Environmental and Social Management Plan (ESMP)

Hussein Primary Canal Rehabilitation
(in Mareerey Village, Afgoye District, Southwest State)

Prepared by

FOOD and AGRICULTURE ORGANIZATION(FAO)

In coordination with

MINISTRY OF AGRICULTURE AND IRRIGATION SOUTHWEST STATE &
FEDERAL MINISTRY OF AGRICULTURE AND IRRIGATION (FMOAI)

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LIST OF ABBREVIATIONS

BoQ – Bill of Quantities
CBO – Community-Based Organization
C-ESMP – Contractor Environmental and Social Management Plan
CLO – Community Liaison Officer
CoC – Code of Conduct
EHS – Environmental, Health and Safety
EIA – Environmental Impact Assessment
EPMA – Environmental Protection and Management Act (Somalia, 2024)
ESIA – Environmental and Social Impact Assessment
ESMF – Environmental and Social Management Framework
ESMP – Environmental and Social Management Plan
ES – Environmental Specialist
ESS – Environmental and Social Standards (World Bank)
FAO – Food and Agriculture Organization of the United Nations
FSRP – Food Security and Resilience Project
SFSRP- Somalia Food Security and Resilience Project
GBV – Gender-Based Violence
GMP – Grievance Management Procedure
GM – Grievance Mechanism
GoS – Government of Somalia
Ha – Hectare
HSE – Health, Safety and Environment
IAP – Interested and Affected Parties
IDP – Internally Displaced Person
LMP – Labor Management Procedures
MoAI – Ministry of Agriculture and Irrigation (Southwest State/Somalia)
MoECC – Ministry of Environment and Climate Change (Federal Government or State Level)
NGO – Non-Governmental Organization
NPCU – National Project Coordination Unit
OHS – Occupational Health and Safety
OP – Operational Policy
PPE – Personal Protective Equipment
RAP – Resettlement Action Plan
SEA – Sexual Exploitation and Abuse
SH – Sexual Harassment
SEP – Stakeholder Engagement Plan
SMP – Security Management Plan
SRA – Security Risk Assessment
S-FSRP – Somalia Food Security and Resilience Project
SWSSA – Southwest State Specialized Agency (State Environmental Authority)
ToR – Terms of Reference
UXO – Unexploded Ordnance
WUA – Water Users Association
WB – World Bank

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EXECUTIVE SUMMARY

This Environmental and Social Management Plan (ESMP) has been developed for the rehabilitation of the **Hussein Primary Canal** Subproject in Mareerey village, Afgoye District, Lower Shabelle Region, Southwest State, Somalia. The subproject is part of the World Bank–financed Somalia Food Systems Resilience Project (S-FSRP), a six-year initiative (2023–2029) aimed at strengthening national food security and improving the resilience of Somalia's food systems. The project seeks to address systemic vulnerabilities to climate shocks, conflict, and recurrent crises by investing in four key areas: revitalizing agricultural and livestock research institutions and seed systems; improving water availability and rangeland management; enhancing market integration through food safety and value addition; and supporting policy and institutional reforms.

The Food and Agriculture Organization (FAO) in Somalia is implementing Technical Assistance (TA) activities under Component 5, the Contingent Emergency Response Component (CERC) of S-FSRP. While the broader project targets long-term resilience across the agriculture sector, the FAO-led TA focuses specifically on improving flood management and irrigation water delivery. Rehabilitation of the Hussein Primary Canal is among the priority interventions under Component 5, aimed at restoring damaged irrigation infrastructure, improving water distribution efficiency, and enhancing agricultural productivity.

The Hussein Primary Canal, which extends approximately 3.25 kilometers, historically served 130 hectares of irrigated land and supported 105 farmers. However, prolonged siltation, embankment erosion, and the deterioration of 8 auxiliary structures including 5 division boxes, 2 culverts, and 1 intake structure have significantly reduced system functionality. The current effective command area has declined to 54 hectares, with only 56 farmers actively benefitting from irrigation. This reduction has contributed to decreased water availability, lower crop yields, and increased vulnerability among farming communities.

The rehabilitation works will involve full mechanical desilting, reshaping and stabilizing the canal cross-section, and the reconstruction of all 8 auxiliary structures using reinforced concrete to ensure durability and improved hydraulic performance. These improvements are expected to restore reliable water delivery, minimize conveyance losses, enhance distribution equity particularly for midstream and tail-end users and support long-term agricultural productivity across the canal command area.

This ESMP has been prepared to identify and address the environmental and social risks associated with the rehabilitation of the Hussein Primary Canal. The preparation process included consultations with farmers, local authorities, the Afgoye Canal Committee, the Southwest State Ministry of

Agriculture and Irrigation (MoAI), and the Southwest State Environmental Specialist. The subproject will benefit 55 farming households in Mareerey and is classified as a Moderate Risk intervention under the S-FSRP Environmental and Social Management Framework (ESMF). Key anticipated risks are construction-phase related and include worker safety hazards, temporary disruption of irrigation flows and farm access, community safety concerns, dust and noise emissions, and potential risks associated with labor influx. No land acquisition or displacement is expected, as all works will be confined within the existing canal alignment.

The ESMP outlines mitigation and monitoring measures, institutional responsibilities, and reporting requirements in accordance with the World Bank Environmental and Social Framework (ESF), national environmental legislation, and guidance from the Southwest State MoAI. The contractor will be obligated to fully implement all ESMP provisions under the supervision of FAO and government counterparts.

Key risks associated with the Hussein Primary Canal rehabilitation include occupational health and safety hazards, temporary irrigation disruptions, dust impacts on nearby households, and climate-related construction risks. These risks will be mitigated through implementation of a Contractor ESMP (C-ESMP), strict OHS protocols, phased construction scheduling, dust suppression measures, and continuous stakeholder engagement consistent with the World Bank Environmental and Social Framework.

1. INTRODUCTION

Afgoye District in Southwest State is among Somalia's key agricultural production areas; however, its irrigation infrastructure has suffered substantial deterioration over time due to prolonged neglect, sediment buildup, and failing hydraulic structures. The Hussein Primary Canal, located in Mareerey Village and extending 3.250 km between GPS coordinates 2.139722°N, 45.087552°E at the head reach and 2.125818°N, 45.088139°E at the tail end, plays a central role in sustaining agricultural production for surrounding farmlands. Historically, the canal irrigated approximately 130 hectares of farmland and provided water to 105 farmers. Years of siltation, structural degradation of auxiliary hydraulic structures, and declining water-flow efficiency have significantly reduced its functionality, decreasing the effective irrigated area to 54 hectares and lowering the number of beneficiary farmers to 56. These declines reflect long-standing system underperformance and form a strong basis for prioritizing the rehabilitation of the canal under the Somalia Food Systems Resilience Program (S-FSRP).

The S-FSRP is a national program designed to strengthen food security and build climate resilience by restoring agricultural water systems, rehabilitating priority irrigation infrastructure, and enhancing institutional capacities responsible for managing agricultural resources. Within Southwest State, the rehabilitation of critical irrigation canals has been identified as a key strategy for re-establishing reliable water conveyance and supporting climate-adaptive livelihoods. The Hussein Primary Canal was prioritized by the Afgoye Canal Committee and the Southwest State Ministry of Agriculture and Irrigation (MoAI) following detailed technical assessments and stakeholder consultations. Although several canals require urgent intervention, the Hussein Primary Canal Corridor was advanced as Subproject A due to a combination of strong community prioritization, the availability of reliable baseline information, and readiness in terms of engineering design and cost estimation. Once rehabilitated, the canal is expected to improve irrigation reliability, enhance water distribution equity, reduce conveyance losses, and support improved agricultural productivity for all beneficiary households.

This Environmental and Social Management Plan (ESMP) has been prepared to ensure that the environmental and social risks associated with the rehabilitation of the Hussein Primary Canal are clearly identified, effectively managed, and systematically monitored throughout project implementation. It outlines the safeguards requirements needed to facilitate safe, compliant, and sustainable rehabilitation of the canal infrastructure.

1.1 Purpose of the ESMP

This ESMP has been developed for the rehabilitation of the Hussein Primary Canal located in Afgoye District, Lower Shabelle Region, within Southwest State of Somalia. The subproject has been classified as a Category C (Moderate Risk) intervention under the S-FSRP safeguards system. The canal is one of several irrigation systems prioritized for rehabilitation by local authorities, including the Afgoye Canal Committee and the Southwest State Ministry of Agriculture and Irrigation. Despite the urgent needs across multiple canals, the Hussein Primary Canal was selected for immediate action due to

the availability of baseline data, the readiness of technical designs, and strong community and institutional prioritization.

This ESMP provides a comprehensive framework for managing environmental and social risks throughout the rehabilitation works. It establishes the required mitigation measures, monitoring arrangements, and roles and responsibilities while ensuring compliance with national environmental legislation, the World Bank Environmental and Social Standards (ESSs), FAO safeguards, and Good International Industry Practice (GIIP). The ESMP supports safe, inclusive, and environmentally sound implementation, guiding all stages of project execution and ensuring that the rehabilitation is carried out in a socially responsible and environmentally sustainable manner.

1.2 Methodology of ESMP Preparation

The preparation of this ESMP followed a structured and comprehensive methodological approach aligned with the World Bank Environmental and Social Framework (ESF), FAO's Environmental and Social Standards, and relevant national regulatory requirements. The process commenced with detailed field assessments conducted by FAO safeguard specialists, MoAI engineers, representatives of the Afgoye Canal Committee, and community leaders. These site visits facilitated the documentation of the physical condition of the canal, including siltation levels, bank stability, vegetation encroachment, and the condition of the eight auxiliary hydraulic structures, comprising five division boxes, two culverts, and one intake structure. The findings from the field formed the technical foundation for defining the scope of rehabilitation works.

An Environmental and Social Screening (ESS) was subsequently conducted using the S-FSRP screening tool to determine the project's risk level, identify key environmental and social issues, and define the safeguard instruments required. This screening informed the development of the ESMP, guiding the depth and scope of impact assessment and mitigation planning.

The ESMP preparation also included a detailed review of applicable standards, regulations, and guidelines, including the Environmental Protection and Management Act (EPMA) 2024, the Somalia ESIA Regulations 2024, the World Bank Group Environmental, Health, and Safety (EHS) Guidelines, and GIIP. This ensured that the ESMP is aligned with both national and international requirements and that its recommendations are fully compliant with environmental and social obligations.

Stakeholder consultations were an integral part of the preparation process. Meetings were held with farmers, women farmers, elders, and other canal users who depend on the Hussein Primary Canal for irrigation. A total of thirty participants fourteen men and sixteen women provided insights on water distribution challenges, impacts of deteriorated structures, community safety concerns, and expectations for the rehabilitation. Their views informed the risk assessment, the design of mitigation measures, and the structure of the Grievance Mechanism (GM).

Further consultations were conducted with institutional stakeholders, including the Ministry of Environment and Climate Change (MoECC), the Southwest State Environmental Authority, and MoAI technical departments. These engagements helped clarify permitting requirements, environmental review responsibilities, and compliance procedures.

Finally, the ESMP preparation incorporated an in-depth review of engineering designs and supporting technical assessments, including canal surveys, structural inventories, hydrological information, and design drawings. This ensured full integration of environmental and social considerations into engineering decisions and guaranteed that the ESMP aligns with the actual technical scope of the rehabilitation works.

1.3 Applicability of the ESMP

This ESMP applies to all individuals and institutions involved in the planning, implementation, supervision, and oversight of the Hussein Primary Canal rehabilitation. These include contractors and subcontractors responsible for construction activities; FAO and S-FSRP technical, engineering, and safeguard personnel; MoAI engineers and relevant government departments; and environmental authorities such as the Ministry of Environment and Climate Change and the Southwest State Environmental Authority.

It also applies to community-based structures including the Water User Association (WUA), the Afgoye Canal Committee, and other community representatives who play essential roles in coordination, communication, and monitoring. All supervising engineers and oversight teams are required to adhere to this ESMP as the principal reference document to ensure compliance with environmental and social management requirements.

Overall, this ESMP serves as the operational guide for managing environmental and social performance throughout the rehabilitation of the Hussein Primary Canal. It defines the obligations of all involved parties, sets the standards to be met, and establishes the monitoring and reporting framework necessary to ensure safe, sustainable, and compliant project implementation.

1.4 Climate Risk Screening Summary

The Hussein Primary Canal rehabilitation has been screened for climate and disaster-related risks in accordance with World Bank Climate and Disaster Risk Screening guidance. The project area within Afgoye District is exposed to recurrent drought conditions, high evapotranspiration rates, and seasonal flooding associated with the Shabelle River during the Gu (April–June) and Deyr (October–December) rainy seasons. Potential climate risks include embankment erosion during high-flow events, sedimentation during intense rainfall, and extreme heat affecting construction workers and material performance.

The rehabilitation design integrates climate resilience considerations through restoration of hydraulic capacity, embankment reshaping and compaction, erosion risk reduction measures, and scheduling works outside peak flood periods where feasible. Residual climate risk is assessed as Moderate and manageable through routine maintenance and adaptive management.

2. PROJECT DESCRIPTION

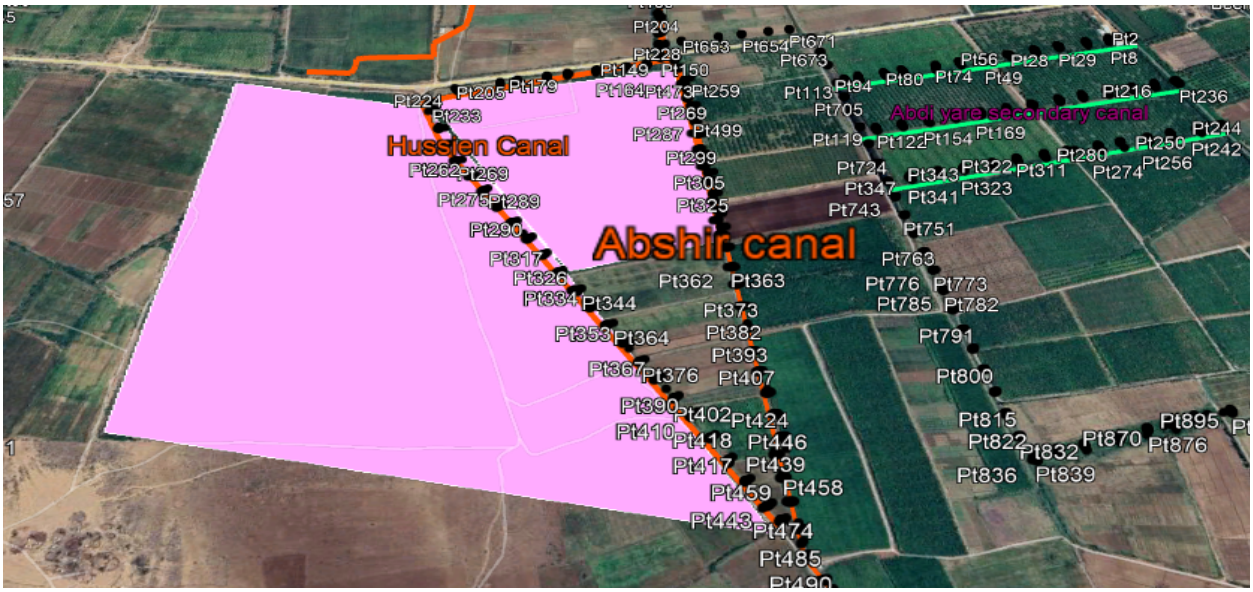


Figure 1: Geo-Map photo of the canal

The Hussein Primary Canal is a critical irrigation canal system located in Afgoye District, Lower Shabelle Region, within Southwest State of Somalia. The canal supports agricultural production across a historically productive command area that has experienced a significant reduction in irrigated hectares and reliability of water delivery due to progressive siltation, bank erosion, and deterioration of auxiliary hydraulic structures. Assessed under Subproject A of the Somalia Food Systems Resilience Program (S-FSRP), the canal was prioritized for rehabilitation based on stakeholder recommendation, availability of complete baseline data, and the severity of service disruption affecting local farmers.

