manager will then submit draft ESIA and ESMPs to the WB for review, clearance and disclosure. The Screening forms, Sample ESMPs and Summary safeguards report for Subprojects should be updated prior to commencement of Project works to reflect potential issues/ impacts/risks in the updated Table 7 E&S risks and mitigation measures.

5.9.4 Step 4: Review and Approval

The PCU/PIU will submit the cleared ESIA and/or ESMPs (Project Reports) to NEMA for statutory review and ESIA licensing. Where NEMA and Lead Agencies ascertain that a project report has disclosed adequate mitigation for identified impacts, NEMA would issue an ESIA License authorizing the project to proceed. The license would specify conditions to be met by the proponent for during construction and operation of the project. Typical conditions include:

- Period after issuance of license within which the subproject must commence, usually 24 months;
- The proponent must seek written approval from NEMA for any operational changes;
- The period after commencement of the project within which the proponent should undertake an Environmental Audit (EA) and submit an EA report to NEMA;
- NEMA to take appropriate action against the proponent in the event of breach of any of the conditions of ESIA license; and
- If the Project Report (PR) does not disclose adequate mitigation measures or that the project has significant irreversible environmental and social impacts the proponent will be required to undertake an ESIA study. NEMA will write to the proponent to undertake scoping, prepare Terms of Reference (ToR) for ESIA study and submit these for approval prior to commencement of the study.

In addition to ESMPs, and costed contractor security management plans, social issues and processes will be outlined in the summary safeguards report (Annex 1) and community minutes and land agreements will be annexed for the clearance of the World Bank.

5.9.5 Step 5: Public Consultations and Disclosure

The main objective of the public consultation is to disclose information on the project and disclose the draft ESIA/ESMP to relevant stakeholders, particularly the communities affected, especially disadvantaged and vulnerable groups, to provide opportunity to all the stakeholders to voice their opinions and concerns on different aspects of the project. Consideration will be given to the guidance set out in the SEP, the Technical Note: Public Consultations and Stakeholder Engagement in WB-supported operations and especially during this time of the Covid-19 pandemic, the MoH guidelines for Covid-19 shall be taken into consideration. The opinions and suggestions of the stakeholders assist in taking appropriate decisions for the design of effective mitigation and monitoring measures to manage the E&S components. It would help facilitate and streamline decision making whilst fostering an atmosphere of understanding among individuals, groups and organizations, who could affect or be affected by the subprojects. A detailed record of the consultations/feedback received well elaborated by topic and a brief explanation of how the feedback was addressed shall be provided together with supporting evidence of the stakeholders consulted such as signed attendance lists and completed questionnaires. Mapping of stakeholders is included in under Section 8 (Stakeholder Engagement) in Table 13.

The SEP, RPF, CPRs, ESIA, ARAPs and RAPs require public disclosure and will be publicly disclosed both by the Client (MoWSI) and the World Bank prior to project appraisal which will be placed in the newspapers and on their respective websites. This allows the public and other stakeholders to comment on the possible E&S impacts of the project, and for the Appraisal Team to strengthen the frameworks, particularly measures and plans to prevent or mitigate any E&S adverse impacts. Towards this end, this document will be publicly released through the WB’s website prior to project appraisal. The documents should be made available in English in compliance with the WB’s Public Consultation and Disclosure Policy. Other instruments: namely the Project level Labour Management Procedures, the SEAH prevention and response plan will have to be prepared by the E&S specialists and GBV advisors before disbursement. The ESIA and RAPs for each HOAGW4R -funded subproject will need to be consulted upon before finalisation and disclosure. It is recommended that Environmental, Social, Health and Safety (ESHS) enhancements are included into the Sub-projects overall planning, design, bidding and contracts and implementation as shown below in Table 8 below.

Table 8. Ratings, associated instrument and statutory requirements and their integration

Project Environmental and Social Risk Classification	Level of impacts expected	Instruments and Statutory Requirements	Responsible Party	Public Disclosure requirement	Integration into Sun-project’s overall planning, design, bidding and contracts, and implementation.
Low risk	Subprojects likely to have minimal or no adverse environmental	<ul style="list-style-type: none"> ESMP to be reviewed by the Client. C-ESMP to be reviewed by Client. 	<ul style="list-style-type: none"> PIU Contractor 	Require disclosure for the Client	<ul style="list-style-type: none"> ESHS Code of Conduct Contractor’s ESHS Management Strategy and

	or social impacts.				Implementation Plans
Moderate risk	Subprojects with moderate environmental, indigenous peoples, cultural heritage, or resettlement risks. The proposal presents some risks given the civil works planned, but its potential adverse impacts are less adverse than those of Substantial risk.	<ul style="list-style-type: none"> • ESMP as a Comprehensive Project Report (CPR) or ESIA Study Report submitted to NEMA for approval and the final ESIA for review and licensing. 	County PIU	CPRs, RAPS, Full ESIA require disclosure both for the client and the WB;	<ul style="list-style-type: none"> • ESHS Code of Conduct • Contractor's ESHS Management Strategy and Implementation Plans
Substantial risk	Subprojects with moderately high environmental or social risk. The proposal presents some risks due to the sensitivity of the setting and the nature and scope of civil works planned.	<ul style="list-style-type: none"> • Require a full ESIA. • Might also require an ARAP or a RAP. • The ESIA ToRs will be reviewed and cleared by the Bank and an independent Consultant recruited to prepare the ESIA. • The ToRs will be submitted to NEMA for approval and final ESIA to NEMA for review and licensing. • Substantial risk projects will be cleared to proceed with full compliance with the E&S risk management tools that are proportionate to the associated E&S risk. 	Independent Consultant	CPRs, RAPS, Full ESIA require disclosure both for the client and the WB;	<ul style="list-style-type: none"> • ESHS Code of Conduct • Contractor's ESHS Management Strategy and Implementation Plans • Key ESHS Personnel • ESHS Performance Security
High risk	Subprojects with particularly high environmental, indigenous peoples, cultural heritage, or resettlement risks, as determined by an analysis of the nature and scope of civil works proposed and the	<ul style="list-style-type: none"> • Projects that return High Risk from screening will be excluded unless there is demonstration that controls to contain and manage the risk and impacts can be adequately implemented • Require a full ESIA and detailed ESMP. • Might require an ARAP or a RAP. • The ESIA ToRs will be reviewed and cleared by the Bank and an independent consultant 	Independent Consultant.	CPRs, RAPS, Full ESIA require disclosure both for the client and the WB;	<ul style="list-style-type: none"> • ESHS Code of Conduct • Contractor's ESHS Management Strategy and Implementation Plans • Key ESHS Personnel • ESHS Performance Security • ESHS Provisional Sum

	ecological and socio-cultural sensitivity of the project site.	<p>engaged to conduct the assessment .</p> <ul style="list-style-type: none"> As part of statutory requirements, the ToRs will be submitted to NEMA for approval and final ESIA for review and licensing. 			
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5.9.6 Step 6: Monitoring, Supervision and Reporting

The ESMP identifies monitoring objectives and specifies the type of monitoring, with linkages to the impacts and risks assessed in the ESA and the mitigation measures described in the ESMP. Specifically, the monitoring section of the ESMP provides: (a) specific description and technical details of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions; and (b) monitoring and reporting procedures to (i) ensure early detection of conditions that necessitate particular mitigation measures, and (ii) furnish information on the progress and results of mitigation.

To support timely and effective implementation of E&S project components and mitigation measures, the ESMP will draw on the E&S focal points at the HOAGW4R PCU to monitor the impacts at national level while coordinating with the County PIUs’ E&S focal points. Contractors will be required to routinely submit ESHS performance reports that will assist in the monitoring of their activities and cross-checking them against the ESMPs and C_ESMPs. Capacity building will be undertaken to increase the capacity at County level to have in place social accountability committees (SACs), community project and GM committees to undertake day-to-day monitoring and reporting to the relevant focal points at the PCU/PIUs on the progress and implementation. The PCU/PIUs and contractors should notify the MoWSI PCU and the WB in case of any incidents/accidents within 48 hours related to the project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public, or workers in sufficient detail indicating immediate measures taken or planned to be taken to address its consequences. Subsequently, as per the WB’s request, the Project team shall prepare a report of the incident or accident and propose measures to prevent its recurrence.

5.10 MONITORING PLANS AND ROLES AND RESPONSIBILITIES

5.10.1 Monitoring Environmental and Social risk and impacts mitigation Indicators

The monitoring indicators specified within each ESMP will be used to assess the project’s adherence to E&S commitments. The goal of monitoring is to measure the success rate of the project, determine whether interventions have addressed the negative impacts, whether further interventions are needed, or monitoring is to be extended in some areas. Monitoring indicators will be very much dependent on specific project contexts. The project will establish a customized M&E architecture based on the KoBo Toolbox platform. In this regard, M&E officers representing the different IAs will be provided with capacity-building training to use KoBo Toolbox and other open-source tools for in-field collection of structured digital data that automatically feeds into a centralized M&E system. The integrated data collected will include any kind of indicators based on tailor-made forms; photos, audio, videos; time and date stamps; and GPS coordinates that allow for automated geo-mapping of the information. Moreover, a project-specific architecture will be created that

will include customized digital forms and questionnaires as well as protocols for data collection and back-office analysis. The questionnaires will be linked to the project's results framework. The project task team will have direct access to the analytical systems, which will allow the team to supervise in-field activities remotely. For the PBG under component 2, E&S staff hired by WSTF will monitor the Sub-projects against particular E&S risks and mitigation measures outlined in the E&S instruments. To ensure the implementation of the E&S provisions, they can be included in the PBG Sub-project contracting as requirements that have to be fulfilled at different stages of the Sub-Projects before funds are disbursed. For the variable part of the grant, an IVA will be hired by the WSTF to carry out the verification. A sample of monitoring plan for the various environmental and social impacts and proposed mitigation measures can be found in Table 11.

5.10.2 Monitoring Roles and Responsibilities

Overall Project Level

The MoWSI will be responsible for monitoring and reporting on compliance with the ESMF and will ensure that subproject investments are screened, their safeguard instruments prepared, cleared, and disclosed prior to subproject implementation. Further, they will ensure that contractors/Supervision Consultant implement or cause their contractors to implement the specific Subproject ESMP and submit reports on ESMP implementation status as required. Monitoring and surveillance of all the subproject investments will be undertaken by the PIUs that will be established for the project. MoWSI will report results of this monitoring to the Bank. In appreciation of the fact that it would be impossible to visit or monitor all subproject investments to be financed under the project, "spot checks" may be undertaken by the PIUs but no investment will be ignored in this high-level monitoring.

Bank's Monitoring Support

The Bank will provide the second line of monitoring compliance and commitments made in the ESMP through implementation support missions although with less frequency and in less detail compared to the first line of monitoring undertaken by the PCU/PIU. The Bank will further undertake monitoring during its scheduled biannual implementation support missions. Specifically, for each year that the agreement is in effect, subproject contractors will be required to submit to the PCU monthly and quarterly monitoring reports and the contractor/supervision consultant will consolidate and summarize these reports and submit to the Bank as part of its reporting. The Bank supervision missions will review these reports and provide feedback.

Subproject Level Monitoring

The second level of monitoring will be at the subproject level where the safeguards instruments for the investments will and must include a monitoring plan for which the MoWSI will be responsible. MoWSI will put in place County Sub-project Implementation Units (SPIUs) which will include E&S Specialists to ensure the contractor complies with the EHS requirements.

Most environmental and social impacts and risks of subprojects will result from activities directly under the control of contractors and will be mitigated directly by the same contractors. Consequently, ensuring that contractors effectively plan for and mitigate construction related impacts is core of the Project's mitigation strategy. This will be done by ensuring that the environmental and social management plans for subprojects are incorporated into the works bidding documents and contracts. This will ensure that potential bidders are aware of environmental and social performance requirements expected of them, are able to reflect the requirements in their bids, and to implement the clauses for the duration of the works contracts. Subproject

ESMPs will also specify any training required for contractors to understand and satisfactorily meet the Project’s environmental and social requirements.

The Supervising Consultant will have full-time environmental and social safeguards specialists to ensure that the expectations of the employer and the Bank are realised. Additionally, MoWSI will engage dedicated staff to support monitoring project E&S risks and impacts. The PCU/PIU will carry out monitoring and reporting of all the elements in the ESMP on a day-to-day basis or periodically as specified in the monitoring plan. All subproject investments will be subject to mandatory annual environmental audit /supervision to ensure that they comply with national requirements by EMCA and World Bank safeguard policies.

Upon completion of subprojects, the IA will prepare a subproject completion report, to summarise the overall implementation of ESMP provisions and identify any unresolved environmental or social, with recommended remedial actions.

Table 9: Subproject level monitoring

Monitoring Level	Monitoring issue	Verifiable indicators	Responsibility
ESMF Level	Adequate dissemination of ESMF and RPF through stakeholders’ sensitization and capacity building programs	Record of consultations and meetings. Workshop reports.	MoWSI, Supervision Consultant and Contractors IAs County officers Consultants
Project Level Investment	Preparation of ESIA report Environmental permit	Independent consultants hired to prepare ESIA and/ RAP documents Environmental Permits/licenses for subprojects ESMPs	MoWSI Supervision Consultant and Contractors Line ministries at county level, County officers Consultants Line Ministries, NEMA

Table 10: Monitoring roles and responsibilities

Institution	Roles
National Environment Management Authority (NEMA)	The EMCA places the responsibility of environmental protection with NEMA as the coordinating agency. NEMA is charged with the overall role of providing oversight in regard to monitoring for all project activities that have potential impacts on the environment in Kenya. NEMA will undertake periodic monitoring of the investment projects by making regular site inspection visits to determine compliance with the approved ESIA’s and will further rely on the submitted annual audit reports submitted for each investment project as required by EMCA as a way of monitoring. NEMA will provide approvals and ESIA licenses to all the investments based on the submitted ESIA reports, without NEMA’s approval implementation of the investment project will not move forward. All monitoring reports, as well as annual environmental audit reports, will be submitted to NEMA as specified by the environmental assessment and audit regulations.
HOAGW4R Environmental and Social Specialist	MoWSI has recruited short-term environmental and social safeguards consultants who will provide dedicated support to MoWSI staff through oversight, screening of subprojects, and preparation of ToRs for ESIA’s, facilitation, coordination, review of ESIA’s, monitoring and evaluation of all the subprojects. The E&S specialists will submit quarterly monitoring reports

	of all active investments under implementation to MoWSI, who will then submit these reports to the WB.
Environment and Social Safeguards Department, MoWSI	The department will provide oversight, screening of subprojects, and preparation of ToRs for ESIA, facilitation, coordination, review of ESIA, monitoring and evaluation of all the subprojects. Quarterly monitoring reports of all active investments under implementation will be submitted to WB. Further, an ESIA of the subproject, as required, will be carried out by a consultant hired by County Sub-PIU. MoWSI will review these documents and be responsible for the implementation of ESMPs (as well as RAPs as necessary) and preparation of quarterly reports, with support from the supervision consultant. County Sub-PIU will hire consultants with requisite experience in implementing resettlement programs (if needed) for the field level implementation of the RAPs, under the direct supervision of the MoWSI and in close coordination with the supervision consultant and the contractor. The supervision consultant will have environmental as well as social specialists in its team. Table 6-3 shows activities and institutional responsibilities for overall implementation of the HOAGW4R. All mitigation plans, such as RAPs and ESIA/ESMPs, will have to be cleared by the Bank before they are disclosed in country locally as well as at the Bank's external Website.
Water Resources Authority (WRA)	<ul style="list-style-type: none"> Day to day monitoring and evaluation of sub project investments with the appropriate training
Water sector Trust Fund	<ul style="list-style-type: none"> Monitoring the implementation of the Project as an implementing agency Monitoring the sub-project implementation by use of performance based grants
County directors of OSH services	<ul style="list-style-type: none"> Supporting the project in enforcing the requirements of OSHA 2007 and its regulations.
Bank's Monitoring Support	The World bank will provide support monitoring of the project through Implementation Support Missions and provide feedback in aide memoirs. Additionally, the Bank will receive monthly and quarterly progress reports from the project and provide feedback.