The canal extends 3.25 kilometers and is historically irrigated 130 hectares of farmland. Due to sediment accumulation, collapsed structures, and weakened flow conveyance, the current functional irrigated area has declined to 54 hectares, representing a 58.5 percent loss. The number of active beneficiary farmers has also decreased from 105 to 56, reflecting a 46.7 percent decline in households relying on the canal for irrigation and livelihoods.

The rehabilitation activities include mechanical excavation and desilting of the entire canal, reshaping the canal, stabilizing eroded banks, and reconstructing 8 auxiliary hydraulic structures, as outlined in the Bill of Quantities (BOQ). The works will be carried out over a three-month rehabilitation period and will involve a workforce consisting of one supervisor and 25 laborers, supported by heavy machinery including excavators, bulldozers, tipper trucks, loaders, compactors, and concrete mixers. Construction materials such as cement, sand and aggregates, reinforcement steel, and formwork timber will be used for rebuilding division boxes, culverts, intake components, and other structures. Excavated spoil will be transported and disposed of in pre-agreed locations in coordination with community leaders and environmental authorities.

These activities are designed to restore the hydraulic integrity of the canal, improve conveyance efficiency, and re-establish equitable water distribution across the full command area. The

rehabilitation works are expected to significantly enhance agricultural productivity, strengthen climate resilience, and improve the livelihoods of farming household's dependent on the Hussein Primary Canal.

2.1 Existing Canal Condition

Field assessments were conducted jointly by the FAO safeguards team, the Federal Ministry of Agriculture and Irrigation (MoAI), the Southwest State Ministry of Agriculture and Irrigation, and the local canal committee. The joint mission inspected the full Hussein Primary Canal corridor and documented the following conditions:

- The canal channel is heavily silted along its length, reducing depth, slope continuity, and flow velocity.
- Several segments have collapsed embankments resulting from erosion and unmanaged vegetation.
- Flow efficiency is significantly reduced, causing poor water distribution to tail-end farmers.
- Water losses occur through absorption, seepage, and blockage-related overtopping during peak flow periods.

As confirmed during the technical assessment, the canal will remain an earth canal, with rehabilitation works centered on mechanical excavation, reshaping, clearance of deposited sediments, removal of vegetation, and restoration of canal geometry to improve flow continuity. No concrete lining is proposed for the canal itself.

2.2 Auxiliary Hydraulic Structures

The Hussein Primary Canal contains a total of 8 functional and partially deteriorated hydraulic structures, consisting of:

- 1 Concrete Intake Structure
- 5 Division Boxes (some collapsed or partially blocked)
- 2 Crossing Culverts

The intake structure requires desilting and structural stabilization to restore full flow diversion capacity. Most division boxes exhibit concrete deterioration, sediment accumulation, or partial blockage that restricts water distribution. The culverts require excavation, clearance, and channel alignment to allow unobstructed passage and prevent localized flooding during high flow conditions.

The technical assessment determined that all auxiliary structures will be rehabilitated or reconstructed using reinforced concrete, in line with engineering standards applicable to small-scale irrigation systems and the S-FSRP design guidelines.

2.3 Scope of Rehabilitation Works

The key activities proposed under the rehabilitation of the Hussein Primary Canal include:

1. Mechanical excavation along the full 3.25 km length of the canal to remove silt, accumulated debris, vegetation, and obstructions.

2. Reshaping of canal cross-sections to restore uniform flow geometry, improve conveyance efficiency, and ensure proper delivery to downstream sections.
3. Reconstruction/rehabilitation of auxiliary structures including:
    - 1 reinforced concrete intake
    - 5 reinforced concrete division boxes
    - 2 reinforced concrete crossing culverts
4. Debris removal and safe disposal at an approved location, consistent with environmental guidelines.
5. Minor embankment repairs to reinforce structurally weak segments and prevent erosion.
6. Regrading of the canal bottom to correct slope inconsistencies that obstruct flow.
7. Removal of vegetation and invasive root systems that reduce flow area and accelerate sediment deposition.

2.3.1 Construction Methodology and Sequencing

Rehabilitation of the Hussein Primary Canal will follow a structured implementation sequence to ensure safety, quality, and minimal disruption to irrigation activities. The phases include:
(i) site demarcation and installation of safety signage;
(ii) mechanical excavation and desilting of canal sections;
(iii) embankment reshaping, grading, and compaction;
(iv) rehabilitation of intake structures, division boxes, culverts, and minor hydraulic control structures using reinforced concrete;
(v) curing and inspection of structural works; and
(vi) site reinstatement and removal of construction debris.

All works will comply with Good International Industry Practice (GIIP) and will be supervised by the designated Supervising Engineer to ensure structural stability and environmental compliance.

2.3.2 Occupational Health and Safety Measures During Construction

The contractor shall implement comprehensive Occupational Health and Safety (OHS) measures during canal rehabilitation activities. Mandatory provisions include: use of personal protective equipment (helmets, gloves, boots, reflective vests), trench safety controls, machinery operation safety briefings, heat stress prevention measures, availability of potable water and shaded rest areas, and on-site first-aid kits. Daily toolbox talks shall be conducted prior to commencement of works.

OHS compliance will be monitored in accordance with ESS2 and the World Bank General Environmental, Health and Safety (EHS) Guidelines.

2.3.3 Water Abstraction Clarification

The Hussein Primary Canal rehabilitation does not introduce new abstraction infrastructure or increase water withdrawal volumes from the Shabelle River beyond historical diversion levels. The works are limited to restoring hydraulic efficiency and structural integrity within the existing canal alignment. Therefore, no incremental abstraction impacts on downstream users are anticipated.

Table 1- Location of Division box with its GPS locations

No	Coordinates	No of Gates	Proposed width	Proposed length
1	2.124482, 45.085944	2	1.5	3
2	2.123307, 45.086662	2	1.5	3
3	2.129745, 45087740	2	1.5	3
4	2.128918, 45.087893	2	1.5	3
5	2.127924, 45.087996	2	1.5	3

Table 2- Location of Culverts with its GPS locations

Proposed of New Culvert			
No.	**Station (m)**	**Coordinates**	**Cross section (m)**
1	**2+100**	**2.124332°, 45.086043°**	**5m x 1m**
2	**2+320**	**2.122466°, 45.087130°**	**5m x 1m**

All rehabilitation and earthworks will follow Good International Industry Practice (GIIP), World Bank Group EHS Guidelines, and national ESIA Regulations 2024.

2.4 Beneficiary Profile

The Hussein Primary Canal currently serves 56 farmers, including both smallholder and medium-scale producers. These farmers rely on the canal for irrigation of crops such as maize, sesame, vegetables, and fodder. The decline from the original 130 beneficiaries and the reduction in irrigated land area have negatively affected agricultural productivity and household resilience.

Field consultations confirmed that farmers increasingly depend on shallow wells or irregular water access during canal blockages, which further emphasizes the urgency of restoring functional water delivery.

2.5 Subproject Prioritization Rationale

Although all canals assessed under the broader irrigation study exhibit urgent rehabilitation needs, the Hussein Primary Canal was prioritized for early intervention due to:

- Stakeholder recommendation, including the Afgoye Canal Committee and Southwest agriculture authorities.
- Availability of complete topographic and structural assessment data, allowing faster design finalization.
- Severity of functionality loss, including both irrigated area and beneficiary decline.
- Strategic location within a productive agricultural zone of Lower Shabelle.

This prioritization does not reflect higher urgency compared to other canals; rather, it reflects readiness for design, documentation completeness, and the need to advance Subproject A for timely budgeting and procurement scheduling.

Figure 2-Canal current situation

Table 3-Summary of the canal condition at different stations

Stations	Structure Type	Condition Description	Photo Ref. #	GPS	Recommended Action

0+020	Intake Tank	The intake tank is currently made of bricks and requires reconstruction with concrete walls to enhance its functionality and maximize water intake.	 *Figure 3-Canal condition*	**2.139663, 45.087489**	It is recommended that the existing brick intake tank be rehabilitated and upgraded to a reinforced concrete structure to ensure long-term durability, improved hydraulic performance, and reduced maintenance requirements. The reconstruction should include the installation of concrete walls and a properly sealed base to minimize leakage and enhance structural stability. Additionally, the inlet and outlet channels should be reshaped and aligned to optimize water flow and maximize intake efficiency.
1+500	Proposed Crossing Culvert	Currently, there is no existing culvert structure. Water passes beneath the road through a temporary buried pipe, which is inadequate for proper discharge and often causes blockage during heavy flow.	 *Figure 4-Canal condition*	**2.124332, 45.086043**	It is recommended to construct a new reinforced concrete culvert (4.9 m wide) to facilitate smooth canal water flow beneath the access road. The structure should include properly compacted approaches, headwalls, and wing walls to prevent erosion and ensure long-term durability.

Table 4-Technical Information of the canal

No	District	Village	Name of canals	Length of canal now (m)	Length of canal before it deteriorated (m)	Width of canal now (m)	Width of canal before it deteriorated (m)	Depth of canal now (m)	Depth of canal before it deteriorated (m)	Area irrigated by canal now (Ha)	Area irrigated before canal became bad (Ha)	Number of farmers using canal now	Number of farmers using the canal before canal became bad
1	Afgoye	Mareerey	Hussein	3250	3250	0.6	0.7	0.5	1	54	130	56	65

3. ENVIRONMENTAL AND SOCIAL BASELINE CONDITIONS

This section provides an overview of the environmental conditions within the Hussein Primary Canal, located in Afgoye District, Lower Shabelle Region, Southwest State of Somalia. The baseline assessment draws on field observations, district-level environmental datasets, consultations with local authorities, and FAO/S-FSRP environmental screening exercises. It establishes the reference conditions against which potential environmental impacts of the rehabilitation works will be evaluated.

3.1 Environmental Baseline

The Hussein Primary Canal lies within the semi-arid landscape of Afgoye District, where low and unpredictable rainfall makes irrigation essential for agriculture. The canal corridor is characterized by alluvial soils that are fertile but easily eroded when disturbed, and by light vegetation consisting mainly of grasses and shrubs that have encroached into the silted canal bed. No sensitive ecological habitats or protected areas are present within the project footprint. Overall, the environmental setting reflects a degraded irrigation system affected by sedimentation, vegetation overgrowth, and reduced hydraulic efficiency, underscoring the need for rehabilitation to restore reliable water flow.

3.1.1 Geographic Setting

The Hussein Primary Canal lies within the agricultural belt of Afgoye District, one of the most productive zones in Southwest State. The district is situated along the Shabelle River, which provides the primary source of irrigation water for surrounding farmlands. The canal serves farms located on relatively flat alluvial plains with gradual slopes, conducive to gravity-fed irrigation.

The project area is characterized by dispersed farming settlements, smallholder agricultural plots, seasonally vegetated open areas, and clusters of riparian vegetation near the Shabelle River. There are no protected areas, forest reserves, or critical natural habitats within or adjacent to the canal corridor.

3.1.2 Climate and Weather Patterns

Afgoye District experiences a semi-arid to sub-humid tropical climate with a bimodal rainfall pattern influenced by the Indian Ocean monsoon system. The main rainy seasons are the Gu rains (April–June), which provide most of the surface water and aquifer recharge, and the Deyr rains (October–December), which form the secondary wet season. The dry periods, Jilaal (January–March) and Hagaa (July–September), are characterized by high temperatures and pronounced water scarcity. Average annual rainfall ranges between 450 and 550 mm, with significant variability from year to year. Temperatures range from 23 to 35°C, and evaporation rates exceed annual rainfall, creating a heavy reliance on the Shabelle River for irrigation. Key climate-related stresses affecting the canal corridor include recurrent drought conditions, high evapotranspiration, seasonal flooding along the Shabelle River, and siltation caused by runoff and unstable riverbanks. These factors directly influence water availability, sediment deposition, and the overall efficiency and reliability of the irrigation system.

3.1.3 Topography and Geomorphology

The canal corridor is mostly flat, with gentle natural slopes that make it possible for gravity-fed irrigation to work. The geomorphology is characterized by young alluvial deposits, silty clay and sandy loam soils, with seasonal sediment deposition from river overflows and slightly elevated

natural levees along the riverbank. Erosional processes that were observed during the field assessment include bank collapse in unstable canal sections, scour around culverts, and sediment accumulation in slow-moving reaches. These geomorphic characteristics influence canal stability, maintenance requirements, and long-term hydraulic performance.

3.1.4 Soil Characteristics

Soils along are mainly of alluvial sandy loam and silty clay, which support crop cultivation; they are moderately fertile, but they are vulnerable to erosion and over-cultivation. The soils are also relatively permeable, contributing to infiltration-related water losses in unlined canal sections. The soil-related constraints that were observed include sediment accumulation resulting from upstream topsoil erosion, compaction in certain segments caused by livestock movement, and localized slumping due to inadequate embankment stabilization. These conditions highlight the need for periodic desilting, reshaping, and reinforcement of embankments to maintain consistent water conveyance.

3.1.5 Hydrology and Water Resources

The Shabelle River is the primary source of irrigation water for the Hussein Primary Canal Corridor. Peak flows occur during the Gu and Deyr seasons, while dry-season flows reduce significantly, affecting water distribution reliability, especially for tail-end farmers. High sediment loads occur during the onset of rains contribute to rapid canal siltation and blockages at division boxes and culverts. Hydrological observations made during the field assessment indicated severely reduced flow velocity due to accumulated sediments, restricted water delivery to downstream users, and localized risks of overtopping or backflow in areas where structures have collapsed or become obstructed. No groundwater abstraction is associated with the project's work within the canal corridor.