Table 11: Activities and Institutional Responsibilities

Activity	Responsibility
Identification of subprojects Prepare/ =complete: <ul style="list-style-type: none"> Subproject description (Form-1) Environmental/social screening (Form-2) Analysis of Alternatives (Form-3) 	E&S staff in SPIUs within County Water Departments
Review of project documents and Screening/assessment forms	WSTF E&S specialist guided by MOWSI PIU E&S specialists
Additional Environmental/Social Assessment (ESA)	
Carry out: (a) ESIA and ESMP or (b) full scale ESIA (including RAP, if needed); following the ESMF	Independent consultants or specialists seconded from the county government
Review of ESIA by MoWSI Obtaining necessary environmental clearance from the NEMA and WB	Environment and Social specialists in MoWSI

Implementation of ESMP/RAP/ESIA/ during “construction phase” of project components.	Contractor ESMP will be implemented by Contractor and Supervised by Supervision Consultant, with monitoring by county E&S specialists. RAPs will be implemented by MoWSI/ PIUs E&S specialists in conjunction with NLC and other government staff
Preparation of quarterly progress and monitoring reports	The Contractor will prepare one monthly progress reports. E&S specialists at county level and WSTF and WRA will prepare quarterly reports to MOWSI which will review and consolidate to the World Bank every quarter and before missions
Monitoring and reporting of the ESCP	MOWSI E&S specialists will compile and present before missions.
Implementation of ESMP/SMP during “operational phase” of project components, including monitoring and quarterly reporting	Supervision Consultant and MoWSI staff

ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN

5.11 ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN

This section describes the specific E&S due diligence provisions necessary to avoid, minimize, or mitigate project activities with potential risks, and to monitor their outcomes. This process also includes identification of institutional responsibilities (implementation, supervision, M&E, and reporting) through the lifetime of the interventions, timing of actions, how these provisions shall be monitored and reported on, and identification of budget requirements. The objectives of the ESMMP are to:

- a. identify measures and plans to avoid, reduce, mitigate and/or compensate adverse impacts and enhance positive impacts. This includes the environmental, social, health and safety aspects of the project's interventions/activities, risks and negative impacts of the project;
- b. provide an estimation of the budgetary costs for implementing the mitigation measures alongside the implementing agencies responsible for addressing project impacts;
- c. develop E&S monitoring plan, corresponding to measures proposed in the mitigation plan, for project activities/subprojects and the implementation of mitigation measures with estimated costs. The monitoring plan has included the parameters to be monitored, methods to be used, frequency of measurements, responsibilities and budget;
- d. identify the responsibilities and capacity assessment for each of the participating IAs responsible for addressing project impacts; and describe institutional arrangements and reporting procedures; and
- e. prepare clear E&S requirements, e.g. mitigation measures and the monitoring indicators related to project activities (subprojects) can be incorporated in the bidding/contract documents.

Environmental and social monitoring assesses project performance against proposed mitigation measures and compliance with health and safety standards and regulations. Whenever applicable, monitoring activities should be assigned direct monitoring indicators for specific impacts and/or compliance requirements in the ESMP, as presented in the table below.

Table 12: E&S Management and Monitoring Plan

Impact Issue	Proposed mitigation measures	Monitoring Indicators (Output)	Monitoring Indicators (Outcomes)	Means of Verification	Methods of data collection	Frequency	Responsibility
Loss of vegetation/ Soil Erosion/Land degradation	<ul style="list-style-type: none"> • Minimize land clearing as much as possible to avoid unnecessary exposure of bare ground to the elements of the weather. • Re-vegetate cleared areas as early as possible using native plant species. • In sourcing materials, preference should be given to existing quarries or source the materials from the proposed sand dam sites as feasible 	<ul style="list-style-type: none"> • No. of trees planted (native trees). • Minimal trees failed. • Re-vegetation included in the Contractors' contract. 	<ul style="list-style-type: none"> • Vegetation recovery at the restored sites. 	<ul style="list-style-type: none"> • Project reports. • Before and after photos. 	<ul style="list-style-type: none"> • Site inspection. • Documents/permits review 	<ul style="list-style-type: none"> • Monthly 	<ul style="list-style-type: none"> • Contractor • Village development committee (after contractor leaves the site) • SAC
Decreased Air Quality	<ul style="list-style-type: none"> • Proposed investments should require that construction contractors operate only well maintained engines, vehicles, trucks and equipment. • A routine maintenance program for all equipment, vehicles, trucks and power generating engines should be in place. • The project should ensure the use of good quality fuel and lubricants only. • Wetting of sites especially during dry season. • Contractors to provide protection gears to the construction workers. 	<ul style="list-style-type: none"> • Number of sound machinery and equipment purchased. • Availability of equipment and machinery maintenance plan. • Frequency of watering of surfaces to reduce dust related impacts. • Inclusion of air pollution mitigation measures in the contracts. • Protection gear purchased. 	<ul style="list-style-type: none"> • %age of workers following the good practices for equipment and machinery maintenance. • %age of construction workers wearing protection gears. • Number of complaints on air quality registered on site 	<ul style="list-style-type: none"> • Contractors' equipment maintenance plan. • Contracts for works. 	<ul style="list-style-type: none"> • Independent check by project engineers/consultants. • Verification of maintenance record by project engineers/consultant. • Self-check by contractor. 	<ul style="list-style-type: none"> • Monthly • Period checks 	<ul style="list-style-type: none"> • Contractor • Project Engineer/supervising consultant • E&S specialists
Noise and Vibration Impacts	<ul style="list-style-type: none"> • Construction traffic speed control measures should be enforced on unpaved roads. 	<ul style="list-style-type: none"> • Number of sound machinery and equipment purchased 	<ul style="list-style-type: none"> • %age of workers following the good practices for equipment 	<ul style="list-style-type: none"> • Machinery maintenance plans. 	<ul style="list-style-type: none"> • Independent check by project engineers/consultants 	<ul style="list-style-type: none"> • Monthly 	<ul style="list-style-type: none"> • Contractor. • Project Engineer /supervising consultant.

Impact Issue	Proposed mitigation measures	Monitoring Indicators (Output)	Monitoring Indicators (Outcomes)	Means of Verification	Methods of data collection	Frequency	Responsibility
	<ul style="list-style-type: none"> Engines of vehicles/trucks and earth-moving equipment should be switched off when not in use. Proposed investments should require contractors to use equipment and vehicles that are in good working order, well maintained, and that have some noise suppression equipment (e.g. mufflers, noise baffles) intact and in working order. Such provision could be part of the contractual obligations with the contractors. Contractors will be required to implement best driving practices when approaching and leaving the site (speed limit) to minimize noise generation created through activities such as unnecessary acceleration and breaking squeal. Contractors to provide PPEs to the construction workers. Setting up temporary noise barriers where possible. 	<ul style="list-style-type: none"> Availability of equipment and machinery maintenance plan. Inclusion in contract issues of noise pollution. PPEs purchased. 	<ul style="list-style-type: none"> and machinery maintenance. Construction workers wearing PPEs. Measured noise levels. Number of complaints on air quality registered on site 	<ul style="list-style-type: none"> Contractors' inventory. 	<ul style="list-style-type: none"> Verification of maintenance record by project engineers/consultant. Self-check by contractor. 		
Solid and Effluent Waste	<p>Solid non-toxic waste</p> <ul style="list-style-type: none"> Adequate waste receptacles and facilities should be provided at project sites/camp sites. Training and awareness on Safe Waste Disposal in construction camps for all workers. Final disposal should be at dumpsites approved by the government authorities. 	<ul style="list-style-type: none"> No. Litter bins and receptacles purchased and restored at the project site. No. of awareness meetings held. Amounts of final waste disposed at designated site. 	<ul style="list-style-type: none"> Clean and litter free environment. Change in attitude of workers on waste disposal. Waste disposal tracking records 	<ul style="list-style-type: none"> Waste Disposal Plan. Training records. Inventory of equipment. 	<ul style="list-style-type: none"> Observations and site inspection. Verification by supervising consultants. Self-check by contractors. 	<ul style="list-style-type: none"> Monthly 	<ul style="list-style-type: none"> Contractor. Project Engineer/ Supervising consultants. E&S specialists.

Impact Issue	Proposed mitigation measures	Monitoring Indicators (Output)	Monitoring Indicators (Outcomes)	Means of Verification	Methods of data collection	Frequency	Responsibility
	<p>Waste oil /fuel</p> <ul style="list-style-type: none"> Spent or waste oil from vehicles and equipment should be collected and temporarily stored in drums or containers at site. Waste oil should be disposed of by oil marketing companies or agents approved or recognized and have the capacity to undertake oil disposal. Prepare Waste Disposal Plan for every construction site. Install waste disposal receptacles and signs in strategic places within the construction camps. Provide training and awareness on need to avoid littering. Ensure the construction camps have toilets. 	<ul style="list-style-type: none"> Waste disposal plan prepared and disseminated. 					
Hazardous chemical waste	<ul style="list-style-type: none"> Ensure chemicals used are of the standard provided by local and/or international law. Proper chemical waste disposal as per relevant standards. Community and handlers' awareness and training on disposal methods. 	<ul style="list-style-type: none"> Acceptable standard of chemicals purchased and used. No. of awareness training held. No. of communities and chemical handlers training. 	<ul style="list-style-type: none"> National and international standards adhered to. Safe handling of chemicals. Reduced chemical accidents. 	<ul style="list-style-type: none"> Material Data Sheets, as applicable Incident reports. Training report. 	<ul style="list-style-type: none"> Inspection. Demonstration of use. Review of incident reports/log. 	<ul style="list-style-type: none"> Monthly 	<ul style="list-style-type: none"> E&S specialist. Officials of VDC. Supervising consultants.
Loss of land/ delayed compensation for land loss and/or provision of	<ul style="list-style-type: none"> Community awareness on the need for land for the subprojects and their involvement on choosing and agreeing on the sites. Project team to apply appropriate land acquisition methods as provided 	<ul style="list-style-type: none"> No. of PAPs compensated. No. of consultation workshops on land acquisition matters. 	<ul style="list-style-type: none"> Loss of land minimized. PAPs fully compensated. 	<ul style="list-style-type: none"> Land acquisition related project and government records. Record of meetings. 	<ul style="list-style-type: none"> Inspection of records. Community meetings. Project reports. 	<ul style="list-style-type: none"> Period check 	<ul style="list-style-type: none"> E&S specialists. Supervising consultants. PCU/PIU

Impact Issue	Proposed mitigation measures	Monitoring Indicators (Output)	Monitoring Indicators (Outcomes)	Means of Verification	Methods of data collection	Frequency	Responsibility
alternative livelihoods for project affected parties	<p>by ESS5 and Government laws and policies.</p> <ul style="list-style-type: none"> •Adequate compensation for economic or physical displacement including squatters so no one is left worse off as a result of the project. •The government to ensure that PAP compensation is planned and budgeted for during the budgetary process and ensure that funds are available when needed. 						
Safety and health of construction workers and community	<ul style="list-style-type: none"> •Insurance and emergency medical benefits for the workers to be provided. •On-site training of workers on the operations and maintenance of new machinery and health and safety procedures. •Provision of protection gears for workers. •Putting emergency response measures in place including fire extinguishers 	<ul style="list-style-type: none"> •No. of training workshops on OHS. •No. of workers trained. •Protection gears supplied for workers. 	<ul style="list-style-type: none"> •Health and safety accidents/ incidences. •Complaints from the community on safety/accidents 	<ul style="list-style-type: none"> •Availability of safety procedures •Project health and safety incident reports. •Training reports. •Workers wearing protection gears. •Availability of adequate first aid facilities and first aiders on active sites 	<ul style="list-style-type: none"> •Observation. •Focus Group Discussions with workers. •Record inspection. 	<ul style="list-style-type: none"> •Monthly •Regular spot check 	<ul style="list-style-type: none"> •Contractor. •Project engineer/ Supervising consultants. •E&S specialists.

Impact Issue	Proposed mitigation measures	Monitoring Indicators (Output)	Monitoring Indicators (Outcomes)	Means of Verification	Methods of data collection	Frequency	Responsibility
Workers/Labour Influx Impacts	<ul style="list-style-type: none"> • Ensuring that locally available labour force is given priority during recruitment. Especially for casual and unskilled positions. • Clear and culturally sensitive GM and GM related to SEAH/GBV. • Ensuring that locally available labour force is given priority during recruitment. • Providing accommodation for workers in camps if the workforce is large. 	<ul style="list-style-type: none"> • No. of local population recruited. • No. of sensitization workshops. • No. of community members trained. • No. of complaints logged in the GM register/log. 	<ul style="list-style-type: none"> • No. of local population recruited. • Few public health incidences. • Reduced community complaints. 	<ul style="list-style-type: none"> • Employee records. • Project health and safety incident records. • Training reports. 	<ul style="list-style-type: none"> • Inspection. • FGDs with PAPs. 	<ul style="list-style-type: none"> • At the beginning of project public works activities and regular checks. 	<ul style="list-style-type: none"> • Contractor. • E&S specialists. • Community GM focal points.

Impact Issue	Proposed mitigation measures	Monitoring Indicators (Output)	Monitoring Indicators (Outcomes)	Means of Verification	Methods of data collection	Frequency	Responsibility
GBV/SEAH	<ul style="list-style-type: none"> • Clearly define the GBV requirements and expectations in the bid documents. • Clearly explain and define the requirements of the bidders' CoCs to bidders before submission of the bids. • CoCs signed and understood by all contractors' directors and workers. • GBV risks and social situation assessment using the GBV risk assessment tool to provide guidance, safety and ethical considerations related to GBV data collection. • Map out GBV prevention and response actors in project areas and adjoining communities. • Use oversight of an independent TPM organization or IVA. • Undertake regular M&E of progress on GBV/SEAH activities, including reassessment of risks as appropriate (no. GBV cases reported, %/resolved/referred to; no. cases on SH reported, % addressed, no. cases on SEA reported, % addressed, etc). 	GBV registry. Record of GBV grievances.	<ul style="list-style-type: none"> • GBV cases reported, %/resolved/referred; no. cases on SH reported, % addressed, no. cases on SEA reported, % addressed, etc). 	<ul style="list-style-type: none"> • Consultation, • Document review. • Training reports 	<ul style="list-style-type: none"> • Inspection. • FGDs with PAPs. 	<ul style="list-style-type: none"> • Quarterly 	<ul style="list-style-type: none"> Contractor • Social Expert. • County Labour officer. • Community GM focal points.

Impact Issue	Proposed mitigation measures	Monitoring Indicators (Output)	Monitoring Indicators (Outcomes)	Means of Verification	Methods of data collection	Frequency	Responsibility
Spread of HIV/AIDS, STIs and other communicable diseases	<ul style="list-style-type: none"> • Carry out periodic HIV/AIDS awareness training for workers and the beneficiary community. • Distribution of condoms to workers and beneficiary communities, especially the CIGs. • Carryout voluntary HIV/AIDS testing for workers and community members. • If tested positive, further guidance will be offered and directed to the nearest public hospital to receive free antiretroviral (ARVs) drugs and other services. • The project team should use the services of contracted GBV/SEAH service providers to undertake community outreach activities. • Hire local workers where possible to minimize the extent of any influx. • All workers shall sign CoC/ contract that has provisions on GBV/SEAH. 	<ul style="list-style-type: none"> • HIV/AIDS training plan, records of VCT training and condom dispensing facilities, • Evidence of hired HIV/AIDS service provider. 	<ul style="list-style-type: none"> • No. of workers sensitized. • Presence of IEC materials. • Presence of condom dispensers. 	<ul style="list-style-type: none"> • Consultation. • Document review. 	<ul style="list-style-type: none"> • Field visits. 	<ul style="list-style-type: none"> • Quarterly 	<ul style="list-style-type: none"> Contractor. Social Expert. County Labour officer. Community GM focal points.

<p>Spread of Infectious Disease – Covid-19</p>	<ul style="list-style-type: none"> • Awareness creation for both community members (especially beneficiaries). • Use GM to encourage reporting of co-workers if they show outward symptoms, such as ongoing and severe coughing with fever, and do not voluntarily submit to testing. • Conduct COVID 19 test for all workers to be being contracted for the job and there after every after two weeks. • All workers shall be subjected to rapid Covid-19 screening which may include temperature check and/or other vital signs on daily basis. • Mandatory provision and use of appropriate PPE shall be required for all project personnel. • Keep records of all persons (including phone contacts) involved in project implementation. • Avoid concentration of persons at one location or gathering. • Maintain social distancing of at least 2 meters. • Organize handwashing stations at the places of public gatherings to support project activities (both construction and stakeholder engagement process) • Develop protocol for safe disposal of used PPE under the project. • Workers are to limit close contact while working if possible. 	<ul style="list-style-type: none"> • Posted SOP within the worksite. • Covid-19 budget. • Thermometer. • Log details for all workers and visitors on site. 	<p>Training Record COVID19 Cases.</p> <ul style="list-style-type: none"> • Record of PPE s given to workers. 	<p>Consultation.</p> <ul style="list-style-type: none"> • Document review. 	<ul style="list-style-type: none"> • Consultation, Document review & 	<ul style="list-style-type: none"> • Monthly 	<ul style="list-style-type: none"> • Contractor • Social Expert, • County Labor officer • Community GM focal points.
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Impact Issue	Proposed mitigation measures	Monitoring Indicators (Output)	Monitoring Indicators (Outcomes)	Means of Verification	Methods of data collection	Frequency	Responsibility
	<ul style="list-style-type: none"> Consider introducing an enhanced monitoring process for activities where less than 2 metre distance may be required. All equipment should be thoroughly cleaned before and after use. Increased ventilation should be provided within enclosed spaces. Reusable PPE should be thoroughly cleaned after use and not shared between workers. Single-use PPE should be disposed of immediately to control potential contamination. Workers deemed clinically vulnerable should never work within 2 m of persons. Break times should be staggered to reduce congestion and contact at all times. 						
employment of Children	<ul style="list-style-type: none"> The project team and contractors should ensure that minimum age of project workers is set at 18 years and above and adequate measures are put in place and monitored. All contracts shall have contractual provisions to comply with the minimum age requirements including penalties for non-compliance in-line with the relevant national laws. 	<ul style="list-style-type: none"> Inclusion in contracts the issues of child labour. Clear provision in Subproject ESMP. 	<ul style="list-style-type: none"> Child labour avoided in all project activities. 	<ul style="list-style-type: none"> Employee records with age verification. Contractors Contract contents. 	<ul style="list-style-type: none"> Inspection. FGDs. 	<ul style="list-style-type: none"> Regular checks Spot check 	<ul style="list-style-type: none"> Contractor. PCU/PIU. E&S specialist. SAC.

Impact Issue	Proposed mitigation measures	Monitoring Indicators (Output)	Monitoring Indicators (Outcomes)	Means of Verification	Methods of data collection	Frequency	Responsibility
	<ul style="list-style-type: none"> •The PCU, PIUs and contractors to maintain labour registry of all workers with age verification. •Subproject ESMPs should clearly forbid the use of child labour. 						
Forced labour	<ul style="list-style-type: none"> •The provisions of the ESS2 and Employment Act will guide all aspects of engagement of workers. •All workers will be required to sign a CoC which will need to be explained to them in a language that they understand. •Community members will have access to a GM that they will use to channel complaints on the project and subprojects including forced labour. 	<ul style="list-style-type: none"> •Inclusion in contracts the issues of forced labour. •Clear provision in Subproject ESMP. 	<ul style="list-style-type: none"> •Forced labour avoided in all project activities. 	<ul style="list-style-type: none"> •Employee records signed CoC. •Contractors Contract contents. 	<ul style="list-style-type: none"> •Inspection. •FGDs. • 	<ul style="list-style-type: none"> •Regular checks •Spot check 	<ul style="list-style-type: none"> •Contractor. •PCU/PIU. •E&S specialist. •SAC.
Traffic congestion and accidents	<ul style="list-style-type: none"> •Schedule deliveries of materials/equipment during off-peak hours. •Contractors to designate flagman/woman for traffic control. •Contractors arrange for signal light at night. •Contractors to use road worthy vehicles and trucks to avoid frequent breakdowns on the roads. •Only experienced drivers should be employed. •Contractors must provide training for drivers for new machineries, establish speed limits; enforce safe driving and take disciplinary action against repeat offenders. 	<ul style="list-style-type: none"> •No. drivers aware and familiar with the traffic safety plan. •%age of drivers who have not committed a traffic offence for the last 6 months. •No. compliance (traffic) inspection and checks conducted by relevant government department found to be satisfactory. •Traffic safety plan/procedure developed. 	<ul style="list-style-type: none"> •Number of traffic accidents involving project contractors' vehicles. •Signage posted in right locations. 	<ul style="list-style-type: none"> •Traffic incidence report. •Grievance report. 	<ul style="list-style-type: none"> •Inspection and observation. 	<ul style="list-style-type: none"> •Regular checks 	<ul style="list-style-type: none"> •Contractor. •Project engineer/supervision consultant. •E&S specialists.

Impact Issue	Proposed mitigation measures	Monitoring Indicators (Output)	Monitoring Indicators (Outcomes)	Means of Verification	Methods of data collection	Frequency	Responsibility
Communal conflicts/ Conflict between farmers and livestock herders.	<ul style="list-style-type: none"> •Development of a Community Water Sharing Plan. •Fair distribution of water infrastructure among communities. •Peace building activities. 	<ul style="list-style-type: none"> •Water sharing agreement in place. •Water infrastructure available to most needy communities. •No. of peace building meetings. 	<ul style="list-style-type: none"> •Reduction in resource based communal conflict. •Cohesive community. 	<ul style="list-style-type: none"> •Grievance reports. •Project report. 	<ul style="list-style-type: none"> •FGDs. •Project review meeting. 	<ul style="list-style-type: none"> •Regular check 	<ul style="list-style-type: none"> •PCU/PIU •Social Specialist. •SAC. •GM Focal Point.
Inequality in access and use of water	<ul style="list-style-type: none"> •Ensuring that all disadvantaged and vulnerable individuals and groups including minority clans/sub-clans are included in the decision-making structures and water sharing plans are inclusive. •Development of watering roster especially during dry season, so that all beneficiary communities, including disadvantaged and vulnerable individuals and groups get fair share of the water when needed. •Fair pricing of water commodity to allow access by poor households. Levy waivers could be considered for the special need groups including the very poor households and PWDs. 	<ul style="list-style-type: none"> •Inclusive composition of SACs. •Water roster in place. •Reduced complaints over water access and use. 	<ul style="list-style-type: none"> •Most needy members of the communities have access to sufficient water for their use. 	<ul style="list-style-type: none"> •Grievance report •Water roster 	<ul style="list-style-type: none"> • Inspection/revi ew of reports. • Project review meetings. •FGD. •Key informant interviews with CBOs and groups working with minority groups and PWDs. 	<ul style="list-style-type: none"> •Periodic 	<ul style="list-style-type: none"> •PCU/PIU •Social Specialist. •SAC. •GM Focal Point.

Impact Issue	Proposed mitigation measures	Monitoring Indicators (Output)	Monitoring Indicators (Outcomes)	Means of Verification	Methods of data collection	Frequency	Responsibility
Impacts on Ecosystems	<ul style="list-style-type: none"> •ESA and feasibility studies for the sand-dam sites to ascertain likely impacts and develop suitable mitigation measures. •Minimum demands from both existing and potential future users need to be clearly identified and assessed in relation to current and future low flows. •The quality of low flows is also important. A reduction in the natural river flow together with a discharge of lower quality drainage water can have severe negative impacts on downstream users. •Obtain permits for abstraction from relevant authorities. 	<ul style="list-style-type: none"> •Detailed study done to ascertain impact on ecosystem. •No. of abstraction permits obtained. •No. of complaints by downstream users. 	<ul style="list-style-type: none"> •Reduced complains from downstream users. •Downstream river flow maintained at near normal. 	<ul style="list-style-type: none"> •Grievance records •hydrogeology assessment reports •Project reports 	<ul style="list-style-type: none"> •Review of report. •Water flow inspections. •FGD with downstream users. •KII with local opinion leaders • 	Regular spot check.	<ul style="list-style-type: none"> •E&S specialists. •Supervision consultant/project engineer. •Project technical team.
Risk of Drowning	<ul style="list-style-type: none"> •Ensure shallow wells closer to homes are capped. •Shallow wells closer to pasture areas and along the riverine areas should be fenced off using appropriate materials. •Communities should be sensitized on the risk of drowning 	<ul style="list-style-type: none"> •No. of people drowned. •No. of fenced off/capped shallow wells. 	<ul style="list-style-type: none"> •Reduced incidences of drowning. 	<ul style="list-style-type: none"> •Safety consideration available in the design reports •Health and safety incident report. •Project report. 	<ul style="list-style-type: none"> •Inspection •Review reports. 	•Quarterly	<ul style="list-style-type: none"> •E&S specialist. •SAC. •Supervision consultant/project engineer.
Borrow Pits	<ul style="list-style-type: none"> •Safety measures should be developed including community sensitization on the same when the works is continuing. •Borrow pits should be covered completely once the works is complete and covered with vegetation. 	<ul style="list-style-type: none"> •No. of accidents reported. •No. of abandoned borrow pits. •No. of burrow pits backfilled. 	<ul style="list-style-type: none"> •Borrow pits covered and no longer nuisance to the community. 	<ul style="list-style-type: none"> •Health and safety incident report. •Project report. 	<ul style="list-style-type: none"> •Site visits. •Inspection. •Review of reports. 	•Quarterly	<ul style="list-style-type: none"> •E&S specialists. •SAC. •Supervision consultant/project engineer.

Impact Issue	Proposed mitigation measures	Monitoring Indicators (Output)	Monitoring Indicators (Outcomes)	Means of Verification	Methods of data collection	Frequency	Responsibility
	<ul style="list-style-type: none"> •The contractors should only be paid after confirmation that they have backfilled the burrow pits and rehabilitated the surrounding area. 						
Restoration technologies adopted may have adverse impact on the environment and communities	<ul style="list-style-type: none"> •Community sensitization on the restoration benefits. •If the restoration sites are small, fence off the area. •Use technologies/techniques that that will still allow communities to use the area but at the same time help to conserve/restore it. 	<ul style="list-style-type: none"> •No. of community sensitization workshops. •No. of restoration sites fenced off. •No. of complaints. 	<ul style="list-style-type: none"> •Appropriate restoration technologies adopted. 	<ul style="list-style-type: none"> •Workshop reports. •Project reports. •Grievance reports. 	<ul style="list-style-type: none"> •Site visits. •inspection. •FGDs. •KIIs with local opinion leaders. 	<ul style="list-style-type: none"> •Regular checks. 	<ul style="list-style-type: none"> •E&S specialist. •SAC. •Supervision consultant/ project engineer.

5.12 INSTITUTIONAL ARRANGEMENTS FOR ESMF IMPLEMENTATION

The HOAGW4R Project will be implemented by the Ministry for Water and Sanitation (MOWSI) at the national level and by the County Governments in the five counties of Turkana, Marsabit, Mandera, Wajir and Garissa. The section below describes the detailed roles and responsibilities of the key institutions involved in the implementation of the ESMF and subsequent ESMPs. Overall implementation arrangement is presented in Figure 1.

Project Coordination Unit

The MOWSI will be the project coordinator at national level to ensure smooth, effective, and coordinated implementation and avoid overlaps, duplication, or conflicts. MOWSI will be facilitating the flow of funds, ensuring inter-agency collaboration across the different institutions that will be part of this program, and will be in charge of the monitoring and evaluation (M&E) of the project.

Project Implementation Units

The HOAGW4R project implementation units will be set up at national level and will consist of two implementing agencies (IAs): the Water resources Authority (WRA) and Water Sector Trust Fund (WSTF) that will be responsible for implementing the project activities and will have a full technical and operational support team to ensure successful and timely delivery.

PIUs in these IAs will be established to implement project activities. These IAs will be composed of;

- i. 1 team leader
- ii. 1 finance management expert
- iii. 1 procurement specialist
- iv. 1 social specialist
- v. 1 GBV specialist (for WSFT)
- vi. 1 environmental safeguards specialist,
- vii. 1 Monitoring and Evaluation (M&E) specialist
- viii. 1 communications specialist

MOWSI will have senior social and environmental specialists who will guide and build the capacity of E&S in the other agencies and provide quality control and capacity building support.

The PIUs will have the overall responsibility for project management, coordinating project implementation, monitoring and evaluation, and reporting of results to stakeholders and developing environment and social safeguards frameworks and relevant plans. The staff for the project will either be seconded from the county government or hired as consultants/or staff through a competitive process. Additional short-term local and international consultants will be recruited to support the PIUs and NPCU as needed. The capacity in the PIUs and NPCU will be enhanced through on-the-job training and mentoring by the Bank's technical staff working on safeguards and the task team leader. PIUs will provide overall responsibility for safeguards due diligence, and compliance monitoring. Specifically, in terms of E&S risk management across project components, the PIUs will be responsible for coordinating the identification, resolution and monitoring the status of all environmental and social issues through environmental and social safeguards focal points.

Sub-project implementation units (Sub – PIUs) will be set up at County level by the various county governments in the five counties of Turkana, Marsabit, Mandera, Wajir and Garissa.

With regards to Environmental and Social Risk management, the SPIUs will:

- i. Appoint an Environmental Specialist.
- ii. Appoint a Social/GBV Specialist
- iii. Ensure compliance with World Bank ESF and other relevant country laws as contained in this ESMF.

- iv Support the smooth and efficient implementation of the HOAGW4R project;
- v Collaborate and promote synergy and institutional strengthening of E&S issues across the county;
- vi Undertake effective preparation, review, approval, and implementation of the ESIA, and ESMP based on the ESMF.
- vii Take the lead in screening, scoping, review of draft ESIA/ESMP for the government, receiving comments from stakeholders during public hearing of HOAGW4R,
- viii Convening a technical decision-making panel (if required), ensuring conformity with applicable standards, conduct environmental and social liability investigations, and perform monitoring and evaluation work;
- ix Provide overall leadership during public consultation meetings with critical HOAGW4R stakeholders, to gain their support/cooperation/consensus in established policy direction; and
- x Ensure that HOAGW4R project implementation comply with all relevant laws and policies.

5.13 SPECIFIC ROLE OF HOAGW4R PROJECT E&S STAFF

The HOAGW4R project has had to hire the services of an Environmental Safeguards Specialist and a Social Safeguards Specialist to help in the coordination, identification, resolution of and monitoring the status of all environmental and social issues. The specific roles for the respective specialists are outlined in the sub-sections below.

5.13.1 Role of the Environmental and Social Safeguards Experts

The Safeguards staff will specifically:

- i. Spearhead the development and updating of ESF instruments including this ESMF;
- ii. Review all ESIA's, ESMP's reports and documents prepared by environmental and social consultants to ensure compliance with the World Bank ESF/ESSs;
- iii. Ensure that the HOAGW4R subproject design, specifications and budget adequately reflect the recommendations of the ESIA's/ESMP's;
- iv. Co-ordinate application, follow up processing and obtain requisite clearances and approvals from the World Bank for the ESIA/ESMP submitted by the individual HOAGW4R project and subprojects contractors;
- v. Prepare regular monthly/quarterly/semi-annual, annual progress reports with statutory requirements;
- vi. Develop, organize and deliver appropriate environment and social safeguards related training courses for the PIU and NPCU staff, contractors, local government/community representatives and others involved in the project implementation;
- vii. Review and approve the Contractor's ESMP using the ESMF as guide;
- viii. Liaise with the Contractors and the PIU/MDAs on implementation of the ESMP's;
- ix. Liaise with various Government agencies on environmental, social, land, resettlement and other regulatory matters;
- x. Continuously interact with relevant NGOs and community groups working in the sector and project location;
- xi. Establish dialogue with the affected communities and ensure that the environmental and social concerns and suggestions are incorporated and implemented in the project;
- xii. Review the performance of the project in terms of environment and social safeguards, through an assessment of the periodic internal monthly and quarterly environmental and social monitoring reports; provide summaries of same and initiate necessary follow-up actions; and

- xiii. Provide support and assistance to the Government MDAs and the World Bank during Project Review Missions.

5.14 ROLES AND RESPONSIBILITIES OF OTHER GOVERNMENT MINISTRIES, DEPARTMENTS AND AGENCIES

Various ministries, departments and agencies will be consulted and collaborated with on various matters including labour management, environmental, land, gender, security, etc. during the implementing of the HOAGW4R project. Some of their roles and responsibilities are enumerated in Table 8.

Table 13: Roles and Responsibilities of MDAs in the ESF Implementation

Ministries, Departments and Agencies at National and County Level	Role in ESMF implementation
Ministry of Water Sanitation and Irrigation	<ul style="list-style-type: none"> • Coordinate the implementation of the project • Provide guidance on the WB Safeguards policies, safeguards instruments • Provide relevant project supervision. • Overseeing or appointing qualified and competent team to oversee environmental, health and safety (EHS) during the Project cycle; • Implementation of the ESMP; and • Ensuring that during construction and operations, the ESMP and NEMA license conditions are adhered to since it's the principle holder of NEMA license.
Water Sector Trust Fund	<ul style="list-style-type: none"> • Implement the project through a performance-based grant (PBG) • Strengthening the enabling environment for sound groundwater development and management
Ministry of Youth, Gender and Culture	<ul style="list-style-type: none"> • Provide information on the demographics • Provide information on the challenges youth and women face • Provide guidelines on women and youth engagement and how they can best benefit from the Project e.g. by means of CSR projects etc.
National Drought Management Authority (NDMA)	<ul style="list-style-type: none"> • Develop Water County Drought Contingency Plans • Provide information on drought impacts in the area • Propose best location of high-yielding boreholes • Help project planning activities by providing drought and livelihood information from their early warning systems
Water Resources Authority	<ul style="list-style-type: none"> • Implement the Project • Receive water permit applications for water abstraction, water use and recharge and determine, issue and vary water permits; and enforce the conditions of those permits. • Regulate Water use allocation
National Museum of Kenya (NMK)	<ul style="list-style-type: none"> • During the construction phase, NMK will be involved in the project by providing guidance when Chance Finds are encountered • To review the Chance Finds Procedure and Cultural Heritage Plan mitigation measures for protecting archaeological and cultural sites and provide approval for these plans.