3.1.6 Surface Water Quality Baseline

The Shabelle River serves as the primary water source for the Hussein Canal command area. River water quality is subject to seasonal variability, with increased turbidity and suspended sediment loads during rainy seasons due to upstream runoff. Although laboratory testing (e.g., TDS, TSS, pH) was not undertaken during ESMP preparation, historical irrigation practices confirm water suitability for agricultural production within the command area. No industrial discharge sources were identified near the canal alignment.

3.1.7 Groundwater Conditions

Shallow groundwater exists within the alluvial plains of Afgoye, with seasonal fluctuations influenced by river levels. Farmers may rely on shallow wells during canal maintenance or disruption. The rehabilitation works are confined to the canal prism and are not expected to intersect groundwater tables or affect nearby wells.

3.1.8 Flora and Fauna

Vegetation within the project area is dominated by grasses, shrubs, scattered acacia trees, riparian vegetation along the Shabelle River, and seasonal weeds or invasive grasses within the canal bed. No endangered species, critical habitats, or ecologically sensitive areas were identified in or around the project footprint. Faunal presence mainly includes livestock such as cattle, goats, and donkeys,

domestic animals, and a variety of small mammals, reptiles, and commonly occurring bird species. The proposed project works are not expected to adversely affect any protected species or habitats.

3.1.9 Environmental Sensitivities

The project area exhibits several environmental sensitivities that require consideration during rehabilitation activities, which include erosion-prone soils along canal embankments, high sediment loads from upstream catchments, localized flood risks near culvert-constrained areas, and dense vegetation obstructing water flow. The corridor is also closely surrounded by actively cultivated farmland, increasing the risk of disturbing crops during rehabilitation. No cultural heritage resources, wetlands, forest reserves, or formally designated conservation areas were identified within the canal corridor.

3.1.10 Sensitive Environmental and Social Receptors

The Hussein Primary Canal corridor traverses cultivated farmland and is adjacent to dispersed rural dwellings. While no schools or formal health facilities are located directly within the excavation footprint, farmers, agricultural laborers, women working in fields, and livestock frequently access canal banks. These receptors require careful management of construction activities to prevent safety hazards and temporary access disruptions.

3.2 Social Baseline

3.2.1 Socio-economic Context:

Afgoye District is one of the most densely populated agricultural hubs in Southwest State. Its proximity to Mogadishu and its location along the Shabelle River makes it a major food-producing area and a central trade corridor for farmers, livestock owners, and local markets. The district hosts both long-term residents and a significant number of internally displaced persons (IDPs) fleeing drought and conflict from surrounding regions. Communities depend heavily on irrigated farming and livestock production, yet recurring droughts, erratic rainfall, and river flow variability continue to affect household incomes and food security. Social cohesion is strong, with the community structure comprising of elders, religious leaders, and water committees who play an important role in local governance and conflict mediation. However, increasing pressure on land and water resources has heightened vulnerabilities, particularly for poor farmers and households with limited assets.

3.2.2 Livelihood:

Agriculture forms the backbone of Afgoye's rural economy. Households cultivate maize, sesame, vegetables, Mangoes, papayas, bananas, and fodder crops using irrigation channels connected to the Shabelle River. Livestock such as cattle, goats, sheep, and donkeys are an essential livelihood and financial asset. Years of drought and canal degradation have reduced agricultural yields and created seasonal food shortages, forcing some households to rely on casual labor, charcoal production, or small-scale trade. Women often engage in fruit and vegetable marketing, on-farm processing, and small businesses, although their access to land and water resources is frequently limited. Farmers

consistently highlight silted canals, poor maintenance, and disrupted irrigation as the primary constraints affecting productivity.

3.2.3 Administration and Governance

Afgoye District is governed under the Southwest State administrative structure, with district authorities overseeing security, dispute resolution, and coordination of basic services. At the community level, traditional elders, village committees, and Water User Associations (WUAs) play important roles in managing natural resources, settling disputes, and organizing maintenance of irrigation schemes. These community institutions are well-established and widely respected, though their capacity is limited by resource shortages and the scale of infrastructure degradation. Coordination between MoAI, local government, and community structures remains essential for effective implementation and long-term sustainability of irrigation rehabilitation.

3.2.4 Gender Based Violence

GBV risks in Afgoye mirror broader patterns found across Southwest State, where poverty, displacement, and limited formal protection systems heighten the vulnerability of women and girls. Women face elevated risks during water collection, market travel, and interactions with unfamiliar laborers. Female farmers also report restricted participation in decision-making processes, especially regarding water allocation and agricultural inputs. While community awareness of GBV has increased, access to survivor-centered services remains limited, and many cases go unreported. Rehabilitation works requiring external workers may increase concerns about sexual harassment or exploitation, making GBV-sensitive mitigation and worker Codes of Conduct critical.

3.2.5 Access to water and Electricity

Access to safe drinking water varies across the district. Communities depend on shallow wells, boreholes, and river-adjacent extraction points, many of which are seasonal or of poor quality. Irrigation remains the primary water use, yet canal blockages and structural failures restrict reliable supply for many farms. Electricity access is limited outside Afgoye town, relying mainly on private small-scale generators or solar systems. In rural areas, intermittent energy availability restricts water pumping, storage, and productivity during dry seasons.

3.2.6 Waste management

Afgoye lacks a formal waste management system. Households dispose of waste through open dumping, burning, or burying which contribute to soil degradation and localized pollution. Agricultural waste, plastic containers, and debris carried by seasonal runoff often end up in canal systems, exacerbating siltation and restricting flow. Rehabilitation activities linked to the irrigation canal must therefore include a structured plan for handling excavated materials, vegetation, and solid waste to prevent obstruction, erosion, and contamination.

3.2.7 Cultural Heritage

Afgoye's cultural landscape includes religious sites, sacred trees, communal meeting spaces, and traditional gathering points. While no formally registered heritage sites lie within most canal corridors, communities assign cultural value to certain trees, graves, and social spaces. Projects must

avoid disturbing such areas and apply Chance-Find Procedures whenever unexpected cultural materials are encountered during excavation. Local elders are typically the focal points for verifying cultural significance and identifying areas requiring protection.

3.2.8 Security

Security in Afgoye is relatively stable compared to past years, yet risks persist due to ongoing regional conflict dynamics, sporadic criminal activity, and population movements. Public movement along rural roads may be affected by checkpoints or local tensions. Rehabilitation activities involving heavy machinery and equipment transport must coordinate with district authorities to avoid security disruptions. Compliance with the Security Management Plan (SMP/SRA) is essential, particularly when mobilizing workers, transporting materials, or working in areas bordering agricultural fields and settlements.

4. LEGAL AND REGULATORY FRAMEWORK

The rehabilitation of the Hussein Primary Canal will be implemented in accordance with the national laws of the Federal Government of Somalia, the Southwest State regulatory requirements, and the Environmental and Social Framework (ESF) of the World Bank. This chapter summarizes the key Somali constitutional provisions, relevant environmental and sectoral legislation, state-level responsibilities, and applicable international standards. It also integrates Good International Industry Practice (GIIP), including the World Bank Group Environmental, Health and Safety Guidelines (EHSGs), which guide the project in the absence of fully established technical standards in Somalia.

Somalia's Provisional Constitution provides the overarching legal basis for environmental protection, social inclusion, non-discrimination, land management, labor rights, institutional accountability, and access to information. Articles 10 and 11 establish the principles of human dignity and equality, prohibiting discrimination based on gender, clan, economic status, disability, or political opinion. While Article 32 ensures the right of access to information for all citizens. The Constitution also embeds social and economic rights, Article 27 (1 & 5) mandates access to clean water, and calls for the protection of vulnerable groups such as women, the elderly, and minorities.

Land governance provisions under Article 43 affirm land as a national resource that must be managed equitably, efficiently, and sustainably. The State is responsible for regulating land use and preventing unauthorized allocations. Articles 111J and 111H establish oversight bodies such as the Office of the Ombudsman and the National Security Commission, which provide accountability mechanisms and redress pathways for grievances related to public administration and security services. Article 45 emphasizes environmental protection, requiring the State and its citizens to conserve natural resources, reverse environmental degradation, and respond to hazardous waste or deforestation.

In alignment with the Constitution, the Environmental Protection and Management Act (EPMA 2024) serve as the primary national legislation governing environmental safeguards. The Act defines mandatory environmental assessments for projects that may have adverse environmental or social impacts, establishes permitting requirements under the Ministry of Environment and Climate Change (MoECC), and sets standards for waste management, pollution control, biodiversity protection, and the application of the precautionary and polluter-pays principles. The companion Environmental and Social Impact Assessment (ESIA) Regulations 2024 operationalize the EPMA by outlining procedures for screening, scoping, categorization, public consultation, disclosure, and permitting of projects. The Hussein Primary Canal rehabilitation must undergo environmental review and obtain clearance through this regulatory framework.

Additional national legislation relevant to the Subproject includes the Labor Code of Somalia (2024), which provides rules for occupational health and safety, prohibits child labor, and outlines grievance access for workers; the National Health Professionals Council Act; the Construction Permits Act (2022); and national gender-related policies that mandate the prevention of harmful traditional practices and the provision of support for GBV/SEA/SH survivors. Emerging sectoral frameworks such as the Draft National Water Act, Draft Ozone Protection Regulations, Draft Forest Management Policy, and Draft Charcoal Policy also guide the project's environmental footprint and water resource management.

At the Southwest State level, the State Environmental Authority is responsible for applying the federal EPMA and ESIA Regulations within the state's jurisdiction. This includes screening and classification of the Subproject, state-level environmental permitting, site inspections, and compliance monitoring throughout rehabilitation. The Southwest State Ministry of Agriculture and Irrigation (MoAI) oversees technical approvals for irrigation rehabilitation, coordinates with Water Users Associations (WUAs), and ensures compliance with agricultural land-use guidelines. The environmental permit for the Hussein Primary Canal will therefore be jointly processed by MoECC and the Southwest State Environmental Authority, with the designated SWS Environmental Specialist supporting the review and clearance process.

The institutional responsibilities of development partners, particularly FAO under the S-FSRP, include ensuring compliance with World Bank ESF requirements, validating ESMP implementation, monitoring adherence to labor and environmental provisions, and operating the grievance redress channels, including hotlines numbers (570-NPCU and 540 -MOAI Southwest, 327- FAO Somalia). The contractor is obligated to prepare and implement a Contractor ESMP (C-ESMP), assign environmental and social focal points, maintain incident and grievance records, and enforce occupational health and safety measures consistent with national laws and international standards. All contractor actions must align with the management measures set forth in this ESMP and with S-FSRP safeguard instruments including the ESMF, RPF, LMP, SEP, WMP, IPMP, and GM procedures.

As the project is financed by the World Bank, it is subject to the Environmental and Social Framework (ESF). The relevant standards include: -

- ESS1 on risk assessment and management,
- ESS2 on labor and working conditions,
- ESS3 on resource efficiency and pollution prevention,
- ESS4 on community health and safety,
- ESS5 on land acquisition and resettlement (when triggered),
- ESS6 on biodiversity,
- ESS8 on cultural heritage, and
- ESS10 on stakeholder engagement and disclosure.

The ESMP also applies the World Bank Group General Environmental, Health and Safety (EHS) Guidelines, which represent Good International Industry Practice. In circumstances where Somali laws and World Bank requirements differ, the more stringent World Bank standards apply to ensure high levels of environmental protection, social inclusion, and occupational safety.

This consolidated legal and regulatory framework provides the foundation for planning, permitting, implementing, and monitoring the Hussein Primary Canal rehabilitation. It ensures that all project activities are carried out in line with national law, state-level procedures, World Bank ESF standards, internationally recognized EHS principles, and GIIP throughout the project lifecycle.

5. ENVIRONMENTAL AND SOCIAL RISKS/IMPACTS

This section presents an assessment of the potential environmental and social impacts associated with rehabilitation works on the Hussein Primary Canal. The assessment evaluates both positive and negative impacts, considering the nature, extent, duration, reversibility, and significance of potential changes arising from project activities. The analysis is based on field assessments, stakeholder consultations, engineering scope, and applicable legal and safeguard standards.

5.1 Methodology

The impact assessment follows the requirements of:

- World Bank Environmental and Social Framework (ESF)
- FAO Environmental and Social Standards
- Environmental Protection and Management Act (EPMA) 2024
- Somalia ESIA Regulations 2024

The assessment applies a structured approach that includes:

1. Identification of project activities
2. Screening for potential environmental and social interactions
3. Categorization of impacts into positive or adverse
4. Evaluation of impact significance (low, moderate, high)
5. Consideration of direct, indirect, and cumulative effects
6. Determination of mitigation requirements

Impacts are assessed for both the rehabilitation phase and the post-rehabilitation operational phase.

5.2 Positive Impacts

The project is expected to generate several significant positive impacts that will enhance irrigation performance, agricultural productivity, and community livelihoods

5.2.1 Improved Water Distribution and Flow Efficiency

Rehabilitation will remove accumulated silt, restore canal geometry, and clear all division boxes and culverts. These works will significantly improve water conveyance efficiency along the entire 3.25 km canal corridor, ensuring more reliable and equitable distribution of irrigation water, particularly for midstream and tail-end users. The Hussein Primary Canal directly supports 65 farming households, representing an estimated community population of approximately 390 people (based on an average household size of 6). Restoring the canal's full hydraulic capacity will therefore enhance irrigation security, improve agricultural productivity, and strengthen the livelihoods of all beneficiary households within the command area.

Significance: High (Positive)

5.2.2 Restoration of Irrigated Area and Agricultural Productivity

Rehabilitation of the Hussein Primary Canal is expected to restore the system's original irrigation capacity by reversing the long-term decline from 130 hectares to the current 54 hectares. By re-establishing flow continuity through desilting, reshaping, and reconstruction of auxiliary structures, the project will significantly improve water conveyance efficiency from the head to the tail end of the

canal. Restored and reliable water availability will enable farmers to fully utilize the entire command area, support multiple planting cycles, and reduce dependence on emergency water sources. With adequate and predictable irrigation supply, farming households will be able to diversify into higher-value crops, increase yields, and strengthen overall agricultural resilience within the Afgoye farming zone.

Significance: High (Positive)

5.2.3 Strengthening of Livelihoods

Restoring irrigation through the rehabilitation of the Hussein Primary Canal will directly improve agricultural productivity for the 65 current beneficiary farmers. With reliable water delivery, households will be able to increase crop yields, stabilize seasonal production, and reduce dependence on costly or unreliable emergency water sources such as shallow wells or temporary pumping. The improved flow conditions will enhance farming efficiency across the command area and strengthen livelihoods for both smallholder and medium-scale producers. Women farmers, who often manage water collection and field preparation, will particularly benefit from reduced labor burdens, more predictable irrigation schedules, and improved access to tail-end water supply. These gains collectively support stronger household income, food security, and climate resilience.