Water Services Regulatory Board (WASREB)	<ul style="list-style-type: none"> • Oversee the implementation of policies and strategies relating to provision of water and sewerage services. • Issue licenses for the provision of Water Services • Determine standards for the provision of Water Services to consumers • Establish procedures for handling complaints by consumers against licensees • Monitor compliance with established standards for the design, construction, operation and maintenance of facilities for Water Services • Monitor compliance with established standards for the design, construction, operation and maintenance of facilities for Water Services
National Environment Management Authority (NEMA)	<ul style="list-style-type: none"> • Provide licensing on matters environmental and related field management • Exercise general supervision and co-ordination over all matters relating to the environment • Act as the principal instrument of Government in the implementation of all policies relating to the environment and • To ensure that all mitigation measures proposed are actually implemented.
The Regional Centre on Groundwater Education, Training and Research in Eastern Africa (RCGW)	<ul style="list-style-type: none"> • Consultancy services in groundwater resources assessments • Borehole drilling, construction, development, and test pumping • Water quality analysis • Geo-mapping & geophysics • Groundwater Research Groundwater advocacy and public sensitization
Ministry of Environment and Natural Resources	<ul style="list-style-type: none"> • Provide policy, regulatory and enforcement guidance on environmental risks and impact mitigation measures.
County Governments	<ul style="list-style-type: none"> • The relevant departmental officers in the County Governments will be called upon where necessary during project implementation to provide the necessary permits and advisory services to the project implementers.
Water Works Development Agency	<ul style="list-style-type: none"> • Development, maintenance and management of water and sewerage infrastructure in the counties • Undertake development, maintenance and management of water works • Operate water works and provide water services (until a time when these services are handed over to respective counties). • Provide technical services and capacity building to County Governments.
Ministry of Agriculture, Livestock and Fisheries	<ul style="list-style-type: none"> • Will provide information on water requirements, migration patterns and numbers for livestock. • Give recommendations on suitable water infrastructure and the site locations for the water infrastructure
Kenya Wildlife Service	<ul style="list-style-type: none"> • Provide the necessary permits and agreements for siting of project infrastructure if within their jurisdiction
Kenya Forest Service	<ul style="list-style-type: none"> • Provide the necessary permits and agreements for siting of project infrastructure if within their jurisdiction
NGOs (SNV, World Vision,	<ul style="list-style-type: none"> • From their experience in implementing livelihood enhancing project will give inputs on how to maximize benefits, lessons learned and community engagement.

Safeguards Specialists on relevant World Bank projects	<ul style="list-style-type: none"> Will provide insights on likely environmental and social issues to arise during the implementation of the project from past experience implementing similar projects and from experience in working in the Project area
National Land Commission	<ul style="list-style-type: none"> To encourage the application of traditional dispute resolution mechanisms in land conflicts; Implement Settlement programmes on behalf of national and county governments as outlined in section 134 of the Land Act. Manage the Land Compensation Fund Identify ecologically sensitive areas that are within public land and demarcate and take any other justified action on those areas and act to prevent environmental degradation and climate change in accordance with the Land Act. Set aside land for investment purposes in accordance with section 12(3) of the Land Act. Approve compulsory acquisitions, way leaves, easements and analogous rights. Ensure that the investments, in land benefit local communities and their economies.
County Department of Water	<ul style="list-style-type: none"> Will provide an inventory of the water resources in the Project areas, provide the necessary technical expertise and personnel
County Department of Environment	<ul style="list-style-type: none"> Will provide an inventory of the natural resources in the Project areas, provide the necessary technical expertise and personnel

5.15 BUDGET FOR PREPARING AND PLANNING FOR THE ESMF

The ESMF implementation budget refers to all costs that will be incurred to implement the requirements or recommendations of the ESMF. The ESMF requirements ensure that implementation of the projects integrates environmental and social issues for the sustainability of the project as well as the subprojects. Among other things the ESMF recommends the following key issues, namely; training, capacity building, ESIA's for Subprojects, screening, environmental and social consultancy services, reviewing and monitoring mechanisms, grievance management and stakeholder engagement. An indicative budget has been provided in table 12 below meant to cover the related expenses.

Table 14: Budgetary requirements for preparation and planning of the ESMF for HOAGW4R Project

Activity	Item Description	Total Cost (USD)
<i>Capacity Building on ESMF</i>		
Training Key Stakeholders on ESMF	Training workshop on mainstreaming ESMF and sensitization of key stakeholders on their roles in HOAGW4R ESMF implementation process.	50,000
Capacity Building on EHS	Training Supervision Consultants and Contractors on EHS practices with participation of regulators (NEMA and DOSH)	50,000
<i>ESIAs for Subprojects</i>		
Turkana, Marsabit, Wajir, Mandera and Garissa Subprojects	Undertaking ESIA's and submitting reports to NEMA for approval through short term consultancies	250,000
<i>Monitoring</i>		
Monitoring and reporting of ESMF implementation	Field visits for project activities monitoring every quarter	250,000
<i>Other Activities</i>		
Compliance of Community projects	Activities to comply with ESMP's such as waste management,	

with ESMF	personal protective equipment, laboratory tests among other costs. Short term consultancy to travel to site and carry out project reports	150,000
Annual EA	Carrying out Annual Environmental Audits by independent consultants	250,000
Brief training for contractors on chance find procedures prior to mobilization	To be conducted by an officer from the National Museums of Kenya	25,000
Grievance Management	Setting up and operationalizing the GRM system	50,000
Stakeholder Engagement	Holding stakeholder consultation meetings	100,000
		1,175,000

5.16 UPDATING THE ESMF

This ESMF will be used for screening of subprojects and as a guide for the preparation, review and approval of environmental assessment instruments (ESIA and ESMP). It will also be a reference in the implementation of the subprojects and its ESMP. Since there may be new developments, guidelines or national legislations issued after its (ESMP) approval and posting on the World Bank website, the ESMP may need to undergo updating from time to time. The NPCU will be responsible for updating the ESMF.

STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE

Effective stakeholder engagement is expected to improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation. Stakeholder engagement is an inclusive process conducted throughout the project life cycle and is most effective when initiated at an early stage of the project development process and is an integral part of early project decisions and the assessment, management, and monitoring of the project's environmental and social risks and impacts.

As per the Environmental and Social Standard (ESS) 10 on Stakeholders Engagement and Information Disclosure, the borrower/implementing agencies are required to provide stakeholders with timely, relevant, understandable, and accessible information, and consult with them in a culturally appropriate manner, which is free of manipulation, interference, coercion, discrimination and intimidation. The Constitution of Kenya 2010 (CoK 2010) has several provisions for stakeholder engagements and commonly referred to as public participation in Kenya. The laws require public participation in many aspects of national and county government, including; including: The County Government Act 2012 (CGA), Public Finance Management Act 2012 (PFMA), and Urban Areas and Cities Act (2011). There are also constitutional commissions that are mandated to ensure equality, deal with maladministration and access to information. They are: The Kenya National Commission on Human Rights (KNCHR); National Gender and Equality Commission (NGEC); and Commission on Administrative Justice (CAJ) and referred to as the office of the Ombudsman. These commissions broadly promote and oversee the preservation of human rights, promote equality across Special Interest Groups (SIGs) women, persons with disability, children, youth, and older members of society, minority, and marginalized groups.

5.17 STAKEHOLDER IDENTIFICATION AND ANALYSIS

Stakeholder identification is the first step in the process. Stakeholders are defined as individuals, groups or other entities who are affected or have interest in the Project and must be informed and consulted about the project and are categorized into three main groups.

- a. **Affected Parties:** persons, groups, and other entities within the Project Area of Influence (PAI) that are impacted or likely to be impacted directly or indirectly, positively or adversely, by the project. This category are directly influenced (actually or potentially) by the project and/or have been identified as most susceptible to change associated with the project, and who need to be closely engaged in identifying impacts and their significance, as well as in decision-making on mitigation and management measures.
- b. **Other Interested Parties (OIP):** constitute individuals/groups/entities whose interests may be affected by the project and who have the potential to influence project outcomes. OIP may not experience direct impacts from the project but they may consider or perceive their interests as being affected by the project and/or who could affect the project and the process of its implementation in some way.

For this project, other interested parties include CSOs, UN organizations, and Development partners engaged in the water sector in the country who may become partners. Others include local entrepreneurs, and business community who will benefit from business opportunities and contracts; Universities and colleges which will provide technical expertise to the project; and mass media and associated interest groups, including local, regional, and national print and broadcasting media, digital/web-based entities, and their associations, among others.

- c. **Disadvantaged Groups:** persons who may be disproportionately impacted or further disadvantaged by the project as compared with any other groups due to their vulnerability and

that may require special efforts to ensure their equal representation in the project consultation and decision-making processes.

The disadvantaged groups identified for this project include nomadic pastoralists, adults and children with disabilities, IDPs, returnees, minority groups, female headed households and orphans among others.

Table 15 below summarises the stakeholder groups identified and their interests.

Table 15: Stakeholder’s description and areas of interest

Stakeholder Group	Nature of interest in the project	Interest	Influence
Project-affected parties			
Communities that will benefit from water infrastructure investments for their household’s consumption, livestock and farms.	<ul style="list-style-type: none"> • Meaningful community engagement in the project decisions including identification of priority groundwater infrastructure need, project site selections. • Involvement in project implementations. • That they reap maximum benefit from the project activities and that they will be resilient to climate shocks. • Lack of interference in the selection of community project committee formation of the CECs at the community level • Community project committees are trained and trained and facilitated to perform their multiple roles. • They will get employment from the project activities (e.g. construction workers, security guards, jobs for youth, men and women with requisite education and skills in project managements...) 	High	High
Ministry water officials and staff at the National Government level	<ul style="list-style-type: none"> • MOWSI meaningfully engaged with partners in all aspects of the project from project design and throughout the project cycle. • Capacities of the staff are built to effectively deliver the project. • Communities benefit from the projects which will enhance government legitimacy. • National groundwater legal, policy and administrative actions are developed and/or reformed for 	High	High

Stakeholder Group	Nature of interest in the project	Interest	Influence
Project-affected parties			
	<p>effective groundwater management and use.</p> <ul style="list-style-type: none"> • The coordination between the National and County Governments is done in a transparent and accountable manner, and with mutual respect for institutional and functional integrity of the level of government. • Principles of engagement are observed in all aspects of consultation at different levels- National Government, County and local community level. 		
Department of water Officials at County Governments	<ul style="list-style-type: none"> • Meaningfully and structure engagement with the stakeholders on all aspects of the project from project design and throughout project cycle. • Capacities of the staff are built to effectively deliver the project. • Communities benefit from the projects which will enhance government legitimacy. • County groundwater legal, policy and administrative actions are developed and/or reformed for effective groundwater management and use. • The coordination between the National and County Governments is done in a transparent and accountable manner, and with mutual respect for institutional and functional integrity of the levels of government. • Principles of engagement are observed in all aspects of consultation at different levels- National and County Government, local/community level. 	High	High
Other Ministries at national and County level (e.g. Finance; Environment and natural resources, labour and social	<ul style="list-style-type: none"> • Principles of engagement are observed in all aspects of consultation at the different levels. • Information is shared in a timely manner and feedback is used to inform further engagement on the project. 	Medium	Medium

Stakeholder Group	Nature of interest in the project	Interest	Influence
Project-affected parties			
security/services; Gender	<ul style="list-style-type: none"> • Clarity on terms of engagement and ministries'/departments role is provided from the beginning. 		
Other interested parties			
CBOs, CSOs, NGOs, operating in the counties and grassroots level involved in water and development projects	<ul style="list-style-type: none"> • The CBOs/NGOs receive information about project and provide feedback in a timely manner especially on the issues of overlap. • There is transparency and accountability in all aspects of the engagement. • Principles of engagement are observed in all aspects of consultation. • That they will share their knowledge of the project sites and location for the benefit of the project. • They could benefit from training that may be offered by the project. 		
Development partners and UN organizations engaged in water and climate change and resilience sectors	<ul style="list-style-type: none"> • They are interested to learn and get full disclosure about the project to explore partnerships. • To provide lessons learnt from their own work for the benefit of the project. • To participate in policy dialogue that may be supported by the project. • They are interested in coordination of development work and build synergy and avoidance of duplication of efforts. 	Medium	Medium
Business communities and contractors	<ul style="list-style-type: none"> • They will be awarded contracts to deliver specific groundwater infrastructure activities and/or provide services for the project. • There will be fair and transparent tendering process for works and service contracts. • That they will be able to overcome potential environmental and social risks and impacts as well as community health and safety. • They will be able to manage to deliver amid security challenges. 	Medium	Low

Stakeholder Group	Nature of interest in the project	Interest	Influence
Project-affected parties			
Academic institutions (e.g. universities, colleges, experts think tanks)	<ul style="list-style-type: none"> • They will be interested to receive financial support for training and research in relevant topics. • That they will be called upon to provide technical knowledge and expertise on groundwater and related topics. • Potential concerns over environmental and social impacts of the project 	Medium	Medium
Media (print and electronic) and online communication platforms.	<ul style="list-style-type: none"> • Get and share accurate information about the project. • To have clear channel of information flow from the project teams. • Complaints and grievances shared on social media platforms will be picked and addressed as necessary. 	Low	High
Disadvantaged Groups			
Women and Youth	<ul style="list-style-type: none"> • That the project will involve them in project related decision making processes to overcome traditional practices that relegated them to the sidelines of decision making. • That women headed household will benefit equally from the project. 	High	Low
People with Disabilities	<ul style="list-style-type: none"> • The project take cognizance of the fact some their members inability to be reached by project information to isolation or mode/materials used to deliver information is not accessible to them hence devise best ways to reach out to them. • That the project involve them in project decision making processes. • That their priority needs are catered for by the project (as part of project target communities). 	High	Low
Nomadic pastoralists	<ul style="list-style-type: none"> • They are interested to have water for their livestock but due to their mobility, their needs may be overlooked by the project. • That there will be investments in infrastructure at strategic sites and location to strengthen resilience. • Due to mobility, they may miss out on community consultation process. 	High	Low

Stakeholder Group	Nature of interest in the project	Interest	Influence
Project-affected parties			
	Deliberate effort by projects teams to identify their locations and devise best way to reach them.		

5.18 STAKEHOLDER ENGAGEMENT PROGRAM

Stakeholder engagement is an inclusive process that must be conducted throughout the project life cycle. The stakeholder engagement program covers the following:

- i. **Purpose and timing of stakeholder engagement program;** it summaries stakeholder engagement at all stages of the project life cycle and foreseen schedule, with what periodicity, and what decision is being undertaken on which people’s comments and concerns. For the ESMF, stakeholders will be engaged during development and implementation of ESMF.
- ii. **Proposed strategy for information disclosure (when and how);** this involves a selection of the different ways in which information will be packaged and shared with the key stakeholders. The PCU will be responsible for ensuring that the information gets to the stakeholders in a timely manner. Some of the methods proposed include; Posting on the websites (WBG and MOWSI), Audio-visual messages on project information (radio, TV in different local languages), Newspaper stories and supplements, Printed materials on project information, Social Media (Twitter, Facebook, Instagram, WhatsApp), Emails, Press releases, Speeches, Logs and reports from the national GRM focal person, State GRM focal persons, (GRM complaints points in National and County Governments, and local/community level etc. Feedback from stakeholders will be taken into view and improvements will be made to ensure robust and consistent information flow. The SEP is a document that may be modified and changed following input and suggestions from project stakeholders.
- iii. **Proposed strategy for consultation (channels to be used, frequency etc.);** Consultation methods to engage with the stakeholders vary and may include; Virtual meetings (observing COVID-19 protocols), in-person meetings, public announcements, interviews, Focus Group Discussions (FGDs), structured surveys, questionnaires, formal participation in monitoring sessions, use of print and electronic media etc.
- iv. **Proposed strategy to incorporate the view of disadvantaged, marginalized and vulnerable groups:** The project will give special consideration to disadvantaged groups. These include: Minority castes and groups; Internally displaced persons; Those who live in remote rural areas or areas characterized by violence that are bereft of social services and amenities; Nomadic pastoralist communities; People Living with Disabilities; Widows; and Single /women heads of households; orphans. These groups of people face social, economic, and physical barriers from participating in projects and the project will deploy viable strategies to engage target communities and other stakeholders and overcome social stigma and encourage inclusion by means of an **Inclusion Plan**. These strategies will include ensuring that these Vulnerable and Marginalized Groups (VMGs) are targeted in public consultations, the formation of Social Accountability Committees (SACs), which will promote inclusion and ensure the representation of the disadvantaged groups. Project teams will be trained on inclusion of disadvantaged groups. In addition, the monitoring tools will also have questions on inclusion and be used to strengthen strategies.