Significance: Moderate–High (Positive)

5.2.4 Reduced Water Losses and Maintenance Burden

Excavation of accumulated silt and the removal of physical obstructions along the canal will significantly reduce seepage losses, eliminate recurrent blockages, and minimize overtopping during peak flows. By restoring the canal prism and improving hydraulic continuity, water will move more efficiently from the head to the tail end, reducing the need for farmers to manually open pathways, remove debris, or divert water using labor-intensive methods. This reduction in manual maintenance will save time and effort for farming households while improving overall irrigation reliability and operational efficiency.

Significance: Moderate (Positive)

5.2.5 Strengthened Local Water Governance

Rehabilitation of the Hussein Primary Canal will help re-establish predictable and equitable water allocation throughout the command area. By restoring the hydraulic functionality of the canal and its auxiliary structures, the system will enable more consistent flow management from the head to the tail end. This improvement will strengthen coordination among farmers who depend on scheduled irrigation turns, and it will enhance the operational role of Water Users Associations (WUAs) and the Afgoye Canal Committee in supervising water distribution, resolving allocation disputes, and enforcing agreed irrigation rules. A more reliable and transparent allocation system will reduce conflict, improve planning for cropping cycles, and support collaborative water governance across the farming community.

Significance: Moderate (Positive)

5.3 Environmental Impacts at rehabilitation Phase

The rehabilitation phase of the project is expected to generate environmental impacts, which require appropriate mitigation measures.

5.3.1 Soil Disturbance, Excavation, and Erosion

Earthworks associated with canal desilting, reshaping, and excavation may generate several short-term environmental disturbances within and around the Hussein Primary Canal corridor. Localized erosion of canal embankments can occur where soils are exposed or destabilized during excavation and clearing activities. Soil displacement and loosening are expected as the canal prism is opened and reshaped, particularly in sections where the banks are already weakened by prior siltation or vegetation removal. These activities may also temporarily disturb adjacent farmland located close to the canal alignment, especially where machinery movement or spoil handling occurs near cultivated areas. During rainfall or improper spoil placement, fine sediments may be mobilized and enter nearby drainage paths, leading to increased sediment loads and short-lived turbidity.

Magnitude: Localized
Duration: Short-term

Significance: Moderate (Mitigation Required)

5.3.2 Waste Generation

Excavation of the canal prism and construction of auxiliary hydraulic structures will generate substantial volumes of soil, vegetation, silt, and mixed debris. If not properly managed, these materials can obstruct public pathways, create wind-blown nuisance, and contribute to runoff contamination that affects adjacent farms, homesteads, and downstream water bodies. To mitigate these risks, all excavated material will be handled under a controlled waste management protocol that aligns with the environmental requirements of the EPMA 2024, the ESIA Regulations 2024, and the World Bank's ESS3 on Resource Efficiency and Pollution Prevention.

The contractor will segregate the various waste streams at source. Clean excavated soil suitable for reuse will be stockpiled at designated locations for later reinstatement, backfilling, or stabilization of embankments, depending on engineering needs and the supervisor's instructions. Unsuitable or contaminated material will be transported to approved disposal areas identified in consultation with the Afgoye District Administration and the Southwest State Environmental Authority. Vegetation cleared from the canal corridor will be collected immediately after cutting to prevent drying and wind dispersal; it will either be composted, mulched for agricultural use, or disposed of at designated municipal sites where open dumping is prohibited. Mixed debris such as plastic, metal fragments, packaging, and non-organic waste will be collected daily and transferred to licensed waste handling points in accordance with local waste bylaws.

Throughout the process, truck movements and hauling activities will be managed to prevent spillage along access roads, and all loads will be covered during transport to minimize dust and scatter. Temporary stockpiles will be located away from watercourses, residential areas, and active farmland to avoid runoff contamination during rainfall events. Appropriate drainage controls, including silt fences and perimeter bunds, will be installed to prevent sediment from entering irrigation channels

or natural waterways. Continuous monitoring by the contractor, FAO safeguards team, and the Southwest State Environmental Specialist will ensure that disposal practices remain compliant, and any nonconforming waste handling will be corrected immediately.

5.3.3 Water Quality Risks

Rehabilitation activities particularly excavation, desilting, and movement of loose soil may temporarily increase water turbidity if eroded sediments or construction materials are washed into nearby natural drainage channels or toward the Shabelle River during rainfall events. Disturbed soil, fine particles, and dislodged vegetation can be mobilized by surface runoff, leading to short-term discoloration of water and reduced clarity. While these effects are localized and reversible, they may momentarily affect downstream users, small aquatic habitats, or livestock watering points. Given the limited scale of works and the distance between the canal and the river, such turbidity increases are not expected to cause significant environmental harm and can be effectively managed through good construction practices, proper spoil placement, and runoff control measures.

Significance: Low–Moderate

5.3.4 Air Quality Impacts (Dust and Emissions)

Construction activities, including excavation and the operation of machinery, may generate dust and localized emissions, particularly during dry periods. These impacts can affect nearby farmers, residents living along the canal edges, and livestock in the area. Although the effects are generally short-term and localized, they may cause minor respiratory irritation or nuisance dust deposition. The overall significance of air quality impacts is considered Low–Moderate, and standard dust mitigation measures, such as water spraying on exposed surfaces, should be implemented.

5.3.5 Noise and Vibration

Operation of construction machinery and excavation equipment may generate noise and vibrations, potentially disturbing nearby households and livestock. The effects are expected to be temporary and localized to active work areas, with the greatest impact occurring during peak construction periods. With adherence to standard mitigation measures, such as limiting work hours near sensitive receptors, the significance of noise and vibration impacts is assessed as Low (Short-term).

5.3.6 Occupational Health and Safety Hazards

Workers on the canal rehabilitation project are exposed to various occupational health and safety hazards, including injuries from excavation, machinery-related accidents, heat stress, slips or falls on unstable canal banks, and lack of proper personal protective equipment (PPE). Without proper mitigation, these hazards could result in moderate impacts. Implementation of a comprehensive health and safety plan, including mandatory use of PPE, training on safe equipment operation, provision of shaded rest areas, and clear site safety protocols, is required to reduce risks to workers. With these measures in place, occupational health and safety risks remain Moderate but manageable.

5.3.7 Trench Stability and Excavation Safety Risks

Excavation and desilting works expose workers to trench collapse hazards due to loose alluvial soils typical of the Afgoye floodplain. Contributing factors include soil saturation, vibration from heavy equipment, and improper excavation angles.

The contractor shall implement excavation safety protocols including stable slope angles, benching or battering where necessary, prohibition of entry into unsupported trenches deeper than 1.2 meters, safe spoil placement away from trench edges, provision of safe access/egress, and daily inspection by a competent supervisor. Toolbox talks shall address trench hazards prior to commencement of excavation activities.

With proper controls, residual risk is Moderate and manageable.

5.3.8 Community Health and Safety Risks

Accidental injuries and safety risks are a significant concern during canal excavation and construction of auxiliary structures, particularly in rural agricultural settings such as Afgoye District where communities, livestock, and farming activities coexist around the work zone. Open excavations, active machinery, and increased vehicle movement create multiple exposure pathways that require structured control measures consistent with World Bank ESS4 on Community Health and Safety and the Occupational Health and Safety provisions of the Somali Labour Code.

Open trenches and excavation areas present a direct risk of accidental falls, especially for farmers, children, and livestock moving near the canal corridor. These hazards will be managed through installation of physical barriers, warning tapes, signage in Somali and easily recognizable pictograms, and controlled access routes around the work zone. Daily inspections will ensure protective measures remain intact throughout rehabilitation.

Construction vehicle traffic poses an additional hazard, particularly where haul routes intersect with footpaths, market roads, and agricultural tracks. A dedicated traffic management plan will guide safe vehicle operations, enforce speed limits, designate turning and loading zones, and ensure the presence of trained flaggers at high-risk crossing points. Vehicle operators will receive mandatory safety briefings, and all equipment will undergo routine mechanical checks to minimize breakdowns or unsafe operation.

Given that livestock frequently graze along canal edges in Afgoye, interactions between machinery and animals present an under-recognized but high-impact risk. To mitigate this, the contractor will coordinate with community leaders and Water Users Associations to identify peak grazing times and adjust work schedules or install temporary fencing as required. Clear communication channels will be established to inform herders of daily construction zones and machinery movements.

Unauthorized public access to active worksites remains a critical concern. The contractor will secure all working areas through controlled entry points, site guards, and visible demarcation to prevent community members from entering hazardous zones. Awareness sessions with local farmers, women's groups, and youth representatives will reinforce safety messages and ensure the community understands the boundaries of the construction area.

Collectively, these measures create a structured and enforceable safety framework designed to reduce community exposure, improve situational awareness, and ensure safe coexistence between construction activities and local livelihoods throughout the project lifecycle.

5.3.9 Interaction with SMP/SRA Requirements

The Hussein Primary Canal runs through the agricultural belt of Afgoye District, where small farms, scattered farming settlements, and flat alluvial plains are all connected to the Shabelle River corridor. During the rehabilitation work, workers and construction equipment will need to move along the canal to get to different work sites. This means that the contractor will need to work with local authorities. The contractor must follow the Project's Security Management Plan (SMP) and Security Risk Assessment (SRA) to the letter in order to handle these movements safely and responsibly. Authorities at both the district and village levels must be notified in advance, approved access routes must be followed, a security focal point must be appointed, and site-level controls must be put in place, such as limiting access, tracking personnel, and securely storing materials. Any security personnel hired must follow SMP rules and be trained to work in the setting.

Contractual terms, regular supervision, and quick reporting of security-related incidents will all help make sure that the SMP/SRA is followed. The contractor must let community members and local leaders know ahead of time about planned movements and work schedules to avoid any possible security problems. Clear communication with both the authorities and the community, as well as strict adherence to SMP/SRA measures, will keep agricultural activities running smoothly and keep security risks under control, which supports the Moderate significance rating.

5.4 Social Impacts at Rehabilitation Phase

The rehabilitation phase of the Hussein Primary Canal rehabilitation may lead to temporary social impacts, including disruptions to farming activities, labor influx risks, limited access to grievance mechanisms, and potential exclusion of vulnerable groups, all of which require proactive mitigation and community engagement

5.4.1 Temporary Access Restrictions and Livelihood Disruption Risks

Rehabilitation of the Hussein Primary Canal may temporarily restrict access to irrigation outlets, footpaths, livestock crossings, or farm plots during active construction. These disruptions are short-term and reversible but may affect irrigation schedules if not properly coordinated.

Mitigation measures include phased construction scheduling, advance notification to affected farmers through the Water User Committee (WUC), temporary diversion channels where feasible, provision of safe crossing points, and prompt restoration of access following completion of works in each canal segment.

No permanent land acquisition, displacement, or loss of land rights is anticipated, as works are confined within the existing canal alignment.

5.4.2 Temporary Disturbance to Farming Activities

The rehabilitation of the Hussein Primary Canal may result in temporary disruptions to routine farming activities along the canal corridor. These disruptions could include restricted access to individual plots, changes to irrigation schedules, and temporary limitations on the movement of farm equipment. During stakeholder consultations, local farmers indicated that such interruptions are generally acceptable if they are given adequate advance notice. To mitigate potential impacts, the contractor is required to coordinate closely with farmers and community leaders to provide timely information on planned works, including the expected duration and location of activities. Additional

measures should include scheduling rehabilitation to avoid critical irrigation periods, such as the main seasons, Deyr and Gu seasons, providing alternative access routes to farms when sections of the canal are under rehabilitation, and minimizing any interference with water delivery.

5.4.3 Labor Influx Risks

The rehabilitation of the Hussein Primary Canal will require a temporary workforce drawn from the villages and settlements within the area of canal's coverage area. No external or non-local labor is anticipated, as selection of the workforce will prioritize local community members. Even with a locally sourced workforce, the temporary increase in the number of workers at the project site may create minor social risks, such as misunderstandings with community members or gender-related vulnerabilities. To manage these risks, the contractor will enforce a worker Code of Conduct, provide mandatory training on gender-based violence (GBV), and ensure continued awareness of SEA/SH prevention requirements. The project will prioritize hiring from villages directly served by the canal, and community leaders will be informed of worker activities, schedules, and site movements. An Environmental and Social Officer will oversee daily worker-community interactions, monitor compliance with behavioral standards, ensure timely reporting of incidents, and implement corrective action when required. With these measures, labor influx risks remain low and fully manageable.

5.4.4 GM Access Limitations

During community consultations, farmers and canal users emphasized that clear and consistent communication regarding the Grievance Mechanism (GM) is essential for ensuring meaningful access to complaint-handling channels throughout the rehabilitation period. Although the project GM is already established under S-FSRP, limited public awareness may hinder timely reporting of concerns related to rehabilitation activities, water distribution disruptions, labor behavior, or safety risks. Farmers noted that many community members are not yet familiar with the hotline numbers (570-NCPU, 540- MOAI Southwest and 327-FAO Somalia), reporting procedures, or the types of grievances that can be submitted.

To address these challenges, the project will implement targeted measures to strengthen GM accessibility and ensure that all farmers including women, youth, elderly persons, and vulnerable groups understand how to use the system. Before contractor mobilization, the FAO/S-FSRP safeguards team will conduct community information sessions to explain the purpose of the GM, available reporting channels, expected response times, and confidentiality protections. The GM hotlines numbers (570-NPCU and 540 -MOAI Southwest, 327- FAO Somalia) will be widely publicized through verbal announcements, posters displayed in community centers, mosques, market areas, and via local leaders and Water Users Associations (WUAs). Printed materials will be distributed in the local language, and simple messaging will be used to ensure accessibility for all literacy levels.

During rehabilitation, the contractor's Environmental and Social Officer will ensure that grievance information at the site level is clearly visible and regularly updated. Farmers will be encouraged to raise concerns early, either through the hotline, written submissions, or communication with FAO field monitors. All grievances will be logged, acknowledged within 48 hours, and processed according to the project's established procedures.

With these measures in place, proactive communication, community outreach, visible signage, and dedicated oversight the limitations in GM access are expected to be effectively mitigated. The residual risk is therefore assessed as Low–Moderate, with mitigation required to maintain consistent accessibility and community confidence in the reporting system.

5.4.5 Vulnerable Group Exclusion Risks

The project area includes groups that may be disproportionately affected by limited access to project information, consultations, or grievance channels during the rehabilitation phase. Women, land-poor farmers, elderly persons, and other vulnerable households often face barriers such as restricted mobility, lower participation in community meetings, and limited influence in local decision-making structures. These constraints may reduce their ability to articulate concerns related to water distribution, temporary disruptions to farming activities, or safety risks associated with rehabilitation works.

If not proactively addressed, these gaps in engagement may lead to unequal access to project benefits, miscommunication regarding rehabilitation schedules, or reduced confidence in the grievance and feedback system. To mitigate this, the project must ensure inclusive communication approaches—such as targeted outreach, small-group discussions, involvement of women representatives, and use of accessible communication channels. Collaboration with Water Users Associations and village committees will also be critical to ensure that vulnerable groups are systematically informed and able to participate meaningfully.

Given the manageable nature of these risks and the availability of established mitigation measures within the Stakeholder Engagement Plan and the ESMP's GM structure, the significance is assessed as Low–Moderate. Continuous monitoring and tailored engagement will be required to maintain equitable access and ensure that all affected groups remain informed and involved throughout project implementation.

5.5 Operational Phase Impacts

The operational phase of the canal is expected to produce long-term impacts on water management, agricultural productivity, and community benefits

5.5.1 Long-Term Positive Water Distribution Equity

Restoration of the canal's hydraulic capacity will significantly enhance the reliability and fairness of water distribution across the entire command area, with the most substantial benefits accruing to midstream and tail-end farmers who currently experience chronic shortages. By removing accumulated silt, re-establishing a consistent cross-section, and rehabilitating auxiliary structures, the canal will be able to convey adequate flow volumes even during peak irrigation periods. This improvement will reduce upstream–downstream disparities, strengthen crop productivity, and support more equitable agricultural outcomes for all farming households. The long-term positive impact on water distribution equity is assessed as High, given its direct contribution to livelihood resilience and food security.

5.5.2 Reduced Flooding and Blockages

Rehabilitation of the culverts and division boxes will restore proper conveyance of both irrigation water and stormwater, thereby reducing the recurring blockages, localized flooding, and flow diversion problems currently reported along the canal. Improved structural integrity will mitigate risks of overtopping, embankment erosion, and sediment deposits that damage adjacent farmland. Restored hydraulic functionality will also enhance drainage efficiency during high-flow events, preventing the formation of stagnant water that contributes to mosquito breeding and public health concerns. Overall, the reduction in flooding, waterlogging, and structural blockages represents a High positive impact with immediate and long-term benefits for agricultural productivity and community safety.

5.5.3 Climate and Flood-Related Construction Risks

The Hussein Canal rehabilitation may be affected by heavy rainfall during Gu and Deyr seasons, which can increase sediment runoff, destabilize partially rehabilitated embankments, and create safety hazards for workers. Sudden rises in Shabelle River levels may also increase canal flow volumes during construction.

Mitigation measures include phased construction scheduling outside peak flood periods, temporary drainage controls, immediate compaction of reshaped embankments, weather monitoring, and emergency response preparedness. With these measures in place, residual climate-related risk is considered Moderate.

5.5.4 Maintenance Requirements

Despite the anticipated improvements from rehabilitation, the long-term performance of the canal will depend heavily on sustained routine maintenance. Without regular desilting, vegetation management, inspection of structural components, and community-led upkeep, the canal may gradually return to its current degraded condition. Poor maintenance would reintroduce siltation, flow restrictions, erosion, and reduced irrigation reliability, undermining the investment made under S-FSRP. To mitigate this risk, a clear operation and maintenance (O&M) plan involving the Ministry of Agriculture and Irrigation, Water Users Associations (WUAs), and community committees should be established. In the absence of such measures, the negative impact of insufficient maintenance is assessed as Moderate, with the potential to escalate over time.

5.6 Cumulative Impacts

The rehabilitation of the Hussein Primary Canal forms part of a broader set of irrigation restoration activities being implemented under the Somalia Food Systems Resilience Program (S-FSRP) within Afgoye District. Several nearby canals are undergoing, or are planned for, similar rehabilitation works. When viewed collectively, these interventions are expected to generate cumulative positive impacts across the wider agricultural landscape. By improving water conveyance efficiency, restoring damaged hydraulic structures, and enhancing irrigation reliability, the combined effect of these projects will contribute to increased agricultural productivity, strengthened food security, and greater climate resilience at the district and regional levels.

The cumulative benefits are further amplified by improvements in farming practices, reduced blockages across the irrigation network, and the reactivation of previously underutilized farmland.

Taken together, these parallel canal restorations are anticipated to support more stable cropping cycles and promote equitable water distribution among upstream, midstream, and tail-end users.

No significant negative cumulative impacts are anticipated, provided that mitigation measures outlined in this ESMP are consistently applied across all subprojects. Coordinated planning among implementing partners, proper synchronization of rehabilitation activities, and adherence to environmental and social safeguards are expected to ensure that cumulative risks remain minimal.

Table 5-Summary of impacts

Impact Category	**Impact Type**	**Significance Before Mitigation**	**Residual Significance**
Soil disturbance and erosion	Negative	Moderate	Low
Waste generation	Negative	Low–Moderate	Low
Air and dust	Negative	Low–Moderate	Low
Noise	Negative	Low	Low
OHS risks	Negative	Moderate–High	Low–Moderate
Community safety	Negative	Moderate	Low
Water distribution	Positive	High	High
Agricultural productivity	Positive	High	High
Livelihood improvement	Positive	Moderate–High	High
Tail-end fairness	Positive	High	High

Table 6-Summary of the Environmental and Social Risks and Impacts during rehabilitation and operation phases

Risk Category	**Key Risks and Impacts**	**Risk Rating**
ESS 1: E&S Assessment and Management	Failure to fully implement or monitor the ESMP could result in unmitigated impacts such as: Poor control of excavation works and spoil disposal •Uncoordinated water interruptions affecting farmers • Insufficient inclusion of vulnerable groups (women farmers, tail-end users, land-poor households) • Weak documentation and reporting by contractors Risk includes inconsistent application of mitigation measures across the 3.25 km canal corridor. |	• Moderate during rehabilitation • Minor during operation
ESS 2: Labor and Working Conditions	– Risks associated with canal excavation and reconstruction of 23 structures include: • OHS hazards: collapsing trench walls, machinery movement (excavators, tippers, compactors), dust inhalation, noise, slips/falls, working near water • Potential non-compliance with labour laws	• Moderate during rrehabilitation • Minor during operation

Risk Category	Key Risks and Impacts	Risk Rating
	(child/forced labour) • Labor disputes related to wages, hours, and conditions • Worker misconduct including SEA/SH, harassment, or conflict with community members • Discrimination in recruitment or task allocation (women, minority groups) • Weak or inaccessible worker GM.	
ESS 3: Resource Efficiency & Pollution Prevention	– Environmental risks specific to irrigation canal works: • Improper handling of excavated spoil leading to runoff, sedimentation, or blocking footpaths • Dust emissions from excavation, haulage, and disposal • Noise and vibration from machinery • Accidental fuel/oil leakage contaminating soils or irrigation water • Inefficient water use during rehabilitation (concrete works for structures) • Poor storage or disposal of waste materials	• Moderate during rehabilitation • Moderate during operation
ESS 4: Community Health and Safety	– Risks to nearby communities and farmers include: • Open excavation hazards along the canal alignment • Increased traffic from construction trucks transporting spoil • Interaction between machinery and livestock/common pathways • Temporary water interruptions affecting tail-end farmers • Unauthorized access to worksites • Spread of communicable diseases • SEA/SH risks affecting women and minors • Security risks if equipment is not protected or site access is not controlled e.	• Moderate during rehabilitation • Moderate during operation
ESS5: Land Acquisition, Restrictions on land use and Involuntary Resettlement	Although canal works occur entirely within the established Hussein canal corridor, potential risks include: • Temporary disturbance of crops close to canal banks • Possible damage to small assets (fences, footpaths) • Temporary access restrictions for farmers Any displacement impacts—if verified—will be addressed under the RAP budget only (not ESMP).	Minor during rehabilitation
ESS8: Cultural Heritage	Canal excavation (removal of silt up to 1 m depth) may expose: • Buried cultural materials • Historical artifacts • Graves or heritage items A Chance-Find Procedure is included as an annex	Moderate during rehabilitation

Risk Category	Key Risks and Impacts	Risk Rating
ESS 10: Stakeholder Engagement	Risks include: • Exclusion of women farmers, minority groups, and tail-end irrigators from engagement • Low awareness of GM hotlines (570-NPCU and 540 - MOAI Southwest, 327- FAO Somalia) • Poor documentation of attendance and feedback • Complaints unresolved due to lack of follow-up Consultations must continue throughout rehabilitation.	• moderate during rehabilitation • Moderate during operation

6. ENVIRONMENTAL AND SOCIAL RISKS/IMPACTS MITIGATION PLAN

This section outlines specific mitigation measures designed to address the environmental and social impacts identified in Section 5. The measures follow the mitigation hierarchy and are consistent with the World Bank ESF, FAO Environmental and Social Standards, and the Environmental Protection and Management Act (EPMA) 2024.

The mitigation plan applies to all phases of the project from pre-construction to construction and operational stages and assigns responsibilities to implementing institutions, contractors, the supervision team, and community structures.

6.1 Mitigation Matrix

Environmental & social mitigation measures

Table 7-Environmental and Social Mitigation Measures Tables

Risk / Impact	Mitigation Measure	Responsibility	Timing	Performance Indicator
Lack of environmental compliance	Obtain environmental permit from MoECC + Southwest State Environmental Authority, referencing EPMA 2024 & ESIA Regulations 2024	FAO + Contractor	Before mobilization	Permit issued and filed
Insufficient project information to community	Conduct project briefing with farmers: schedule, access routes, risks, (570-NCPU, 540- MOAI Southwest and 327-FAO Somalia)	FAO Safeguards + MoAI	Pre-rehabilitation	Attendance sheets; photos
Inadequate SMP/SRA compliance	Contractor to adopt and implement Project SMP/SRA (latest version) including worker movement and access control	Contractor	Pre-rehabilitation	SMP/SRA compliance verified
Labor influx risks	Require contractor to hire local labor where feasible; enforce CoC; establish OHS inductions	Contractor	Pre-rehabilitation	Worker records; CoC signed

B. Rehabilitation Phase — Environmental Impacts

Risk	Mitigation	Responsibility	Timing	Indicator
Soil erosion from excavation	Stabilize embankments; avoid over-excavation; reshape slopes properly	Contractor	Daily	Slopes stable; no collapse
Sediment entering natural drainage	Store excavated material away from water pathways; cover spoil piles	Contractor	Daily	No sediment runoff observed

Table 7 B.2 Waste Management

Risk	Mitigation	Responsibility	Timing	Indicator
Improper disposal of spoil and vegetation	Identify approved disposal site; transport spoil safely; no dumping on farmland	Contractor	Weekly	Waste logs; disposal site verified
Debris blocking canal flows	Remove vegetation from canal bed and culverts; ensure safe stacking	Contractor	Daily	Canal remains unobstructed

Table 7 B.3 Air Quality and Dust

Risk	Mitigation	Responsibility	Timing	Indicator
Dust emissions	Water sensitive locations; limit speed of machinery along farms	Contractor	Daily	Dust levels acceptable
Machine emissions	Equipment must be in good condition; no idling	Contractor	Weekly	Maintenance logs

Table 7 B.4 Noise

Risk	Mitigation	Responsibility	Timing	Indicator
Noise disturbance	Work only during daylight; provide advance notice to residents	Contractor	Daily	No complaints recorded

C. Rehabilitataion Phase — Occupational & Community Health and Safety

Table 7 C.1 Occupational Health and Safety (OHS)

Risk	Mitigation	Responsibility	Timing	Indicator
Injuries during excavation	Provide PPE (helmets, boots, gloves); install barriers on steep edges	Contractor	Daily	PPE compliance rate
Heat stress	Provide drinking water; schedule rest breaks; shade for workers	Contractor	Daily	No heat-related incidents
Machinery hazards	Operators must be certified; enforce exclusion zones	Contractor	Daily	Incident reports

Table 7 C.2 Community Health and Safety (CHS)

Risk	Mitigation	Responsibility	Timing	Indicator
Public access to rehabilitation areas	Install signage; workers supervise excavation zones	Contractor	Daily	No community injuries
Traffic risks	Use designated routes; coordinate with local leaders	Contractor	Daily	Traffic log maintained
Livestock accidents	Farmers notified prior to works; temporary barriers installed	Contractor	Daily	No livestock incidents

D. Rehabilitation Phase — Social Impacts

Table 7 D.1 Disruption to Farming Activities

Risk	Mitigation	Responsibility	Timing	Indicator
Restricted field access	Provide schedule notices; keep crossings accessible	Contractor + FAO	Weekly	Farmer complaints minimized

Table 7 D.2 Vulnerable Groups Inclusion

Risk	Mitigation	Responsibility	Timing	Indicator
Exclusion of women or land-poor farmers	Ensure gender-inclusive meetings; provide simplified GM access	FAO + MoAI	Monthly	Participation list

Table 7 D.3 GM Access

Risk	Mitigation	Responsibility	Timing	Indicator
Lack of awareness of complaint channels	Publicize hotlines **(570-NPCU and 540 -MOAI Southwest, 327- FAO Somalia)**; display GM posters; include in meetings	FAO Safeguards/ SWS Safeguard	Monthly	Increase in GM usage/awareness

E. Operational Phase Impacts

Table 7 E.1 Water Distribution Efficiency

Risk	Mitigation	Responsibility	Timing	Indicator
Inequitable water distribution	Maintain cleaned division boxes; enforce rotation schedule	WUA + Farmers	Seasonal	Improved tail-end delivery

Table 7 E.2 Long-Term Canal Maintenance

Risk	Mitigation	Responsibility	Timing	Indicator
Siltation reoccurrence	Annual desilting program; community-organized cleaning	MoAI + WUA	Annual	No blockages reported

Table 7 E.3 Flooding at Culverts

Risk	Mitigation	Responsibility	Timing	Indicator
Blocked culverts	Routine debris removal; monitor dry-season flow	WUA + Farmers	Monthly	Culverts free-flowing

Table 8-Roles and Responsibilities

Actor	Responsibility
FAO (Implementing Agency)	Oversight, safeguards supervision, reporting to the World Bank
Contractor	Implement all mitigation measures, maintain logs, OHS enforcement
Supervision Engineer	Daily oversight, E&S compliance monitoring
MoECC + Southwest Environmental Authority	Environmental permitting, inspections
MoAI (Southwest State)	Coordination, community liaison, maintenance planning
Water User Association	Post- rehabilitation maintenance, community monitoring
Community Leaders	Information dissemination, grievance facilitation

Table 9 - Environmental and Social Management Plan (ESMP) and Monitoring Plan for Hussein Canal Subproject

Associated Project Activity **office**	**E&S Risks and Impact**	**Mitigation Measures**	**Responsibility for implementation**	**Timing for mitigation**	**Monitoring Indicators**	**Mitigation Budget**	**Monitoring Responsibility**	**Monitoring Frequency**
ESS 1: Environmental and Social Assessments								
ESS1	Degraded canal conditions; excavation impacts; spoil mismanagement	Conduct controlled excavation following engineering design; maintain original canal alignment; dispose spoil only in approved community-designated sites; provide temporary bypasses to maintain irrigation; keep access routes clear; install visible signage and barriers	Contractor	Pre-rehabilitation (planning of spoil areas); throughout rehabilitation	• Daily ESHS logs • Verified spoil disposal locations • Zero disruption beyond planned timeline • Access kept open • Photos with GPS	USD 10,688	FAO Safeguards + SWS Environmental Specialist	Daily during excavation; weekly joint inspections