5.19 MONITORING BY STAKEHOLDERS AND REPORTING BACK TO STAKEHOLDER GROUPS

Information disclosure and consultations are relevant throughout the entire life cycle of the Project. There will be stakeholder consultations at different stages of the Project such as; Preparation of project documents for concept note and appraisal, after project approval, during verification of

existing and location/sites for projects, Screening of the proposed projects, In-depth study of risks and benefits, during the social assessment, during implementation, monitoring and evaluation, among other stages. Stakeholders will be able to participate in these processes through project committees, project review meetings/workshops, surveys etc. and their feedback incorporated. Feedback on the project activities including progress and responses to the issues raised by stakeholders will be done by responsible line ministries and PCU and PIUs at national level. Feedback will be given to the stakeholders using appropriate channels such as print media, electronic media and posted on the IAs, MOWSI and World Bank websites.

5.20 GRIEVANCE MECHANISM

The Grievance Mechanism (GM) provides channels and structures for project stakeholders to provide feedback and/or express grievances related to project supported activities. By providing this platform, it increases transparency and accountability by acting as important feedback and learning mechanism that helps reduce the risk of the project inadvertently affecting citizens/ beneficiaries.

PROJECT GRIEVANCE MECHANISM

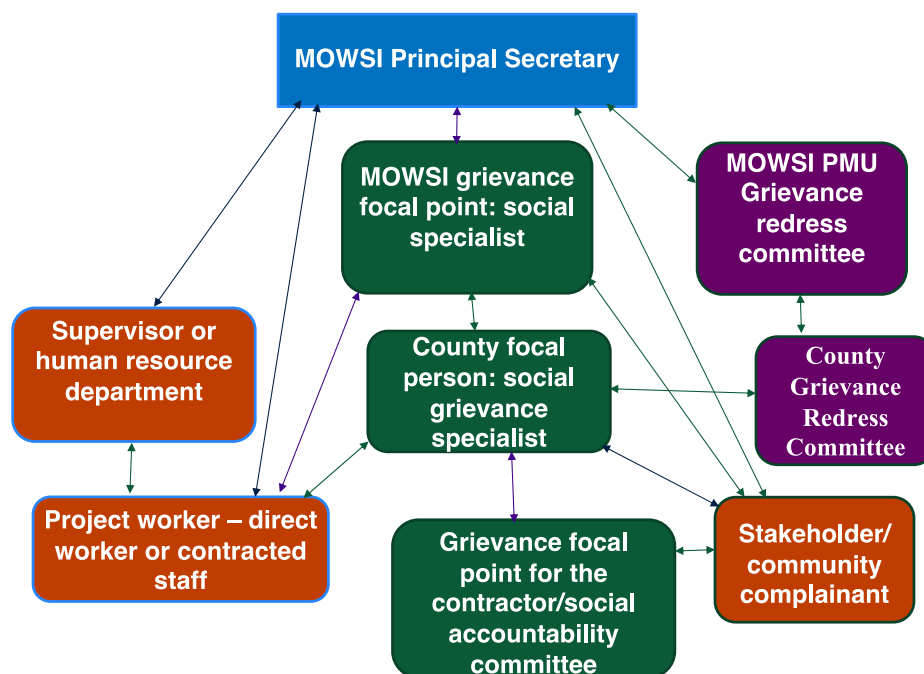


Figure 8: Project grievance mechanism

5.20.1 Objective of GM

The GM aims to address project-related concerns in a timely and transparent manner and effectively. During the preparation of the Subprojects ESIA or ESMP, the GM seeks to fulfil the following objectives;

- i Encourage registration, acknowledgment, and recording of all concerns or issues raised by aggrieved;
- ii Identify the frequencies of issues raised: for instance, unpaid compensation, inadequate compensation, disregard for local ritual ceremonies, land acquisition, workplace concerns and many more;
- iii Ensure that complaints are properly registered, tracked and documented, with due regard for confidentiality;
- iv Address the composition of a committee that would handle all grievances; Inform people of the public information centre establishment and access;

- v Establish procedures for the GM to enhance easy access, transparency and accountability, and tackle escalation of grievances beyond expectations;
- vi Manage the concerns raised by aggrieved parties to achieve a win-win situation within a reasonable time frame that would comply with national and international best practices; and
- vii Record all resolutions agreed upon by all parties involved and ensure that aggrieved persons are satisfied with every outcome of remedial resolution to foster harmony in subprojects.

5.20.2 GM structures and processes

In accordance to World Bank standards, the GM will be operated in addition to a GBV/SEA/H and GBV Action Plan (there will be a stand-alone GBV Action Plan developed for this project), which includes reporting and referral guidelines. The GRM will also operate in addition to specific workers' GRMs, which are to be laid out in the LMP. MOWSI will be responsible for overseeing the resolution of all grievances related to the project activities in accordance with the laws of National and County Governments, and the World Bank ESSs through a clearly defined GM that outlines its process and is available and accessible to all stakeholders. The entry point for all grievances will be with the social specialists at the and county level who will receive grievances by phone, text, or email to publicized toll-free mobile phone lines and email addresses at both county and community level. The social specialists will acknowledge, log, forward, follow up grievance resolution and inform the complainant of the outcome. The complainant has the right to remain anonymous, thus their name and contacts will not be logged and whistle-blower protection for complaints raised in good faith will be ensured. The social specialist will carry out training of all Government staff involved with the project, and contractors on receiving complaints and referral and complaints handling and reporting and will oversee awareness raising on the GM at national level.

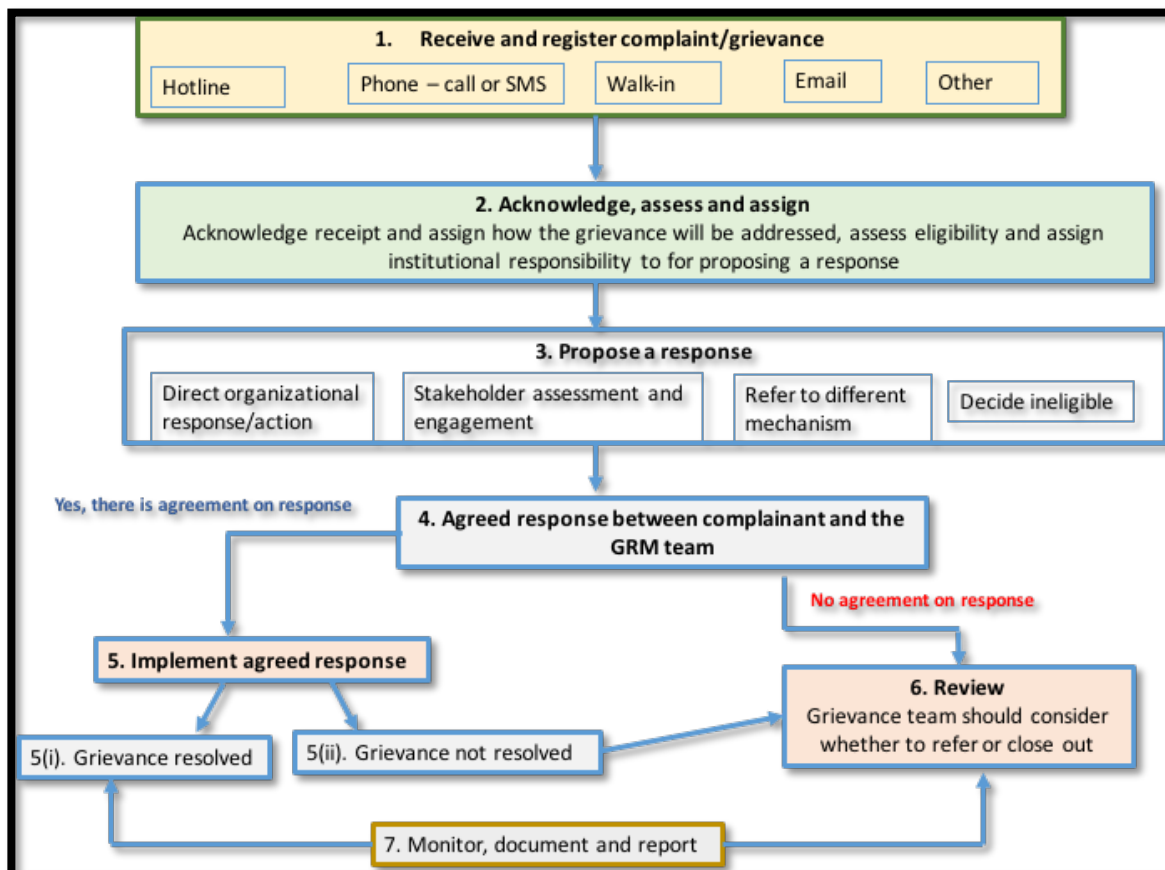


Figure 9: Grievance process for the project

5.20.3 Grievance Redress Committee

A grievance redress committee (GRC) will be established at national and county and sub-county levels chaired by the Project manager, and the relevant staff will be included as necessary depending on the complaint (procurement, finance, monitoring and evaluation (M&E), GBV advisor and communication). The social specialists will compile minutes for the meetings and follow up the grievance resolution process. The GRC will meet monthly to review minor complaints, progress on complaints resolution, review the development and effectiveness of the grievance mechanism, and ensure that all staff and communities are aware of the system and the project. Immediate meetings will be held in case of significant complaints to be addressed at the MOWSI PMU and County PIU. Significant complaints will be outlined in the GM manual. For serious or severe complaints involving harm to people or the environment or those which may pose a risk to the project reputation, the County social specialist should immediately inform the social specialist or head of the PMU, who will inform the World Bank within 48 hours as per the Environmental and Social Incident Reporting (ESIRT) requirements. All contractors and suppliers will be expected to sensitize their workers on the Project GRM and have a focal person to receive complaints regarding the construction and their workers and put in place complaints structures specific to the workers (as detailed in the LMP).

At community level, local committees - Ward Water Committees (WWCs) or WRUAs²⁹ with strong representation of disadvantaged groups will receive complaints directly from the community, or contractors, and forward to the county social specialist to support resolution and follow up. Figure 8-2 presents the structure to be adopted by the project in managing grievances.

5.20.4 GBV and SEA/H

Despite additional channels being present for reporting GBV/SEA/H complaints such as GBV Action Plan, cases of GBV/SEA/H can be reported through the general Project GRM. The GBV survivor has the freedom and right to report an incident to anyone: community member; project staff; GBV case manager; or service provider. Given to the sensitive nature of GBV complaints, the GRM will provide different ways to submit grievances such as phone, text message and email. All relevant staff of the PMU will receive training on handling GBV complaints and referral systems, ideally during the project initiation phase and as part of the staff welcome package. The GRM Operators will be trained on key protocols including referral, reporting and informed consent protocols to receive those cases in an appropriate manner and immediately forward them to the GBV/SEA/H referral system. The GRM Operator will ensure appropriate response by: (i) providing a safe caring environment and respect the confidentiality and wishes of the survivor; (ii) if survivor agrees, obtain informed consent, and make referrals; and (iii) provide reliable and comprehensive information on the available services and support to GBV survivors.

The GRM proposes the following key features on preventing GBV/SEA/H:

- (i) Establish quotas for women in community level grievance management to facilitate safe reporting;
- (ii) Provide multiple channels to receive complaints (channels to be determined after community consultation);
- (iii) Resolve complaints at the point of service delivery to reduce information and transaction costs and gender sensitive independent channels for redress; and (iv) communicate GRM services at the community level to create GBV/SEA/H awareness and enable project-affected persons to file complaints.

Beneficiaries and communities will generally be encouraged to report all GBV/SEA/H cases through the dedicated GBV/SEA/H referral system and complaints resolution mechanism. This will be made

²⁹ Mandera County has Ward Water Committees instead of WRUAs, which the other counties have.

explicit in all community awareness sessions, as well as be part of the publicly disclosed information. The GBV/SEA/H referral system will guarantee that survivors have access to necessary services they may need, including medical, legal, counselling, and that cases are reported to the police should the survivor choose to do so. Formal processes for disclosing, reporting, and responding to cases of GBV/SEA/H will be articulated within the GBV/SEA/H and GBV Action Plan.

If a GBV/SEA/H case is reported through the Project GRM, the GRM Operator will report the case within 24 hours to the PIU and PMU, and the PMU is obliged to report this case to the WB within 24 hours. Furthermore, cases of SH will be reported through the workers' GRM, if it concerns a direct worker or a worker from a sub-contractor, NGO partner or even a community worker following a survivor-centered approach. The PIUs will be in charge of holding sensitization sessions for contractors and primary suppliers regarding the Code of Conduct obligations and awareness raising activities in communities. All reporting on GBV/SEA/H will limit information in accordance with the survivor's wishes regarding confidentiality and in case the survivor agrees on further reporting, information will be shared only on a need-to-know-basis, avoiding all information which may lead to the identification of the survivor and any potential risk of retribution.

5.20.5 Resources and Responsibilities for SEP Implementation and Monitoring

Management

In addition to the implementation and coordination structures to implement the different components of the program, the social safeguards specialist will ensure that the SEP is appropriately implemented, monitored and evaluated. They will share the monthly reports with the PCU and the quarterly reports with the World Bank. The Project Implementation Unit responsible for decision-making and co-management of activities including the annual work plan and budget, co-monitor program activities, conducts quarterly progress reviews, make joint decisions on issues pertaining to implementation and ensure open communication and maximum accountability. The PMU will be responsible for day-to-day project management activities, including monitoring and reporting on project progress to all the relevant stakeholders. For this purpose, the PMU will organize, at regular intervals, workshops involving representatives of all stakeholders to present project progress and seek stakeholder input.

Resources

The project will set aside funds to ensure that the planned stakeholder engagement activities are implemented and monitored effectively. The main budget items include; staff salaries and related expenses; events and workshops; communication campaigns; trainings; SEP related surveys; Grievance Redress Mechanism. The costs for all these activities are budgeted under the Component 3 of the project and may be adjusted on need basis (See the SEP document for more details).

5.20.6 Monitoring and Reporting

The SEP will be periodically revised and updated as necessary to ensure that the information and the methods of engagement remain appropriate and effective in relation to the project context and COVID-19 protocols. Any major changes to the project related activities and to its schedule will be duly reflected in the updated SEP. Monthly/quarterly summaries and internal reports on public grievances, enquiries, and related incidents, together with the status of implementation of associated corrective/preventive actions will be collated by responsible staff and referred to the senior management of the project.

The monthly/quarterly summaries will provide a mechanism for assessing both the number and the nature of complaints and requests for information, along with the project's ability to address those in a timely and effective manner. Information on public engagement activities undertaken by the project during the year may be conveyed to the stakeholders in two possible ways:

- i. Publication of a standalone annual report on project's interaction with the stakeholders; and
- ii. A number of Key Performance Indicators (KPIs) will also be monitored by the project on a regular basis and reported on.

The project team will conduct surveys on World Bank supported components at the entry, mid-point and end of the project. The results from these surveys will be used to inform the World Bank on the necessary steps to take towards meeting the SEP objectives and project goals.