Associated Project Activity office	E&S Risks and Impact	Mitigation Measures	Responsibility for implementation	Timing for mitigation	Monitoring Indicators	Mitigation Budget	Monitoring Responsibility	Monitoring Frequency
	Temporary interruption of irrigation flows	Prepare irrigation schedule; provide 48–72 hours' notice to farmers; coordinate with WUA; install temporary bypass/diversions	Contractor; WUA	Pre-rehabilitation (planning); during active works affecting flow	Number of notices issued; functioning bypasses; grievances related to flow	Included above	MoAI; FAO Safeguards	Weekly during works; before and after blockages
ESS 2: Labor and Working Conditions								
ESS2	Worker OHS risks (equipment, excavation, traffic)	• Provide PPE; toolbox talks; safety supervision; exclusion zones; first-aid kits; emergency response plan	Contractor	Mobilization; throughout rehabilitation	• PPE use rate; OHS checklists; incident/near-miss records	USD 1,474	FAO Safeguards	Daily toolbox meetings; weekly OHS inspections; after incidents
ESS2	Child / forced labor	• Strict age verification process and documentation for all workers • Age verification will follow the standard procedure agreed with the community and the PIU. All workers must present **valid identification**, such as a national ID	Contractor	Recruitment; contract duration	Worker registry; ID records; zero non-compliance cases	Included above	FAO Safeguards	At recruitment; quarterly spot checks

Associated Project Activity office	E&S Risks and Impact	Mitigation Measures	Responsibility for implementation	Timing for mitigation	Monitoring Indicators	Mitigation Budget	Monitoring Responsibility	Monitoring Frequency
		(NIRA), voter card, driving license, or endorsed letter from the **local administration confirming age**. Physical appearance will not be used to judge age. No worker will be hired without documented proof that they are **18 years or older**.						
	Traffic accidents cause injury or death of workers or community	• All drivers undergo safe driving checks. • Traffic safety protocols are closely adhered to.	Contractor	During rehabilitation	Checks on drivers documented; Traffic safety awareness raising and monitoring are documented.	Included in Contractor's ESHS Management	PIU/FAO/ MoAI / Site Engineer	Weekly
ESS 3: Resource Efficiency and Pollution Prevention Management								

Associated Project Activity office	E&S Risks and Impact	Mitigation Measures	Responsibility for implementation	Timing for mitigation	Monitoring Indicators	Mitigation Budget	Monitoring Responsibility	Monitoring Frequency
ESS3	Dust, emissions, general waste	Water-spray roads and excavation; cover trucks; maintain vehicles; segregate and properly dispose waste; no open burning	Contractor	Throughout rehabilitation especially dry/windy periods	Dust suppression records; clean work areas; waste manifests	USD 1,474	FAO; SWS Environmental Authority	Daily (visual checks); weekly inspections
	Fuel / oil spill risk	Designate refueling area; use drip trays; keep spill kits; train workers; implement 24-hr spill response	Contractor	Mobilization; throughout rehabilitation	Spill log; evidence of cleanup; no contaminated soils left	Included above	FAO Safeguards	Weekly
ESS 4: Community Health and Safety								
ESS4	Traffic hazards, open excavations, community safety	Install barriers and warning signs; speed limits; trained flaggers; maintain safe crossings; restrict night works	Contractor	Before and during rehabilitation especially near settlements	Number of barriers/signs; traffic incident reports; community feedback	USD 2,211	FAO; Local Administration	Daily (site-level); weekly joint inspections
	GBV/SEA/SH risks	Worker Code of Conduct; GBV/SEA/SH training; confidential reporting; link to FAO GBV channels; zero tolerance	Contractor; FAO GBV Specialist	Pre-mobilization training; refreshers during rehabilitation	Number of trained; signed CoCs; GBV/SEA/SH cases managed per protocol	USD 1,474	PIU/FAO Safeguards	At induction; semi-annual refresher; continuous GM tracking
	Use of waste by community	• Ensure all waste is properly recorded, sorted and	Contractor	During implementation	• Waste management procedure in place	Included above	PIU	Weekly

Associated Project Activity office	E&S Risks and Impact	Mitigation Measures	Responsibility for implementation	Timing for mitigation	Monitoring Indicators	Mitigation Budget	Monitoring Responsibility	Monitoring Frequency
	may cause harm	segregated, proper handling and disposal, and health and safety measures			• Records of amount of waste disposed available			
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement								
ESS5	Temporary crop disturbance / access issues	Avoid farming plots where possible; coordinate timing; apply RAP/RPF where impact occurs; compensation from RAP budget	MoAI; FAO; Local Authorities	Pre-rehabilitation (planning); before works in sensitive areas	RAP documentation; number of compensated cases; related grievances	RAP budget (external)	PIU/FAO; SWS Environmental Specialist	As needed when impacts occur; RAP monitoring quarterly
ESS 10: Stakeholder Engagement and Information Disclosure								
ESS10	Limited GM access, low awareness	Publicize hotline numbers (570-NCPU, 540- MOAI Southwest and 327-FAO Somalia); display posters; explain GM at meetings; maintain on-site GM log	PIU/FAO and contractor	Before mobilization; throughout rehabilitation	Number grievances received/resolved; resolution time; GM poster presence	USD 1,474	PIU/ FAO Safeguards/ GM Focal Point / MoAI	Monthly GM review; quarterly summary
	Weak stakeholder engagement, information gaps	Hold pre-rehabilitation and periodic meetings with farmers and WUA; disclose schedule and risks; include women and vulnerable groups	FAO; Contractor; WUA	Pre-rehabilitation; monthly during rehabilitation	Meeting minutes; attendance lists; records of issues raised and addressed	USD 1,474	FAO; WUA	Monthly engagement; ad-hoc when changes occur

7. MONITORING PLAN

Environmental and social monitoring is an essential component of effective ESMP implementation. The Monitoring Plan ensures that mitigation measures are properly executed, risks are managed proactively, and contractor performance aligns with World Bank ESS requirements, FAO safeguards standards, EPMA 2024, and ESIA Regulations 2024. Monitoring will occur throughout the rehabilitation phase and during the immediate post- rehabilitation period.

7.1 Objectives of Environmental and Social Monitoring

The monitoring program aims to:

- Track the effectiveness of mitigation measures outlined in the ESMP
- Ensure compliance with relevant national and international environmental and social standards
- Identify emerging issues that require corrective action
- Document contractor performance (ESHS compliance)
- Provide evidence-based reporting to FAO, MoAI, MoECC, and the World Bank
- Ensure community health, safety, and consistent GM functioning
- Verify that rehabilitation activities do not adversely affect farming activities and water availability

7.2 Monitoring Approach

A multi-level monitoring approach will be implemented during the project, involving the contractor, FAO safeguards team, MoECC, and Water Users Associations to ensure effective compliance with environmental and social safeguard requirements

Contractor

The contractor will be responsible for maintaining a comprehensive Daily Environmental, Social, Health, and Safety (ESHS) Logbook that documents all site activities, compliance measures, and observations related to ESMP implementation. As part of daily responsibilities, the contractor will conduct systematic self-inspections to verify adherence to safety procedures, environmental controls, and community protection measures. These inspections serve as the first line of monitoring and enable the contractor to identify non-compliance issues early and implement immediate corrective actions. In addition, the contractor must maintain a complete and up-to-date record of all grievances received at the site level, including walk-in complaints, verbal submissions, and issues raised during community interactions. All incidents whether related to worker safety, environmental concerns, community health, or any event with the potential to cause harm must be reported to FAO and the project supervision team within 24 hours. This ensures rapid response, transparent communication, and continuous oversight of emerging risks throughout the rehabilitation period.

FAO Safeguards Team

FAO's safeguards team and the supervising engineers will conduct structured weekly and monthly environmental and social (E&S) inspections to verify that rehabilitation activities remain fully compliant with the ESMP requirements and World Bank standards. During these inspections, the

team will systematically review all contractor-maintained documentation, including daily logs, safety checklists, and site-level monitoring records, to confirm accuracy, completeness, and consistency with actual field conditions. The safeguards team will also validate all grievance entries received through the GM, ensuring that complaints are properly registered, investigated, and closed in accordance with the established procedures. As part of its oversight mandate, FAO will prepare quarterly ESMP implementation reports summarizing performance trends, compliance status, identified gaps, and recommended corrective actions. In addition, FAO will maintain ongoing coordination with the Ministry of Agriculture and Irrigation (MoAI) and Water Users Associations (WUA) to address water management concerns, adjust irrigation schedules when required, and ensure that rehabilitation activities do not disrupt the equitable distribution of water to farming communities.

MoECC (Southwest State Environmental Specialist)

The Southwest State Environmental Specialist will provide overarching oversight to ensure full compliance with applicable environmental requirements throughout the rehabilitation of the Husein Primary Canal. As part of its mandate, the Authority will support and monitor adherence to environmental permit conditions issued under the EPMA 2024 and the State-level ESIA Regulations, including periodic site inspections and verification of mitigation measures. In coordination with FAO and the implementing partners, the Specialist will also review and validate environmental monitoring results, confirm the accuracy of reported findings, and ensure that any areas of non-compliance are promptly addressed through corrective actions. This oversight role strengthens regulatory accountability and ensures that all project activities meet national environmental standards.

Water User Association (WUA)

The Water Users Association (WUA) and the wider farming community play an essential role in providing continuous, on-the-ground feedback regarding project activities. Their proximity to the canal corridor enables them to closely monitor any disruptions to farming operations, including temporary access constraints, changes in irrigation schedules, or disturbances affecting crops and land use. Community representatives also support the reporting of incidents, concerns, or grievances through the established GM channels, ensuring that issues are communicated promptly to the implementing partners and addressed in a timely and transparent manner. This engagement strengthens accountability, promotes inclusive participation, and ensures that project impacts are well understood and effectively managed at the local level.

7.3 Environmental and Social Monitoring Matrix

Table 10- Environmental & Social Monitoring Framework

Parameter Monitored	Monitoring Indicators	Method	Frequency	Responsible Entity	Reporting

Excavation works (3.25 km)	Excavation depth, slope stability, absence of spoil blockages	Field inspection, photos	Daily	Contractor	Daily Log
Division boxes (5 units)	Stability of excavated areas during demolition/re rehabilitation construction	Field checks	Weekly	FAO + Contractor	Weekly Checklist
Culverts (2 units)	Flow unobstructed, safe work zones	Visual inspection	Weekly	FAO + Contractor	Weekly Checklist
Concrete intake structure	Structural integrity, worker safety	Visual checks	Weekly	FAO	Monthly Report
Waste management	No debris in farmland or watercourses	Direct observation	Daily	Contractor	Daily Log
Dust and noise	Within acceptable levels	Observation/interviews	Weekly	FAO	Monthly Report
Traffic and machinery safety	Signage, safe access for farmers	Observation	Daily	Contractor	Daily Log
Community health & safety	Safe passage, warnings, barriers	Field check	Weekly	FAO + Contractor	Weekly Checklist
GM functioning	Complaints recorded & resolved	Log review	Weekly	FAO Safeguards	Monthly & Quarterly
Worker OHS compliance	PPE, toolbox talks, incident reports	Field check	Daily	Contractor	Daily Log
Gender inclusion	Participation of women in feedback mechanisms	Meeting records	Monthly	FAO	Monthly Report
Water availability to farmers	No prolonged disruption	Farmer interviews	Weekly	FAO + WUA	Weekly Summary

7.4 Incident Reporting Requirements

- Serious incidents (Level 1–2 per WB) → reported to FAO within 24 hours
- Contractor prepares initial incident report
- FAO conducts verification and prepares submission to World Bank
- Root-cause analysis and corrective measures implemented within 72 hours

7.5 Monitoring Documentation and Reporting Schedule

Required Documentation:

- Daily Contractor ESHS Log
- Weekly Joint Inspection Checklist
- Monthly FAO Safeguards Report
- Quarterly Consolidated ESMP Report

- Incident Reports (within 24 hours)
- GM Log (updated continuously)

Reporting Timeline

- Daily: Contractor logbook
- Weekly: Site inspection checklist
- Monthly: Environmental & social monitoring report
- Quarterly: Comprehensive ESMP compliance report
- As needed: Incident notifications

7.6 ESMP implementation budget

The following Table provides a budgetary estimate for the implementation of this ESMP during the sub-project life cycle. The Contractor will bear the cost of implementing measures of their C-ESMP during rehabilitation, including staff, PPE, equipment, and internal monitoring, as part of the contract price.

Table 11- Indicative budgetary requirements for implementing the ESMP

No,	Activity / Resources	Cost Estimate (USD/yr)
1	OHS induction training and safety toolbox talks (for all workers, supervisors, and machine operators)	1,474
2	Emergency Preparedness and Response Plan (EPRP), covering fire drills, first aid, and evacuation procedures; installation of barriers and warning signs; enforcement of speed limits; deployment of trained flaggers; maintenance of safe crossings; and restriction of night-time work	2,211
3	Training for Community water user associations or canal committees (operation, maintenance, safe use of canals)	2,211
4	Creation of temporary diversion channels, protection of canal banks and Re-vegetation of embankments (grass seeding, seedlings)	4,394
5	Stakeholder/Public consultations (pre-rehabilitation, mid-rehabilitation, and post- rehabilitation)	1,474
6	E&S GM implementation (hotline visibility, focal points, GM log maintenance)	1,474
7	Special services: GBV/SEA/SH prevention & awareness and t(worker CoC training, community sensitization)	1,474
8	Special services: site security (access control, fencing, signage, night guard support)	1,843
9	Special services: pollutant monitoring (dust monitoring, water quality checks during works)	1,474

10	E&S staff salary (contractor EHS officer + allowances for supervision periods)	2,211
	Sub-total	20,240
	Contingency (2%)	400
Total		**20,640**

8. IMPLEMENTATION ARRANGEMENT

The rehabilitation works for the Hussein Primary Canal will be implemented through a coordinated institutional structure involving the Ministry of Agriculture and Irrigation (MoAI), FAO/S-FSRP teams, the Southwest State authorities, the National Project Coordination Unit (NPCU), and the selected contractor. The implementation approach ensures full compliance with World Bank Environmental and Social Framework (ESF), national regulatory requirements, and this site-specific ESMP.

Government Responsibility.

The Ministry of Agriculture and Irrigation (MoAI) is the lead government entity responsible for the overall execution of the canal rehabilitation under S-FSRP. As the primary beneficiary ministry, MoAI is accountable for ensuring compliance with this ESMP, facilitating coordination with Southwest State authorities, and supporting effective community engagement throughout rehabilitation.

The National Project Coordination Unit (NPCU), housed under MoAI, provides day-to-day oversight of the subproject. NPCU engineers and environmental/social safeguards staff prepared the technical designs and this ESMP. During execution, the NPCU supervises the contractor, validates E&S performance, and reports implementation progress to the World Bank. The table below summarizes responsibilities of the core government stakeholders:

Table 12-. Institutional Partners and Responsibilities – Hussein Primary Canal

Institution	Responsibility
MoAI – Federal Ministry of Agriculture and Irrigation	Provides national-level oversight; ensures policy alignment; monitors overall ESMP implementation; supports coordination with federal institutions and project stakeholders.
PIU – Project Implementation Unit (Southwest State MoAI)	Primary implementing entity; manages day-to-day subproject execution; supervises contractor performance; monitors ESMP, OHS, and GM; coordinates with FAO, NPCU, and State Environmental Authority; ensures full compliance with World Bank ESF.
Southwest State Ministry of Agriculture and Irrigation (State MoAI)	Leads state-level supervision; validates technical activities; coordinates with WUA and district authorities; ensures adherence to state irrigation management policies; facilitates community engagement and land-use oversight.
NPCU – National Project Coordination Unit	Provides national coordination and harmonization across S-FSRP subprojects; reviews and approves the C-ESMP; conducts periodic monitoring; provides E&S safeguards oversight; reports to the World Bank on compliance.
FAO Somalia – S-FSRP Engineering & Safeguards Team	Provides technical quality assurance; ensures designs, construction methods, and ESMP implementation meet World Bank ESF and GIIP; verifies contractor deliverables; conducts safeguards training; monitors GM and environmental compliance.

Southwest State Environmental Authority (MoECC – State Level)	Issues environmental permits; reviews and approves ESMP; conducts site inspections; enforces EPMA 2024 requirements; monitors waste management, pollution control, and adherence to environmental conditions.
Afgoye District Administration	Facilitates local coordination, site access, and basic security; supports community engagement; helps resolve local issues and liaises between the project and community-level structures.
Afgoye Canal Committee & Water User Association (WUA)	Provides operational knowledge of water distribution; supports equitable irrigation management; mobilizes farmers for consultations; assists in monitoring construction impacts; participates in community GM functions.
Contractor	Implements rehabilitation works per design and ESMP; prepares and follows C-ESMP; ensures OHS, CHS, waste management, GBV/SEA/SH mitigation, and emergency response; maintains E&S records; ensures worker GM functions; trains workers and enforces Code of Conduct.
Subcontractors	Adhere fully to contractor obligations, ESMP requirements, and safety standards; follow C-ESMP; support reporting and compliance activities under contractor supervision.

Contractor Responsibilities

The contractor is responsible for executing all rehabilitation works in strict compliance with the ESMP, World Bank ESF standards, national regulations, and the WBG Environmental, Health, and Safety (EHS) Guidelines. This includes applying all environmental and social mitigation measures throughout the rehabilitation period.

Before mobilization, the contractor must develop a Contractor's ESMP (C-ESMP) that aligns with the mitigation measures, monitoring requirements, and risk controls outlined in this ESMP. No site activities may begin until the C-ESMP is reviewed and cleared by the NPCU.

The contractor's duties include, but are not limited to:

- Implement all mitigation measures prescribed in this ESMP and integrate them into daily site operations.
- Ensure all sub-contractors fully comply with ESMP requirements and World Bank E&S standards.
- Enforce accident and incident reporting protocols; report serious incidents through the NPCU to the World Bank within 48 hours.
- Establish and operationalize emergency response procedures, including spill response planning.
- Maintain continuous monitoring of ESMP compliance using approved checklists and indicators.
- Participate in regular stakeholder engagement meetings and GM review sessions.
- Identify and report emerging environmental or social issues requiring mitigation or corrective actions.

- Maintain open communication with NPCU engineers and safeguards specialists regarding compliance issues.
- Provide monthly E&S performance reports, including monitoring data, GM logs, and labor information.
- Maintain a complete list of workers including names, age, gender, and employment status.
- Operate a site-specific Workers' Grievance Mechanism and ensure all workers understand how to use it.
- Prepare and implement an Occupational Health and Safety (OHS) Plan, including worker induction and refresher trainings.
- Ensure all workers sign and comply with the Code of Conduct, addressing GBV, SEA/SH, harassment, and ethical behavior.
- Implement the approved Security Management Plan (SMP/SRA) and ensure coordination with local authorities.
- Conduct toolbox talks, including OHS, GM awareness, and SEA/SH risk prevention.
- Support periodic community awareness activities and information-sharing through the WUA and local leaders.
- The contractor is fully accountable for implementing all mitigation, monitoring, and reporting measures attributed to them in the ESMP.

Contractor's E&S / EHS Specialist

The contractor must assign a qualified Environmental and Social Specialist (or EHS Officer) to oversee all ESMP-related activities. The specialist serves as the focal point for site compliance, monitoring, and reporting and works closely with the NPCU safeguards team.

Key Duties of the E&S / EHS Specialist

- Ensure timely provision and correct use of PPE for all workers.
- Conduct structured OHS training and periodic safety refreshers for workers.
- Enforce safety protocols during excavation, equipment operation, and auxiliary structure construction.
- Halt site activities when safety risks are identified.
- Maintain a log of accidents, near misses, incidents, and ensure timely reporting to NPCU.
- Monitor and enforce waste management procedures, including disposal of excavated materials.
- Ensure provision of safe drinking water, sanitation, and hygiene facilities at site.
- Conduct daily and weekly toolbox talks.
- Train all workers on the Code of Conduct and maintain signed copies.
- Coordinate closely with NPCU and FAO on SEA/SH prevention measures and community awareness.
- Maintain comprehensive workers' records, including age and gender.
- Operate and document the Workers' GM.

- Ensure compliance with the Security Management Plan (SMP/SRA) and site-access controls.

Federal Ministry of Environment and Climate Change (MoECC)

The Federal Ministry of Environment and Climate Change (MoECC) provides statutory regulatory oversight for the Hussein Primary Canal rehabilitation in accordance with the Environmental Protection and Management Act (EPMA, 2024). MoECC confirms the applicability of the ESMP as the appropriate environmental instrument, ensures alignment with national environmental compliance requirements, and may conduct inspections or request environmental performance reports where necessary.

MoECC does not participate in day-to-day implementation but ensures regulatory compliance alongside the World Bank Environmental and Social Framework requirements.

9. STAKEHOLDER (COMMUNITY) CONSULTATION

This section summarizes the stakeholder engagement process undertaken for the Hussein Primary Canal Corridor rehabilitation subproject. The consultations were conducted in accordance with World Bank ESS10 (Stakeholder Engagement and Information Disclosure), FAO's Environmental and Social Standards, and the requirements of the EPMA 2024 and Somalia ESIA Regulations 2024. The objective was to ensure that affected communities, local authorities, and user groups were meaningfully engaged in discussing project impacts, benefits, risks, and mitigation measures.

The Somalia Food Systems Resilience Project (S-FSRP) operates three grievance channels: (i) General Community GM (ESS10 and ESS5); (ii) Workers' GM (ESS2); and (iii) SEA/SH-specific confidential reporting mechanism (ESS1 and ESS2). Each channel operates independently to ensure appropriate handling and confidentiality.

9.1 Objectives of Consultation

The consultations aimed to:

- Provide clear and accessible information about the rehabilitation works
- Understand local concerns, expectations, and priorities
- Identify potential environmental and social risks from the community perspective
- Document local knowledge relevant to canal use, maintenance, and water distribution
- Enhance stakeholder ownership of the project
- Ensure inclusion of women, youth, vulnerable groups, and smallholder farmers
- Establish communication and GM channels prior to rehabilitation

9.2 Stakeholder Groups Engaged

Stakeholders consulted for this ESMP included:

- **Primary Stakeholders:**
  The primary beneficiaries and affected stakeholders along the Hussein Primary Canal include a diverse group of water users and farming households who rely directly on the canal for irrigation and agricultural production. These groups encompass farmers situated at both the head-end and tail-end sections of the command area, each experiencing different levels of water reliability and therefore holding varying priorities in relation to the rehabilitation works. Tail-end farmers, in particular, face chronic shortages during peak demand seasons, making them highly dependent on improved conveyance efficiency and structural restoration.
  Women farmers and women-headed households constitute another significant stakeholder group. Many of these households depend on small-scale farming for their livelihoods and are often more vulnerable to disruptions in irrigation schedules or access constraints during rehabilitation. Their participation in consultations and decision-making is essential to ensure that the canal rehabilitation contributes to equitable and inclusive agricultural benefits.
  Land-poor farmers, including sharecroppers and small plot cultivators, also depend heavily on the canal for their seasonal production cycles. Because their landholdings

and income sources are limited, even minor interruptions in water supply can affect household food security and income stability. Seasonal agricultural laborers—many of whom rely on short-term employment associated with farming activities—are also indirectly affected, as improved irrigation reliability supports more frequent and predictable farming operations.

Collectively, these groups form the core community of users whose livelihoods, income, and food security are closely linked to the performance of the Hussein Primary Canal, making their engagement and inclusion central to the ESMP implementation process.

- **Institutional Stakeholders:**

  The institutional framework supporting the rehabilitation of the Hussein Primary Canal Corridor involves several government bodies, community institutions, and development partners with defined roles in planning, oversight, and implementation. At the local level, the Afgoye District Administration provides administrative coordination and facilitates communication between the project team and community leaders across Mareerey village and surrounding settlements. Their involvement ensures that the rehabilitation activities are aligned with district development priorities and local governance structures.

  The Southwest State Ministry of Agriculture and Irrigation (MoAI) plays a central technical role, providing oversight on irrigation management, water allocation, and engineering standards. MoAI works closely with Water User Associations (WUAs) and the Afgoye Canal Committee—two key community-based institutions responsible for mobilizing farmers, coordinating water distribution schedules, validating on-site information, and supporting maintenance practices. These bodies contribute essential local knowledge and help ensure that rehabilitation works address practical needs faced by irrigators.

  Environmental review and compliance are overseen by the Southwest State Environmental Specialist, operating under the Ministry of Environment and Climate Change (MoECC). This office is responsible for ensuring that the canal rehabilitation aligns with the provisions of the Environmental Protection and Management Act (EPMA 2024), the ESIA Regulations 2024, and state-level environmental permitting requirements. The Environmental Specialist also monitors ESMP implementation and provides regulatory guidance throughout the project cycle.

  At the federal and project-implementation level, the Food and Agriculture Organization (FAO), through the Somalia S-FSRP safeguards and engineering teams, delivers technical leadership and ensures adherence to the World Bank Environmental and Social Framework (ESF), the S-FSRP safeguard instruments, and Good International Industry Practice (GIIP). These teams coordinate engineering designs, supervise environmental and social risk management, support contractor compliance, and manage project-level grievance redress systems.

  Together, these institutions provide an integrated governance and oversight structure that ensures the rehabilitation of the Hussein Primary Canal is technically sound, environmentally compliant, socially inclusive, and aligned with broader state and national agricultural development goals.

- **Other Interested Parties:**
  In addition to the formal institutional stakeholders, the project engages closely with nearby community elders and traditional leaders who play an essential role in local governance, dispute resolution, and community mobilization. These leaders are often the primary point of communication for conveying project information, coordinating community participation during consultations, and supporting conflict-sensitive engagement when canal access or rehabilitation activities affect households or farmland. Their involvement is particularly important for ensuring that decisions reflect community norms, land-use practices, and shared resource management traditions.
  Local traders who depend on agricultural production also form an important stakeholder group. These traders—who operate in village markets, collection centers, and distribution points—rely on stable crop yields and predictable irrigation cycles to sustain their businesses. Disruptions to water supply or delays in rehabilitation can affect the availability, quality, and timing of agricultural produce, with direct implications for their income and the broader market chain. Improved irrigation reliability following canal rehabilitation is therefore expected to support increased market activity, reduced seasonal scarcity, and strengthened rural–urban linkages.

9.3 Stakeholder consultation Methodology

Consultations were carried out through:

- **Community meetings (primary method)**
  Large group sessions held with farmers, elders, and local leaders to present project information, collect feedback, and discuss anticipated impacts and mitigation measures.
- **Focus group discussions**
  Smaller, thematic sessions with specific groups—such as women farmers, tail-end users, or youth—to capture perspectives that may not emerge in larger meetings.
- **Key informant interviews**
  Targeted interviews with knowledgeable individuals, including WUA representatives, canal committee members, and local authorities, to obtain detailed technical, social, and operational insights.
- **Direct observation and field walkthroughs**
  On-site assessments conducted jointly with community representatives to observe canal conditions, identify problem areas, and validate technical and environmental findings.
- **Informal discussions with farmers during assessment**
  Spontaneous conversations held during field visits, allowing farmers to share practical concerns, operational challenges, and location-specific insights.
- Meetings were conducted in the local language and facilitated by FAO safeguards staff and MoAI field officers. Notes, photos, and attendance records were collected and included in the Annexes.

9.4 Consultation Event Summary

A formal community consultation meeting was held specifically for this ESMP. The meeting included:

30 participants total (14 male farmers and 16 female farmers)

Photos documenting the consultation have been provided and are included in the ESMP Annex 4.

Meeting Date & Venue

- **Afgoye District, near the Hussein Primary Canal Corridor**
  The consultation was held within the project area to ensure direct participation from farmers, elders, and other local stakeholders familiar with the canal's conditions and challenges.
- **Organized jointly by FAO, MoAI, and community leadership**
  The session was coordinated by the Food and Agriculture Organization (FAO), the Southwest State Ministry of Agriculture and Irrigation (MoAI), and local community leaders, ensuring both technical and community perspectives were represented.

Purpose

- **To discuss rehabilitation plans**
  Presenting the proposed canal rehabilitation activities, expected timelines, and technical approach to community members.
- **To confirm the project scope**
  Ensuring that stakeholders understood the planned interventions, the geographical limits of work, and the types of structures to be rehabilitated.
- **To identify community concerns**
  Providing space for farmers and water users to raise issues related to water interruptions, safety, access, crop impacts, and labor interactions.
- **To establish expectations and grievance procedures**
  Communicating the Grievance Mechanism (GM), hotline numbers (570-NPCU and 540 -MOAI Southwest, 327- FAO Somalia), roles of local focal persons, and channels for submitting feedback or complaints during implementation.

Issues Raised by the Community

Table 13-The Key issues raised during the consultation

Issue Raised	Description from Community Feedback
Severe siltation and blockages	Farmers emphasized that long-term neglect has reduced canal depth and flow capacity.
Inequitable water distribution	Tail-end farmers receive insufficient irrigation due to blockages in division boxes.
Flooding near culverts	Blocked culverts cause localized flooding during high-flow periods.
Maintenance gaps	Lack of regular desilting leads to recurring inefficiency.

Safety concerns during rehabilitation	Machinery movement may affect livestock and children.
Crop access restrictions	Farmers requested early notification before excavation near their plots.
Women's participation	Women requested clear communication channels for water rotation schedules and grievance reporting.
Need for long-term maintenance strategy	Community wants WUA and MoAI involvement strengthened.