REFERENCES

1. Building Code 1968
2. County Government Acts, 2012
3. Energy Act of 2006
4. Environmental Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006
5. Environmental Management and Coordination (Fossil Fuel Emission Control) Regulations 2006
6. Environmental Management and Coordination (Noise and Excessive Vibration pollution) (Control) Regulations, 2009: Legal Notice 61
7. Government of Kenya Antiquities and Monuments Act, Cap 215 of 1983
8. Government of Kenya Employment Act, 2007
9. Government of Kenya Fiscal Management Act (CAP 5) of 2009
10. Government of Kenya Maritime Authority Act 2006
11. Government of Kenya Public Procurement and Disposal Act
12. Government of Kenya Roads Act
13. Government of Kenya Roads Board Act
14. Government of Kenya State of Environment 2010
15. Government of Kenya Wayleave Act
16. IFC Performance Standards
17. Kenya power Safety Rules Handbook 2014
18. Kenya Vision 2030: A Globally competitive and prosperous Kenya 2007
19. Land Act, 2012
20. Occupational Safety and Health Act, 2007
21. Penal Code Act (Cap.63)
22. Physical Planning Act, 1996
23. Public Health Act (Cap. 242)
24. The Constitution of Kenya, 2010: Constitutional provisions
25. The Environment Management and Co-ordination Act, 1999
26. The Environmental (Impact Assessment and Audit) Regulations, 2003
27. The Environmental Management Coordination (Waste Management) Regulations): Legal Notice 121
28. The Environmental Management Coordination (Water Quality) Regulations): Legal Notice 120
29. The Forestry Services Act, 2005
30. The Land and Environment Court Act 2011
31. The Traffic Act Cap 403 Of 2009
32. Urban Areas and Cities Act No. 13 of 2011
33. Water Act, 2002
34. Wildlife Conservation and Management Act, 2013
35. Work Injury and Benefits Act, (WIBA) 2007
36. World Bank Group Environmental, Health, and Safety Guidelines
37. World Bank Safeguards Policies

ANNEXES

ANNEX 1. ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST



MINISTRY OF WATER, SANITATION AND IRRIGATION (MoWSI)
Horn of Africa Groundwater for Resilience Program (HoAGW4RP)- Kenya

SCREENING CHECKLIST

REGIONAL PASTORAL LIVELIHOODS ENVIRONMENTAL SCREENING CHECKLIST FOR ALL SUBPROJECTS CARRIED OUT IN A SPECIFIC LOCATION (Filled and prepared by county level staff and community committee member and approved by Field Appraisal Officer (CDE) and PIU environmental and social experts)

Project investment name _____

County and location: _____

Estimated cost (USD): _____

Objectives of the subproject: _____

Activities to be undertaken: _____

Will the Project?	Yes	No
1. Adversely affect natural habitats nearby, including forests, rivers or wetlands?		
2. Require large volumes of construction materials (e.g. gravel, stone, water, timber, firewood)?		
3. Use water during or after construction, which will reduce the local availability of groundwater and surface water?		
4. Affect the quantity or quality of surface waters (e.g. rivers, streams, wetlands), or groundwater (e.g. wells, reservoirs)?		
5. Be located within or nearby environmentally sensitive areas (e.g. intact natural forests, mangroves, wetlands, nature reserve, national park etc.) or threatened species sanctuary?		
6. Lead to soil degradation, soil erosion in the area?		

7. Create waste that could adversely affect local soils, vegetation, rivers and streams or groundwater?		
8. Create pools of water that provide breeding grounds for disease vectors (for example malaria or bilharzia)?		
9. Involve significant excavations, demolition, and movement of earth, flooding, or other environmental changes?		
10. Affect historically-important or culturally-important site nearby?		
11. Require land for its development, and therefore displace individuals, families or businesses from land that is currently occupied, or restrict people's access to crops, pasture, fisheries, forests or cultural resources, whether on a permanent or temporary basis?		
12. Result in human health or safety risks during construction or later?		
13. Involve inward migration of people from outside the area for use of services or other purposes?		
14. Increase tension/ conflict or disputes among or within communities?		
15. Affect indigenous people, or be located in an area occupied by indigenous people?		
16. Be located in or near an area where there is an important historical, archaeological or cultural heritage site?		
17. Result in a significant change/loss in livelihood of individuals?		
18. Adversely affect the livelihoods and /or the rights of women?		
19. Cause increased settlement or degradation of surrounding areas?		
20. Disposal of bush clearance residue may cause spreading of invasive species?		
21. Introduce a non-native animal or plant species?		
22. Involve handling of vet drugs and vaccines?		
23. Maintenance and management responsibilities have not been defined and accepted by concerned parties?		
24. Has not extensively consulted and included VMGs in the selection, planning and project benefits including women?		
25. Has not received wide community agreement on project including by VMGs?		
26. Has not informed the community of the focal point for GRM?		

If you have answered Yes to any of the above, please describe the measures that the project will take to avoid or mitigate environmental and social impacts

What measures will the project take to ensure that it is technically and financially sustainable and well co-ordinated with other interventions in the area?

If the answer to any of questions "Yes", please use the indicated Annexes or sections(s) of the ESMF, RPF and VMGF for guidance on how to avoid or minimize typical impacts and risks.

Expert Advice

Completed by County Project Implementation officer

Name: _____ Position / Community: _____ Signature: _____

Date: _____ Tel contact: _____

Approved by Community committee chair

Name: _____ Position _____

Signature: _____ Date _____ Tel contact: _____

Checked and approved by:

Field Appraisal Officer (CDE)(NEMA)

Name: _____ Signature: _____ Stamp _____

Date: _____ Tel contact: _____

Action plan (completed by Field Appraisal Officer)NEMA

Which course of action do you recommend?

- ESIA EIA ESMP RAP (RPF is the reference document with reference to resettlement issues) VMGP Other environmental/social plans
 There are no/negligeable environmental or social risks

If a RAP is required, will the project displace or restrict access for less than 200 individuals, or if over 200, are losses for all individuals less than 10% of their assets?

If yes, prepare an abbreviated RAP If no, prepare a full RAP

Full details of resettlement requirements are provided in the accompanying Resettlement Policy Framework.

Checked and approved by:

PIU Environmental Officer Name: _____ **Signature:/Stamp** _____ **Date** _____

PIU Social Officer: _____ **Signature/stamp:** _____ **Date** _____

ANNEX 2. SAMPLE TOR FOR ESIA/ESMP

The ESIA report should include the following items:

- a. **Executive summary.** Concisely discusses significant findings and recommended actions.
- b. **Project description.** Concisely describes the proposed project and its geographic, ecological, social, and temporal context, the main project implementation inputs, construction and operation phase activities, including any offsite investments that may be required (If any i.e. workforce camps, quarry, etc.).
- c. **Policy, legal, and administrative framework.** Discusses the national policy, legal, and administrative framework within which the impact assessment is carried out. Explains the relevant World Bank Environmental and Social Standards for the Environment and Social risks and impacts management. Identifies relevant international environmental agreements to which the country is a party. The impact assessment should be carried out in line with GoK regulations and World Bank Environmental and Social Framework. Include relevant WBG EHS guidelines.
- d. **Baseline data.** Assesses the dimensions of the study area and describes relevant physical, biological, and socioeconomic conditions, including any changes anticipated before the project commences. Also takes into account current and proposed development activities within the project area but not directly connected to the project. Data should be relevant to decisions about project location, design, operation, or mitigation measures. Special focus shall be given on the baseline status on the surface and ground water environment. The section indicates the accuracy, reliability, and sources of the data. Indicate potential for contribution to cumulative impacts, given other similar activities in the same watershed, pastureland, etc.
- e. **Stakeholder consultation.** The consultations should be held with the purpose to (a) collect baseline information, (b) obtain a better understanding of the potential impact (c) appreciate the perspectives/concerns of the stakeholders, and (d) secure their active involvement during subsequent stages of the project as appropriate. Consultations should be preceded by a systematic stakeholder analysis that would (a) identify the individual or stakeholder groups relevant to the project and to environmental and social issues, (b) include expert opinion and inputs, (c) determine the nature and scope of consultation with each type of stakeholders, and (d) determine the tools to be used in contacting and consulting each type of stakeholder. A systematic consultation plan with attendant schedules should be prepared for subsequent stages of project preparation as well as implementation and operation, as required. Where community consensus is required in respect of proposed mitigation measures for impact on community and public assets including water bodies, places of worships etc., specific plan for modification/relocation etc. have to be disclosed and consensus obtained. Consultations should be documented to provide a detailed record on who attended the meetings (with signatures), what were the points raised and what were the team's responses. Photographs of the meetings are a useful addition to the documentation.

***NB:** Due to Covid-19 restrictions for communities, the Consultant should innovate ways to do consultations fit for purpose, effective and meaningful in order to meet project and stakeholder needs and adhere to the restrictions put in place by the government to contain virus spread. This should be done in line with the Technical Note: Public Consultations and Stakeholder Engagement in WB-supported operations and especially during this time of the COVID-19 pandemic, the Ministry of Health guidelines for COVID-19 and NEMA Guideline on consultation during COVID 19 by use of ICT technology and use of Comprehensive questionnaires.*

- f. **Analysis of project alternatives.** Systematically compares feasible alternatives to the proposed project site, technology, design, and operation—including the "without project" situation—in terms of their potential environmental and social impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements. For each of the alternatives, quantifies the

environmental and social impacts to the extent possible, and attaches economic values where feasible.

- g. **Potential Environmental and Social Impacts & Mitigation Measures.** Predicts and assesses the project's likely positive and negative impacts, in quantitative terms to the extent possible. Identifies mitigation measures and any residual negative impacts that cannot be mitigated. Explores opportunities for environmental and social enhancement. Provides clear recommendations to the project design to avoid or minimize negative impacts. Identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions, and specifies topics that do not require further attention. The assessment should also be based on the review of various earlier studies such as feasibility and detailed project reports, etc., of the project and understand all related aspects. This will provide a base to formulate the environmental and social surveys necessary for the project and assessing its impact. Furthermore, the impact assessment should be carried out in a consultative manner through stakeholder consultations, at various stages, with the affected communities, NGOs, selected government agencies and other stakeholders.
- h. **Identification of the cumulative impact of the project:** The environmental and social assessment will consider cumulative impacts that are recognized as important on the basis of scientific concerns and/or reflect the concerns of project-affected parties. The potential cumulative impacts will be determined as early as possible, ideally as part of project scoping.
- i. **Identification and evaluation of impacts in terms of vulnerability to climate risks:** The direct and indirect impacts of implementing the ESIA/ESMP in terms of increased or reduced vulnerability to climate variability and climate change should be considered as relevant (e.g. the construction of new infrastructure in 'climate-sensitive' areas such as coastal zones may lead to population migration to these areas, thus exposing more people to climate risks; on the contrary, sector-wide measures may contribute to increase the population's resilience to climate change).
- j. **Analysis of performance indicators:** Performance indicators proposed by the ESIA/ESMP should be assessed from an environmental, social, and EHS perspective, i.e. with regard to their usefulness to capture the environmental, social and EHS effects (positive or negative) of implementing the sector strategic document and to monitor the environmental, social, labor and climate-related constraints bearing on it. Based on this analysis, proposals should be made as appropriate for the improvement of the existing performance assessment framework.
- k. **Appraisal of the capacities to address environmental, social, EHS, and climate-related challenges:** The capacity of implementing agencies to address the identified environmental, social, EHS and climate-related issues, both in terms of adaptation and mitigation, shall be appraised. Additionally, information on budget allocations and medium-term expenditure framework shall be incorporated.
- l. **Environmental and Social Management Plan**
A subproject's environmental and social management plan (ESMP) should consist of the set of mitigation, monitoring, and institutional measures to be taken during implementation and operation to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. The plan shall include the actions needed to implement these measures. To prepare an ESMP, MoWSI will (a) identify the set of responses to potentially adverse impacts; (b) determine requirements for ensuring that those responses are made effectively and in a timely manner; and (c) describe the means for meeting those requirements. More specifically, the ESMP shall include the following components:

Mitigation

The ESMP should identify feasible and cost-effective measures that may reduce potentially significant adverse environmental and social risks and impacts to acceptable levels. The plan should include compensatory measures if mitigation measures are not feasible, cost-effective, or sufficient. Specifically, the ESMP:

- Identifies and summarizes all anticipated significant adverse environmental and social impacts (including those involving vulnerable communities and or indigenous people);
- Describes with technical details each mitigation measure, including the type of impact to which it relates, the conditions under which it is required (e.g., continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures;
- Estimates any potential environmental and social impacts of these measures;
- Provides linkage with any other mitigation plans required for the project; and
- Indicated costs required for these measures implementation.

Monitoring

Environmental and social monitoring during project implementation should provide the information about key environmental and social aspects of the project, particularly the environmental and social impacts of the project and the effectiveness of mitigation measures. The information enables MoWSI and the Bank to evaluate the success of mitigation as part of project supervision and allows corrective action to be taken when needed. Therefore, the ESMP shall identify the monitoring objectives and shall specify the type of monitoring, with linkages to the impacts assessed in the ESIA report and practical mitigation measures described in the ESMP. Specifically, the monitoring section of the ESMP should provide:

- A specific description, and technical details of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds to signal the need for corrective actions; and
- Monitoring and reporting procedures to (i) ensure early detection of conditions that necessitate particular mitigation measures, and (ii) furnish information on the progress and results of mitigation.
- Costs required for regular monitoring of the project

Institutional Arrangements, Capacity Development and Training

To support timely and effective implementation of environmental and social project components and mitigation measures, the ESMP draws on the ESIA's assessment of the existence, institutional arrangement / roles, and capability of environmental and social units on site or at the PCU at Ministry and at County levels. The ESMP should articulate the roles of such units, and where need be propose the training of staff, to allow implementation of ESIA recommendations. Specifically, the ESMP should provide a specific description of institutional arrangements responsible for carrying out the mitigation and monitoring measures (e.g., for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting, and staff training).

Implementation Schedule and Cost Estimates

For all three aspects (mitigation, monitoring, and capacity development), the ESMP should provide (a) an implementation schedule for measures that must be carried out as part of the project, showing phasing and coordination with overall project implementation plans; and (b) the capital and recurrent cost estimates and sources of funds for implementing the ESMP. These figures are also integrated into the total project cost tables.

Integration of ESMP with the Project

ESMP should be specific in its description of the individual mitigation and monitoring measures and its assignment of institutional responsibilities, and it must be integrated into the project's overall planning, design, budget, and implementation.

Team to undertake the assignment and Estimated Time

The Consultant should demonstrate experience in conducting ESIA's for water sector - projects, natural resources projects for the last five years. The team will be led by a NEMA Registered Environmental Practitioner with a clear understanding of complex natural resources management issues. The areas of expertise required include: environmental and social impact assessment, ecology, public health and hydrogeology. The Consultant may optimize their personnel to demonstrate the competences required for the assignment, indication of all staff that will be involved in the study is required. The personnel of the Consultant should have wide practical experience in the areas mentioned. The qualifications of the key experts is shown on Table 15.

Table 16: Requirements and Qualifications of the Team to undertake the Assignment

Position	Competencies
<i>Team Leader / Environmental Assessment Specialist</i>	Environmental Specialist: The person should have a graduate degree in environmental science/engineering or related discipline such as planning. S/he should have experience of at least 10 years in environmental and social assessment of similar water sector projects. Preference to be given to persons with experience of working on projects supported by multi-lateral/bilateral funding agencies such as the World Bank. The Environmental specialist is expected to work with Social Development Specialist.
<i>Social Specialist</i>	Social Development Specialist: A Postgraduate in Sciences/ Social Sciences/ Social Development or with a Management Degree/ having at least 5 years of experience in the conduction of social assessments, and social assessments and vulnerable community development plans, especially for similar projects. Preference to be given to persons with experience of working on projects supported by multi-lateral/bilateral funding agencies such as the World Bank, AfDB, IFC , KFW etc.

ANNEX 3. ENVIRONMENTAL AND SOCIAL SUMMARY REPORTING TOOL FOR SUBPROJECTS

ESIA/C-ESMP, voluntary land donation/agreement documentation, screening form, community meeting minutes

Proposed subproject: _____ Village/subcounty/County: _____

Overview of the project location and key features within 200m of works (to understand impacts) _____

1. Population resident on or regularly using the land/subproject or claimants of the land:

Village/ (facility users can be by people resident more than one location)	No of individuals resident or regularly using the project area for their livelihood	No. of direct users of the subproject (individuals)	Number of people from that village/consulted on the subproject (design, siting, social and environmental impacts)

2. Has there been any conflict over this land or water resources in the past? If so please describe, what measures the project will take to ensure that it does not exacerbate conflict.

3. Consultations with the community on the subproject (to ensure broad agreement, ownership and risk identification and mitigation). *Attach copies of minutes and attendance sheets for all meetings held*

	Date	Village	Total number of people involved	No. of women	No. of youth	No. of minority group or IDP representatives (please specify group/s or state that there are no minority groups)	Main concerns raised and how they will be addressed including training	Challenges in consulting with people e.g. migration, conflicting event, insecurity
Initial discussions								

Safeguards screening meeting								
Other – meetings (specify)								

4. Environmental and social impacts and mitigation measures identified by the community (only put those not captured in the contractors ESMP)

Social and environmental impacts of subproject	Mitigation measures	When will this be done	By whom?	Whether done?

5. Has a safeguards field visit been undertaken to the site? Y/N Date of visit: _____ Title of visiting officer: _____

6. Has the E&S monitoring form been filled? Y/N

7. Has the ESMP been incorporated into the contract for the works and is a safeguards compliance report required before payment?

8. Type of land required for sub-investment and documentation:

a. Government land	Title deed/confirmation document attached?	YES/NO/EXPLANATION
b. Community land	Voluntary land donation form and community minutes attached?	YES/NO/EXPLANATION
c. Private land	Voluntary land donation form and conversion document attached?	YES/NO/EXPLANATION

9. **Voluntary land donation:**

a) **How many people either live on or regularly use the land where the project will be implemented (including those who might use it as a drought fall back area) _____ and how many agreed to the voluntary donation of this land for this public facility?**

b) **Explain how the requirements for voluntary land donation have been met (and attach minutes, VLD form and signed participants list):**

Requirements for voluntary land donation	Explanation and evidence
1. The land required to meet technical project criteria must be identified in conjunction with the affected community?	
2. What are the likely impacts of proposed activities on donated land and how were these explained to the community?	
3. Area of land compared to area owned (no more than 10 percent of the area of any holding can be donated). %	
4. How will the users and occupiers of the land benefit from this subproject?	
5. What are the conditions of benefiting from this subproject – connection fees, service charges etc.	
6. How was the community made aware that refusal was an option and confirmed in writing that they are willing to proceed with the donation? (e.g. at the consultation and in the voluntary land donation document)	
7. What evidence is there that the act of donation was undertaken without coercion, manipulation, or any form of pressure on the part of public or traditional authorities (e.g. photos/videos of community consultation etc.)?	
8. Do all the users and occupants of this land understand that by donating this land it may be gazetted as public land	
9. How was it explained that they have a right to compensation for land and the available compensation options (in-kind compensation, land for land compensation or cash compensation, and the implications of cash compensation?	

10. Were monetary or non-monetary benefits or incentives requested as a condition for the donation and were these provided?	
11. How do you know that the land being donated will not reduce the remaining land area to a level below that required to maintain the donor's livelihood at current levels and will not required the relocation of any household?	
12. Will any structures be moved or any access to land be limited as a result of the subproject (describe structures and locations)?	
13. If so, how will they be compensated/facilitated and/or their livelihoods restored?	
14. How was consent provided by all individuals occupying or regularly using the land?	
15. Was there anyone who did not give agreement and why?	
16. How was it established that the land to be donated was free of encumbrances or encroachment and was it registered in an official land registry?	
17. All users and occupants of the land have genuinely understood (in local language with sufficient time) and agreed that all conditions for voluntary land donations have been met (refer to consultations above and attach minutes)	

10. GRM: Has the GRM process and contact information for focal points been disseminated to the community? If so, how and to whom (numbers and groups). If Not, when will this be done? _____

11. GBV/SEAH: Has awareness been carried out on GBV, service providers and confidential survivor centric GBV complaints mechanism? If so, how and to whom (numbers and groups). If not, when will this be done? _____

12. Sustainable management: Who will manage and maintain the subproject, and how will repairs be funded? _____

13. Describe the involvement and inclusion of women and minority groups or nomadic pastoralist representative in management?_____

ANNEX 4:. CULTURAL HERITAGE- CHANCE FIND PROCEDURE

1. Introduction

This *Chance Find Procedure* was developed for the proposed Horn of Africa Ground Water for Resilience Project (HOAGW4R) in accordance with the World Bank's ESS 8-cultural heritage. A *chance find* is any unanticipated discovery or recognition of cultural heritage. Chance finds occur during the construction phase of a project. Such finds include the discovery of a single artifact, an artifact indicating the presence of a buried archaeological site, human remains, fossilized plant or animal remains or animal tracks, or a natural object or soil feature that appears to indicate the presence of archaeological material. A chance find procedure is included in relevant procurement documents and instructions to contractors. The procedure covers discovery of artifacts in the soil or underwater. A chance find procedure is not a substitute for pre-construction surveys and analyses.

2. Purpose of the chance find procedure

The *Chance Find Procedure* is a project-specific procedure that outlines actions required to prevent chance finds from being disturbed until an assessment by a competent specialist is made and actions consistent with the requirements are implemented.

3. Scope of the chance find procedure

This *chance find procedure* covers the identification, notification, documentation, and management of *chance find* in accordance with national laws and, where applicable, internationally accepted practice. This procedure is applicable to all activities conducted by the personnel, including contractors, that have the potential to uncover a heritage item/site. The procedure details the actions to be taken when a previously unidentified and potential heritage item/site is found during construction activities. Procedure outlines the roles and responsibilities and the response times required from both project staff, and any relevant heritage authority.

4. Induction/Training

All personnel, especially those working on earth movements and excavations, are to be inducted on the identification of potential heritage items/sites and the relevant actions for them with regards to this procedure during the Project induction and regular toolbox talks.

5. Chance find procedure

If any person discovers a physical cultural resource, such as (but not limited to) archaeological sites, historical sites, remains and objects, or a cemetery and/or individual graves during excavation or construction, the following steps shall be taken:

- i Stop construction activities;
- ii Delineate the discovered site area;
- iii Secure the site to prevent any damage or loss of removable objects. In case of removable antiquities or sensitive remains, a full-time guard should be present until the responsible authority, National Museums of Kenya (NMK) and the local county government, takes over;
- iv Notify the responsible foreman, who in turn should notify the HOAGW4R project SPIU and NPCU, who will then notify NMK and or the local county government, and the World Bank within less than 24 hours;
- v The significance and importance of the findings will be assessed according to various criteria relevant to cultural heritage including aesthetic, historic, scientific or research, social and economic values;
- vi Decision on how to handle the finding will be reached based on the above assessment and could include changes in the project layout (in case of finding an irrevocable remain of cultural or archaeological importance), conservation, preservation, restoration or salvage;
- vii Implementation of the decision concerning the management of the finding;

- viii Construction work can resume only when permission is given from the respective authorities after the decision concerning the safeguard of the heritage is fully executed;
- ix In case of delay incurred in direct relation to archaeological findings not stipulated in the contract (and affecting the overall schedule of works), the contractor may apply for an extension of time. However, the contractor will not be entitled for any kind of compensation or claim other than what is directly related to the execution of the archaeological findings works and protections.

ANNEX 5: MOU WITH THE COMMUNITY ON SUB-PROJECT AND WATER SHARING AGREEMENT

Memorandum of Understanding Between the sub-Project Implementation Unit and

_____ WRUA/ward Development committee

This is an agreement between Project Implementation Unit (PCU) for the project, hereinafter called Party A and “_____ Ward Development Committee”, hereinafter called Party B. The PIU is stationed at the Kenya Ministry of Water Sanitation and Irrigation (MoWSI) in _____ County and represent all government authorities implementing the project. The Ward Development Committee represents all community members including children, elders, religious leaders, youth, women, men, farmers, minority groups, nomadic pastoralists, PWDs, IDPs etc

Purpose

The purpose of this MoU is to clearly identify the roles and responsibilities of each party as they relate to the project implementation and sustainability.

The parties (PCU and Ward Development Committee) will work together to provide the resources necessary to implement and sustain this project. Both Parties will ensure that program activities are conducted in compliance with all applicable national laws and World Bank ESF. Both parties understand that the project components as establishment and rehabilitation of boreholes, subsurface dams, sand storage dams, area infiltration interventions, rehabilitation of degraded rangelands and institutional strengthening. These interventions will directly provide benefits in the form of access to improved water sources for multiple uses (domestic, livestock, agriculture, and horticulture); agricultural extension services (livestock and crops); improved livelihood resilience; and adaptive know-how.

Roles and responsibilities between two parties

Party A (PCU team) responsibilities under this MoU

1. Facilitation of the investment and maintaining a unified Results Framework for the project.
2. Ensure community engagement inclusivity and participation for the project implementation and sustainability.
3. Responsible for supervision and collaboration with the service providers to ensure they closely working with community.

4. Party A (PIU) to ensure that dam entry, and dam related structures such as animal troughs are downstream the dam to prevent contamination and prevent rangelands degradation.

Part B Ward Development Committee responsibilities under this MoU

1. Leading community participation, project sustainability, use and maintenance for example Provide necessary support such as land, technical experts in the community.
2. The community is responsible for bringing/formulating inclusive village development committees respecting with existing system.
3. Community organization meetings, awareness, documenting and report general grievances arising from project interventions and bring them to the attention of the project's Grievance Redress Mechanism.
4. Ensure that no new settlements are established roughly _____ km upstream (watershed) to prevent pollution (if the area is already not settled).
5. Appoint a water management committee led by the Ward Development Committee whose members should be permanent settlers that do not migrate with the seasons. The water management committee to clean the dam area (or desilting) before the rainy seasons (where necessary).
6. Together with the water management committee to develop by-laws covering but not limited to the following aspects:

Collecting water user fee [committees to set the price in consultation with the general community]

Prioritizing human consumption followed by livestock and crop production respectively.

Time lots in the dry seasons (Jan -Feb and Jul-Sep). Permanent residents could drink from 4.00pm – 10.00pm while pastoralists (coming from out of the settlement) could drink from morning to afternoon.

During a crisis, irrigation should be stopped to allow the survival of humans and livestock.

Ensuring water access for all, irrespective of the area of origin. All groups (immigrants, minority groups and settlement pastoralists) have equal rights in consumption amounts.

Water fetching to be queuing to be respected on a first come first served basis.

To define fines and punishment for all breaching the by-laws: _____ [committee to decide on what to charge].

On behalf of the Project

Project Coordinator

Name: _____ Sign: _____

Email: _____ Tel: _____

On behalf of the Community

Name: _____ Sign: _____

Role: _____ Tel: _____

Name: _____ Sign: _____

Role: _____ Tel: _____

ANNEX 6 COMMUNITY LAND RESOLUTION AND CONSENT FORM

MINISTRY OF WATER, SANITATION & IRRIGATION

Horn of Africa Ground Water for Resilience Project

COMMUNITY LAND RESOLUTION AND CONSENT FORM

ITEM	DESCRIPTION
Sub-Project name	
Component 1:	
Activity Code:	
Output 1.2:	
Name of Investment	
Project Location:	
GPS coordinates	
Estimated cost of the investment	
Source of Funding	
Financial Year	

Please attach the community baraza minutes and summary safeguards report explaining how the requirements for voluntary land donation for this investment have been met.

TERMS OF THE AGREEMENT

1. As discussed in our community baraza onto which all residents and regular users of the investment area (specify) were invited. We the nominated representatives at that meeting confirm that the following issues were discussed, and the residents and regular users of this land are in unanimous agreement.
2. That , shall be site of the proposed and that:

3. We all are aware that the land set aside for the investment is community land and no one is claiming individual ownership because it belongs to all of us, and no alternative claims will be made later on the land.
4. We have all agreed unanimously that the project implementation should continue.
5. We will all allow other neighbouring and cross-border communities access to the investment as agreed between elders of both communities.
6. We all shall strive to peacefully resolve any conflicts with other communities concerning the investment.
7. We will strive to peacefully co-exist and resolve any conflict arising out of the investment facility following due process provided by the laws of Kenya.
8. The land to be donated was identified in consultation with all residents and users of the land.
9. We all understand the likely impacts of proposed activities on donated land.
10. We all understand that the community could have refused this investment.
11. We all agreed to this investment and donation of the land without coercion, manipulation, or any form of pressure on the part of public or traditional authorities.
12. We all agreed that we do not require any monetary or non-monetary benefits or incentives as a condition for the donation.
13. Donation of land will not adversely affect the livelihoods of occupiers and users of the land.
14. If any structure will be moved or any access to land be limited as a result of the sub-project, support will be provided to the individual, so their livelihoods are not adversely affected.
15. The land is free of encumbrances or encroachment and is not claimed by any individual and its ownership is not contested.

We have been designated by the community of

(_____,
 _____,
 _____,
 _____)

Confirm the above information to be true and that we have resolved to abide by ALL terms of this agreement. (Please attach minutes of the community meeting including the signed attendance sheet and photos of the meeting).

S/ No	Na me	Village/Loca tion	ID/ No.	Signat ure
1.				
2.				
3.				
4.				
5.				

Witnessed on this Day of in the Year.....: by:

1. Area Chief

Name	ID/No.	Signature & R/Stamp

2. Ward Administrator

Name	ID/No.	Signature & R/Stamp

3. Community Land Registrar/land adjudication officer

Name	ID/No.	Signature & R/Stamp

4. County Government (Physical Planning Department)

Name	ID/No.	Signature & R/Stamp

5. County Ministry Relevant to the project e.g. Water/Livestock Production etc.

Name	P/No.	Designation	Signature & R/Stamp

6. County Project Team Leader

Name	ID/No.	Signature & R/Stamp

ANNEX 7: COUNTY GOVERNMENT CONSULTATIONS

ENGAGEMENT WITH HoAGW4RP COUNTY GOVERNMENT STAKEHOLDERS

DATE: NOVEMBER 12, 2021

VENUE: SAROVA PANAFRIC

COUNTY EXPERIENCES AND RECOMMENDATIONS ON THE FOLLOWING SOCIAL AND ENVIRONMENTAL ASPECTS OF GROUNDWATER RESOURCE UTILIZATION AND MANAGEMENT	
TOPIC	COUNTY RESPONSES
1. Ensuring inclusive consultations with residents and users of water on siting and design of water infrastructure – including women, minorities, and nomadic pastoralists	<p>Mandera – through public <i>barazas</i> and every village has their own structure with representatives from different groups.</p> <p>When? During the needs assessment, after feasibility studies and towards Operation and Maintenance (O/M)</p>
	<p>Garissa – 3 simple quotes –</p> <ol style="list-style-type: none"> 1. Tell me and I will know 2. Teach me and I will remember. 3. Involve me and I will understand <p>This way is the best way. Through FGDs, local leaders, chiefs etc. at the Ward and sub- county level as they have representatives from the villages and ward committees.</p>
	<p>Turkana – the Turkana people are usually willing to express their opinion. Women are the ones that mostly participate in water activities. They do not want clustered water points, and this is to consume their pasture – they want to conserve their pasture. Consultations should begin from the initial stages from which they will actively participate in all stages. This is easily organized through the administrators from the ward admin, sub- county etc. especially the ward level where they can be gathered in a venue and provided with refreshments and transport, and they will be willing to participate.</p> <p>Wajir – We engage the locals, Chiefs, minority groups, disabled - especially through the elders.</p>
	<p>Marsabit – this is necessary and should be the first activity, once you understand and respect the culture it becomes easy. Marsabit is composed of the Borana, Rendille, Samburu, Turkana, Burji etc. and they use the Elder system, you can use the wards, chiefs but elders are a must. There are minorities but are recognized and are brought together through the Cultural festivals.</p>
2. Promoting awareness and appreciation of the limitations of ground	<p>Garissa – water is known as a valuable and limited resource. We promote inclusivity from the top to bottom – this is what should be promoted to avoid conflict. Communities are aware of the limited nature of it and they are promoting the purchase of storage such as</p>

water resources and the need to conserve and promote equitable and sustainable use;	tanks to avoid wastage from fetching from taps. GARAWASCO WSP promotes prepaid meters to promote equitable access to water.
	<p>Mandera– from the groundwater survey, the communities are usually on board, and they move around with the groundwater surveyors and are aware of the levels of water. They agree on the use of the boreholes for different users e.g. the community, livestock etc.</p> <p>In terms of structure, an engineering assistant is in charge at ward level and works with communities to manage water at the ward level. This way, sustainability is enhanced, and knowledge of breakdowns is communicated effectively. The people recognize the finite nature of water resources.</p>
	Marsabit – are mostly unaware of the finite nature of groundwater, we need to sensitize the community on the finite issue, and this should be included on this Project.
	Turkana – are more about the supply of the resource to the users and are not very concerned about the finite nature.
3. Resolving and preventing water conflicts	Garissa – There is a Conflict Resolution Mechanism at Village / ward level. There are Peace Elders at every village who promote peace and resolve conflicts. The community is usually aware of the various components.
	Mandera – conflict is cross-cutting, here all stakeholders at sub-county and ward level play a part/ role in conflict resolution including the administration and committees.
	Marsabit – In the last 10 years more boreholes have been built, most conflict is about grazing. Peace committees and local government help to resolve them. Usually, care is taken not to put a project in such conflict prone areas.
	Wajir – make sure the committees are incorporated in the management of water resources.
	Turkana – conflict occurs mostly along the border. The community is usually quick to relay the info to the various relevant persons etc.
4. Trusted and functioning grievance mechanisms to improve project implementation	Marsabit - Grievances are mostly channeled to the politicians.
	Marsabit - Grievances are mostly channeled to the politicians.
	Turkana - They will resort to the political leadership when not satisfied, involves the local leadership.
	Garissa – Produced some booklets to record the grievances but didn't work because proper consultation was not done. This maybe should be relooked at. The Chief Officers, Directors, Chiefs, community usually try to solve the grievances

5. How can sustainable management of water points by community structures be promoted? Could a social accountability and cohesion committee (as mentioned in the SEP) help ensure this? How could this be established and how would it relate to the WRUAs/county?	Garissa – Still have the WRUAs – we should operationalize the Garissa Rural Water corporation (GARAWASCO) and it should work to address inclusivity issues and grievances
	Mandera – have a committee formed by the Dept of water services, operator and 2 other people. Enhance existing structures - assess the local structures and improve them. Had a bad experience with the WRUAs, lets utilize the models that exist e.g the water companies etc also have committees that work with the users. Don't put management of the water into the hands of the community.
	Marsabit – still struggling with the WRUA, prefer the Mandera model. Marsabit solarized over 40% of the boreholes yet the tariffs for water have not come down and this is not sustainable.
	Turkana – have had a bad experience with the WRUAs, give licenses to entities that can supply the water e.g., WSPs, whose contracts can be revoked.
6. Experiences of gazettement/ protection of recharge areas?	Turkana – not an issue if the land is community-owned. However, in areas where land is individually owned like where the Napuu aquifer is situated will likely pose a challenge.

PARTICIPANTS LIST

Name	Organisation	Contact details

ANNEX 8: STAKEHOLDER CONSULTATION MINUTES

MINUTES OF THE VIRTUAL STAKEHOLDERS' CONSULTATION MEETING ON THE ENVIRONMENTAL AND SOCIAL SAFEGUARDS INSTRUMENTS FOR THE HORN OF AFRICA - KENYA GROUNDWATER FOR RESILIENCE PROJECT WHICH TOOK PLACE ON 1ST FEBRUARY 2022 FROM 9.00AM -12.30PM

Participants Present:

See attached list at the end of the document (Annex 1).

Agenda

1. Introduction and registration of participants
2. Opening remarks from PCU coordinator -MoWSI
3. Presentation of E&S documents - RPF, SEP, and ESMF
4. Plenary
5. Closing remarks

MIN 1: Introductions and registration of participants

The meeting started at 9.00 with a word of prayer from Phoebe Orina from WRA. The facilitator, Ms. Agatha Njuguna from WRA welcomed participants and requested everyone to introduce themselves and register their names, designations and organizations at the chat box so that they can be captured for documentation.

MIN 2: Opening remarks from the PCU Coordinator

The PCU coordinator Mr. Wotuku gave his opening remarks by making a presentation on the background of the Horn of Africa Groundwater for Resilience (HoAGW4R) Project, the scope and budget of the project. He also mentioned that the meeting that was taking place was critical in ensuring that the project is disclosed to stakeholders but also that the stakeholders are consulted on the various environmental and social safeguards issues which are likely to arise during project implementation. Stakeholders were urged to give their comments during plenary to improve the documents.

MIN 3: Presentation of E&S documents

1. Resettlement Policy Framework

Edward Ontita, a consultant for the Ministry of Water, Sanitation and Irrigation in the development of the Resettlement Policy Framework (RPF) and Stakeholders Engagement Plan (SEP) made his presentations to the stakeholders. He highlighted the potential sub-projects which were likely to trigger resettlement impacts in the project. He emphasized that efforts will be made to avoid relocation of people in the project areas and if unavoidable, minimize any such impact. The consultant highlighted the processes which shall be followed to ensure resettlement is undertaken as per the World Banks' Environmental and Social Standards, and national policies and laws governing land and resettlement processes in Kenya. All these will be done having in mind the vulnerable and marginalized populations in the affected areas.

2. Stakeholders Engagement Plan

Edward Ontita also presented the SEP to the stakeholders and highlighted that stakeholder's engagement in the project was critical in ensuring project success. It was a requirement by the Bank and National Law that all project affected parties, those with different levels of influence and power, as well as the vulnerable and disadvantaged were to be engaged in the project. Therefore, stakeholder

engagement will be all inclusive to enhance project ownership and utilization once complete. This then meant that stakeholders mapping should be done comprehensively to ensure none of the stakeholders is left out.

3. Environmental and Social Management Framework

Mr. Liya Mango, a consultant engaged in development of the Environmental and Social Management Framework (ESMF) made his presentation to the stakeholders. He highlighted that the main objective of the ESMF was to provide a framework for effective management of environmental and social (E&S) risks in the proposed HOAGW4R project. It sought to both enhance (E&S) development benefits of the project and mitigate any potential adverse impacts, in line with Government of Kenya (GoK) and World Bank (WB) Environment and Social Standards (ESSs) including the WB Group Environment, Health and Safety (EHS) Guidelines.

Comments/Discussion

RPF & SEP

- 1. Question (Qn):** Ms. Hawa Dekow from Lagha Bulale WRUA in Garissa County requested for a clarification on compensation because the land in Garissa is mostly community land.

Response (Resp): Prof. Ontita answered that the Community Land Act, 2016 governs community land and that those would be complied to during compensation in case it happens.

- 2. Qn:** Mr. Joe Ondulo from National Water Harvesting and Storage Authority was concerned that vulnerable persons' needs during displacement and compensation especially the elderly should be carefully considered.

Resp: Prof. Ontita responded that the RAP considers the elderly as part of the vulnerable population and thus in cases where they have affected property and requires construction, they should not just be given funds but construction of the same property to a similar standard shall be considered because they might not have the energy to re-establish themselves.

- 3. Qn:** Ms. Phoebe Orina from WRA asked how land where pastoralists and their families move to during drought will be treated in case this is considered for protection and conservation as aquifer recharge sites or other use.

Resp: Prof. Ontita answered that there is no free land. Land tenure in Northern Kenya is organized around community land rights and this will be treated as community land and processes and procedures for acquisition of community land will be followed as per the Community Land Act, 2016.

- 4. Qn:** Mr. Hussein Guyo WRA Marsabit Sub Basin Area Manager was concerned that the Marsabit areas covered by the Sub-basin is over 88,000 sq km and communities are majorly homogenous however, the problems arise on the borderlines because of frequent conflicts in these areas. How will the project deal with projects which may lie on the borderlines e.g., drilling of a new or rehabilitation of a borehole in these areas?

Resp: Prof Ontita responded by saying that communities know their territories and boundaries. The project should therefore consider planning well with the communities to

understand the structure and dynamics of the communities to reduce or mitigate conflicts by siting projects appropriately and in line with community interests.

5. **Qn:** Mr. Abdullahi, a WRUA member wanted to know where they would need to apply their part of project funds from.

Resp: Mr. Willis Ombai from WSTF clarified that funding in this program is specific to the roles and responsibilities conferred to the two institutions under the project. Funds will go to both WRA and WSTF where Sub-component 1A will be under WRA and this is where WRUAs come in for mobilization of new WRUAs, SCMP development and implementation with a specific focus on ground water recharge, conservation and management. Funds to WSTF are under sub-component 1B where they will work with counties for rehabilitation and drilling of boreholes.

6. **Qn:** Ms. Margaret from the Transboundary Water department of MoWSI asked how dynamics for management of aquifers which are being recharged from a different country and what would be necessary for consideration in management of these aquifers?

Resp: Madam Agatha from WRA responded that an AADMP will be done to map out the aquifers and aquifer management and development plans. There is already a declaration through IGAD by Kenya on the transboundary aquifers that the number of boreholes to be drilled are not likely to cause any negative impact on the groundwater. There will be negotiations held between any such countries and engage stakeholders through IGAD.

7. **Qn:** Eng. Rose Nyikuri from WSTF asked that when communities will be resettled in new areas there are affected livelihoods and community owned water infrastructure e.g., water pans, irrigation systems, boreholes etc. how will these be considered in the new areas?

Resp: Prof. Ontita responded that the RPF has currently considered and provided for compensation for assets such as land and buildings, trees, businesses, crops etc. This only provide a framework for land acquisition and once the AADMPs have been done sub-project specific RAPs shall be developed for each area and shall look beyond land, livelihood and infrastructure which shall include community owned infrastructure such as water pans, schools, irrigation infrastructure. The RAPs will look at what, who, how?

Mr. Benedict Omondi from KFS mentioned that KFS staff will assist the project in understanding the inventory of forest materials for compensation purposes as explained by Mr. Ontita. This will ensure that the affected persons are properly and adequately compensated.

8. **Qn:** Mr. Ahmed of Buriya of WRUA commented that the SEP and RPF are well done. He however asked that since the SEP and RPF are well documented are these the outcomes of the EIAs? He also noted that since aquifers cover vast areas and where such resources exist conflicts often arise. How is conflict management catered for in the project?

Resp: Prof. Ontita responded by stating that currently, project entry points are county governments and tools for conflict management are stakeholders' engagement so that we are able to know the triggers and depending on our engagement on water conflict management.

The projects shall also a look at lessons learnt from implementation of similar projects. Grievance mechanisms also constitute further avenues for conflict management.

9. **Qn:** Mr. Adan Gollo Accountant WRA Mandera/Wajir Sub-Basin area asked if the projects will be exempted from Capital Gains Tax.

Resp: This question will be handled with treasury and a response provided later.

ESMF

10. **Qn:** Ann Nabangala climate change program officer from WSTF asked how conflicts will be handled on infrastructure on transboundary aquifers.

Resp: Mr. Liya responded that legal and policy issues will be dealt with stakeholders and appropriate causes of action taken. Project specific EIAs will be developed with mitigation measures for conflicts in these projects proposed.

11. **Comment:** Mr. Hussein Guyo WRA Marsabit Sub Basin Area Manager gave a comment that human wildlife conflicts should also be considered in the ESMF. He went ahead and suggested that water troughs or water pans for elephants can be developed far away from those of livestock. This would allow wildlife to access water and reduce conflicts.

12. **Comment:** Ms. Hilda Cheyech Community Engagement officer from RVBA gave a comment in the discussion that in order to improve sustainability of projects and infrastructure small groups of communities are selected to manage the infrastructure and would then report back to the WRUAs or WUAs.

13. **Qn:** Mr. David Mumo WRA Rift Valley Basin Area Coordinator asked that where grazing areas, where most likely high yielding boreholes are and that is where settlements are likely to be. How do we balance aquifer conservation, migratory routes, grazing areas among other issues in this project?

Resp: Agatha from WRA responded by saying that an overlay of these factors will be done together with the AADMPs in order to take care of sanitation aspects which come as a result of settlements in these areas, therefore the project might consider removing settlements from these conservation areas for example. Sub-project specific ESIA's will be done to address such issues in consultation with stakeholders to come up with the best approach.

14. **Qn:** Ms. Mirriam asked how we shall ensure ESMPs are implemented to curb impacts e.g., pollution arising from the projects.

Resp: Mr. Liya responded that monitoring plans are part of the ESMPs to ensure the plans are implemented.

Summary of E&S issues and mitigation measures

	Issues Raised	How will be addressed in project
1.	Compensation issues affecting of community land	laws governing community land would be complied with during compensation in case it happens.
2.	Vulnerable persons' needs during displacement and compensation especially the elderly should be carefully considered.	The RAP considers the elderly as part of the vulnerable population and thus in cases where they have affected property and requires construction, they should not just be given funds but construction of the same property to a similar standard shall be considered because they might not have the energy to re-establish themselves.
3	How land where pastoralists and their families move to during drought will be treated incase this is considered for protection and conservation	This will be treated as community land and processes and procedures for acquisition of community land will be followed as per the law governing communal land.
4	How dynamics for management of aquifers which are being recharged from a different country and what would be necessary for consideration in management of these aquifers?	There will be negotiations held between any such affected countries and engage stakeholders through IGAD.
5	When communities will be resettled in new areas there are livelihoods and community owned water infrastructure e.g., water pans, irrigation systems, boreholes etc., how will these be considered in the new areas	The RPF has currently considered and provided for compensation for assets such as land and buildings, trees, businesses, crops etc. This only provides a framework for land acquisition and once the AADMPs have been done sub-project specific RAPs shall be developed for each area and shall look beyond land, livelihood and infrastructure which shall include community owned infrastructure such as water pans, schools, irrigation infrastructure. The RAPs will look at what, who, how?
6	How Is conflict management catered for in the project?	Currently, project entry points are county governments and tools for conflict management include stakeholders' engagement so that we are able to know the triggers and depending on our engagement on water conflict management. The projects shall also look at lessons learnt from implementation of similar projects. Additionally, Grievance Mechanisms are part of conflict management apparatuses.
7	How conflicts will be handled on infrastructure on transboundary aquifers	Sub-project specific ESIA's will be developed with mitigation measures for conflicts in such sub-projects.
8	How do we balance aquifer conservation, migratory routes, and grazing areas among other issues in this project?	An overlay of these factors will be done together with the AADMPs in order to take care of sanitation aspects which come as a result of settlements in these areas, therefore the project might consider

		removing settlements from these conservation areas for example. Sub-project specific ESIA's will be done to address such issues in consultation with stakeholders to come up with the best approach.
9	How shall we ensure ESMPs are implemented to curb impacts e.g., pollution arising from the projects?	Monitoring plans are part of the ESMPs to ensure the plans are implemented.

MIN 4: Closing remarks

Ms. Agatha mentioned that the objective of the meeting was to bring disclosure of the project to the stakeholders, present the safeguards instruments to the participants as well as also get feedback from the participants on the safeguards instruments.

Mr. Wotuku thanked everyone who attended the meeting and mentioned that a second stakeholders' meeting would be organized to attract more participants

Way Forward

1. Participants would be given more time to read the instruments sent together with the invitation letters and submit any additional written comments in one week's time to MoWSI.
2. A second stakeholders meeting would be organized to attract more participants.

The meeting was adjourned at 12.30

Annex 1:

Participants List

S. No.	Name	Role	Organisation	Email
1.	Gichangi Wotuku	HOAG4RP Coordinator	MoWSI	
2.	Eng. Cephas Korir		MoWSI	
3.	Stella Kinyua	Accountant	MoWSI	
4.	Naftali Abuya	Economist	MoWSI	
5.	Willis Ombai	Manager, Investments and Programs	WSTF	
6.	Edwin Korir	Manager, Auditor and Risk management	WSTF	
7.	Ruth Ng'ang'a	Manager, Resource mobilisation	WSTF	
8.	Eng. Rose Nyikuri	Manager, Water Resources & climate change	WSTF	
9.	Violet Mucheni	Program Officer	WSTF	
10.	Ann Nabangala	Program Officer Climate change	WSTF	
11.	Ahmed Hassan	Resident Engineer - Mandera	WSTF	
12.	Liya Mango	Consultant, MOWSI	MoWSI	
13.	Prof. Edward G. Ontita	Consultant, MOWSI	MoWSI	
14.	Agatha Njuguna	Assistant Manager, Groundwater -HQs	WRA	
15.	Phoebe Orina	Snr. Community Engagement Officer -Hqs	WRA	
16.	George Karichu	Accountant -Hqs	WRA	
17.	Peter Ngubu	Basin Area Coordinator-ENNCA	WRA	
18.	Sumaya Ibrahim	Community Engagement officer -Hqs	WRA	
19.	Gollo Adan	Accountant -Mandera	WRA	
20.	Lilian Kinyua	Principal Community Engagement Officer - ENNBA	WRA	
21.	Millicent Kariithi	Principal Community Engagement Officer -Tana Basin	WRA	
22.	Eric Nyanumba	Community Engagement Officer -Rift Valley Basin	WRA	
23.	Jimmy Loriwo	Administration Officer-Hqs	WRA	
24.	Hilda Kibet	Snr. Community Engagement Officer-RVBA	WRA	
25.	David Mumo	Basin Area Coordinator-RVBA	WRA	

26.	Barbara Karanja	Communications Officer-Hqs	WRA	
27.	Saada Hussein	Community Engagement officer -Hqs	WRA	
28.	Betty Baraza	Snr. Hydrogeologist	WRA	
29.	Noel Ndeti	Chemist	WRA	
30.	Cloy Anyango	Snr. Community Engagement Officer-Tana	WRA	
31.	Elizabeth Diego	Assistant Manager - Community Engagement-Hqs	WRA	
32.	John Boru	Community Engagement Officer-Marsabit	WRA	
33.	Edwin Kimeto	Principal Conservation officer- RVBA	WRA	
34.	Mirriam Chebungei	Technical Manager-Regional Centre for Groundwater		
35.	Joe Ondulo	Chief Surveyor	NWHS	
36.	Hussein Mohamed Yussuf	WRUA member	Maalim Shurie WRUA	
37.	Isaac Karimi	Hydrogeologist- ENNBA	WRA	
38.	Ahmed Feer			
39.	Abdiazak Abdullahi			
40.	George Naweet			
41.	Hussein Mohammed Yussuf	Secretary-WRUA	Maalim Shurie Water Resources Users Association	
42.	Benedict Omondi	Director KFS, HQ	KFS	
43.	Emanuel Mutuku			
44.	Fatuma Shama		WRUA	
45.	Mohamed Billow			
46.	Hawa Dekow	WRUA Member	Lagha Bulale WRUA	
47.	Ahmed	WRUA Member	Buriya WRUA	
48.	Farah Tube	Resident Engineer- Garissa	WSTF	
49.	C.S. Obonyo	CEO-NWHS	NWHS	
50.	Noel Ndeti	Senior Water Quality Officer- Environmental Social Safeguards	WRA	
51.	Betty Baraza	Senior Groundwater Officer	WRA	