Responses and Project Commitments

Table 14-Response to the issues Key raised by the community

Community Issue	**Project Response / Commitment**
Siltation and blockages	Full excavation of 3.25 km established as part of rehabilitation scope.
Division box dysfunction	All 5 division boxes will be reconstructed in reinforced concrete.
Culvert flooding	All 2 crossing culverts will be rehabilitated to improve free flow.
Maintenance gaps	Post- rehabilitation maintenance guidelines will be established with WUA.
Construction safety	Contractor will implement OHS and CHS measures, signage, and safe access.
Access disruptions	Work schedule will be shared weekly; farmers will be notified before excavation near plots.
GM access	Hotline numbers **(570-NPCU and 540 -MOAI Southwest, 327- FAO Somalia)** shared; community can raise complaints at any time.
Gender inclusion	Women will continue to be included in consultations and GM processes.

Inclusion of Vulnerable and Marginalized Groups

The consultation ensured participation of:

The consultation process intentionally incorporated the perspectives of vulnerable and marginalized groups who rely on the Hussein Primary Canal for their livelihoods. Participation was secured from women farmers, older farmers, land-poor households, and tail-end irrigators—groups that often experience unequal access to irrigation, limited decision-making power, or elevated exposure to livelihood risks.

Specific measures were taken to ensure meaningful engagement. The consultation was scheduled at a time and location convenient for women and individuals with limited mobility. The project team

used clear and simple explanations when discussing the Grievance Mechanism (GM), rehabilitation activities, and potential impacts to ensure accessibility for participants with varying levels of literacy. Attendance was recorded using gender-disaggregated data to document inclusive participation.

No vulnerable group expressed objections to the rehabilitation activities, and all participants indicated that improved canal functionality would provide equitable benefits for the community, especially for those at the tail-end of the irrigation system who currently face recurrent water shortages.

Future Consultation Plans

Stakeholder engagement will continue throughout the full project cycle to ensure transparency, responsiveness, and alignment with community needs.

During rehabilitation

- Weekly updates will be provided to farmers through community meetings, WUA announcements, and communication through local leaders.
- GM procedures—including hotline numbers (570 - NPCU and 540 -MOAI Southwest, 327-FAO Somalia)—will be regularly communicated, and grievances will be monitored and addressed promptly.
- Continuous coordination will take place with village elders, the Water User Association (WUA), and the Ministry of Agriculture and Irrigation (MoAI) to ensure information flow and manage irrigation schedules during rehabilitation.

Post- rehabilitation

- Feedback sessions will be held with farmers to evaluate the performance of the rehabilitated canal, identify any operational issues, and assess user satisfaction.
- Discussions will be conducted with the WUA and MoAI to establish routine maintenance responsibilities and scheduling to sustain long-term canal functionality.
- Seasonal review meetings will be held to evaluate irrigation reliability across planting cycles and ensure continuous improvement in water distribution practices.

10. GRIEVANCE MECHANISM

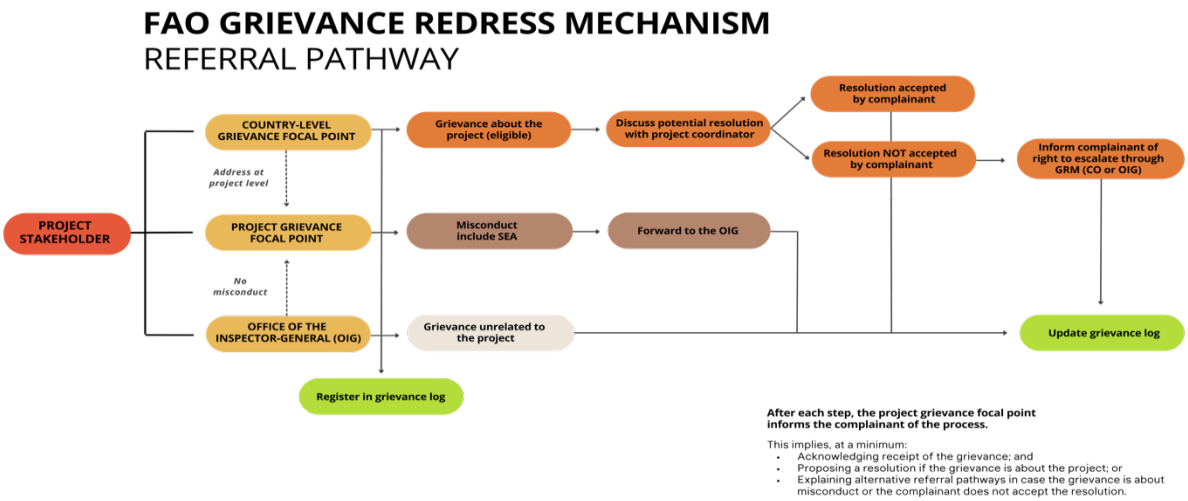


Figure 5-FAO grievance redress mechanism

Part A (for external distribution/ disclosure)

1. Main contact details

If you have a grievance or suggestion about the project called Rural Livelihoods Resilience Program TA (S-FSRP-TA), you can use any of the below channels free of charge to contact us. Your grievance will be handled confidentially by the Food and Agriculture Organization of the United Nations.

The GM will include multiple channels that are appropriate to the project context, the below are some suggestions but for this project mainly Compliant hotline and toll-free applied. The FAOR/Budget Holder is **advised** to revise and add as appropriate. If information on the project was disclosed (requirement for moderate and high-risk projects), include the link to FAO's disclosure portal here.

Table 15- GM Contacts

Phone:	**Hotline numbers (570- NCPU, 540- MOAI Southwest and 327-FAO Somalia)**

2. Purpose of GM and guiding principles

This is the Grievance Mechanism for the office of FAO Somalia project's called Rural Livelihoods Resilience Program TA (S-FSRP-TA). This project will be led by the Food and Agriculture Organization (FAO) and will be implemented with Government partners, the Federal and States' MoAI by establishing a government-led project team which will be responsible for daily coordination of the project activity, in a period of 01st August 2025 to 31st July 2027. The purpose of this GM is, at field level to file grievances related to this project in a given time period. Contact information and

information on the process to file a grievance will be disclosed in all meetings, workshops, and other related events throughout the duration of the project. In addition, it is expected that all communication and awareness raising material to be distributed will include the necessary information regarding the contacts and the process for filing grievances.

The project/FAO will also be responsible for documenting and reporting as part of the safeguards performance monitoring on any grievances received and how they were addressed.

FAO is committed to ensuring that its projects and programs are implemented in accordance with the Organization's environmental and social obligations. Concerns of non-compliance must be addressed at the closest appropriate level, i.e., at the project management/technical level, and if necessary, at the FAO Country Office or Regional Office level. If a concern or grievance cannot be resolved through consultations and measures at the project management/technical level, a grievance requesting a Compliance Review may be filed with the FAO Office of the Inspector General in accordance with the Guidelines for Compliance Reviews Following Grievances Related to the Organization's Environmental and Social Standards[1]. Project Managers will have the responsibility to address concerns brought to the attention of the officially designated project grievance focal point.

The principles to be followed during the grievance resolution process include confidentiality, impartiality, respect for human rights, including those pertaining to indigenous peoples, compliance of national norms, coherence with the norms, equality, transparency, honesty, and mutual respect.

3. Who can file a grievance and how

Anyone can file a grievance or suggestion related to the project/office. Your grievance will be handled confidentially.

To facilitate our comprehension of your grievance, please include as much information as possible. For example: what happened, who was involved, when did it happen.

4. From grievance to resolution

For grievance resolution, this project has applied the existing Country level GM system which have been exercised to all FAO Somalia projects. Accordingly, the grievance resolution process follows various stages stated below.

7. In the instance in which the individual or group have the means to directly file the grievance, he/she has the right to do so, presenting through the indicated channels of the project/office (i.e.: email, mailbox, phone, etc.) mostly by phone. The process of filing a grievance will duly consider confidentiality, and if requested by the individual or group bringing the grievance, anonymity as well as any existing traditional or indigenous dispute resolution mechanisms and it will not interfere with the community's self-governance system.

[1] https://www.fao.org/3/i4439e/i4439e.pdf

8. The individual or group bringing the grievance files a grievance through one of the channels of the grievance mechanism. This will be sent to the Project or FAO Decentralized / Country Office Grievance focal point to acknowledge and log the grievance, assess whether it is eligible and determine responsibility for attempting to resolve the grievance in line with the processes agreed for the project. The confidentiality of the grievance must be preserved during the process. For every grievance received by the project grievance focal point, written proof will be sent within ten (10) working days; afterwards, a resolution proposal will be made within thirty (30) working days.
   The Grievance focal point will also be responsible for recording the grievance and how it has been addressed if a resolution was agreed.
1. If the situation is too complex, or the individual or group bringing the grievance does not accept the proposed resolution, the Grievance focal point must be informed and they must send the grievance to the next highest level, until a solution or acceptance is reached.
2. 4. In compliance with the resolution, the person in charge of dealing with the grievance may interact with the individual or group bringing the grievance, or may call for interviews and meetings, to better understand the reasons.

Resolution

Upon acceptance of a solution by the individual or group bringing the grievance, a confidential record will be maintained.

Table 16- GM Resolution- Record contact details

Review Level	Contact Details
Project Level	Bare Ibrahim- Ibrahim.bare@fao.org - Compliance and AAP Monitoring Officer
Next level	Bakhta Boualam- Bakhta.Boualam@fao.org - Head of Compliance, Risk Management and Accountability FAO Somalia. The project selects to use the country GM.

Office of the Inspector General (OIG)	Contact FAO's independent Office of the Inspector General: - To report non-compliance with FAO's environmental and social management guidelines in case your grievance could not be resolved through the previously mentioned channels; - To report non-compliance with FAO's environmental and social management guidelines in case you have a good reason for not approaching the project management (e.g., fears about your safety); - To report possible fraud and other corrupt practices, as well as other misconduct such as sexual exploitation and abuse. By confidential hotline (online form & by free-of-charge worldwide phone numbers with interpreters available 24 hours/day): fao.ethicspoint.com By e-mail: Investigations-hotline@fao.org or inspector-general-office@fao.org By mail: Office of the Inspector General Food and Agriculture Organization of the United Nations Viale delle Terme di Caracalla 00153 Rome, Italy

GM Contacts and awareness raising

South West State has the following **FSRP** GM and GBV emails,

- GM Email: SWfsrPGM@gmail.com
- GBV Email: SWfsrpgbvs@gmail.com

Table 17-GM Contacts and awareness raising details

FSRP GM & GBV EMAILS	**LOCATION**	**REMARKS**
SWfsrPGM@gmail.com	Southwest State of Somalia	State Level
SWfsrpgbvs@gmail.com	Southwest State of Somalia	State Level

GM@fsrp.gov.so	National FSRP GM Secretariat	National
HOTLINE NUMBER (FREE)	**540**	**State Level-MOAI Southwest**
HOTLINE NUMBER (FREE)	**570**	**NCPU -Federal Level**
HOTLINE NUMBER (FREE)	**327**	**FAO SOMALIA**
		The free hotline number functions within 24 hours of the Project

These emails are managed by the PIU Social Safeguard and GBV specialists of the Ministry. Any complaints related to the South West state of Somalia FSRP project issues will be handled and registered according to GM procedures and regulations.

Furthermore, Southwest MoAI–SWS plans to establish a state-level toll-free number for stakeholders and individuals with complaints to contact. Until this toll-free line is operational, clients will be able to access the national toll-free number at the state level (540).

ANNEXES

Annex 1. ESS SCREENING FOR HUSSEIN PRIMARY CANAL

Environmental and Social Screening: For Rehabilitation of the 3.250 KM Hussein Primary Canal and its Eight Auxiliary structures in Mareerey village

Project Name	Somalia Food System Resilient project (SFSRP) (P177816)		
Project Description	This project, under the Somalia Food Systems Resilience Program (S-FARP), entails the rehabilitation of the **3.25 km** Hussein Primary and Secondary Canal and its **eight** auxiliary structures in **Mareerey Village, Afgoye District, Southwest State of Somalia**, located approximately at **2.139722°N, 45.087552°E** (start point) and **2.125818°N, 45.088139°E** (end point). The intervention aims to restore essential irrigation infrastructure to improve water delivery, support agricultural productivity, and strengthen community resilience to climate variability. Environmental and social screening has classified the project as **moderate risk**, mainly due to temporary construction-related impacts such as localized soil erosion, increased sedimentation in watercourses, and worker health and safety concerns; all anticipated impacts will be effectively managed through a comprehensive Environmental and Social Management Plan (ESMP).		
Prepared By	**Daud Mohamed Hussein**	Date of Preparation	**17/9/2025**
Approved By		Date of Approval	

Screening Questions	**Yes**	**No**	E&S risk rating	Documents required
1. Does the project affect downstream water flows		No	Low	ESMP-the intervention is a rehabilitation, not a diversion or damming of flow.

Screening Questions	Yes	No	E&S risk rating	Documents required
2. Does it require clearing of trees, pasture/browse?	Yes		Moderate	ESMP
3. Does the subproject involve land acquisition and/or restrictions on land use?		No	Low	ESS5, not eligible for financing.
4 Does the subproject involve in activities that will result in the involuntary taking of land, relocation of households, loss of assets or access to assets that leads to loss of income sources or other means of livelihoods, and interference with households' use of land and livelihoods		No	Low	ESS5 not eligible for financing
5. Is the subproject located within or in the vicinity of any ecologically sensitive areas?		No	Low	Biodiversity Management Plan
6. Use water during or after construction, which will reduce the local availability of ground water and surface water?	Yes		Moderate	ESMP
7 Be located within or nearby environmentally sensitive areas (e.g., intact natural forests, mangroves, wetlands) or threatened species?		No	Low	Biodiversity Management Plan
8. Lead to soil degradation, soil erosion in the area?	Yes		Moderate	Biodiversity Management Plan
9. Create waste that could adversely affect local soils, vegetation, rivers and streams or ground water?	Yes		Moderate	WMP
10. Involve significant excavations, demolition, and movement of earth, flooding, or other environmental changes?	Yes		Moderate	Biodiversity management Plan
11. Be located in or near an area where there is an important historical, archaeological or cultural heritage site?		No	Low	Cultural Heritage Management Plan and Chance find procedure
12. Is an area where there has been insecurity incidents in the past 12 months?		No	Low	ESS4 security Management Plan
14. Result in transmission of zoonotic disease		No	Low	IPM

Screening Questions	Yes	No	E&S risk rating	Documents required
15.Will require use and application of inorganic fertilizers/pesticide/herbicide or fumigation?		No	Low	ESMP, WMP and SEP
16. Potential risk due to natural disaster hazards (such as flooding, drought, landslide, earthquake, etc.)		No	Low	ESMP
17. Potential biodiversity impacts		No	Low	Biodiversity Management Plan
18 Potential exposure to community health and safety risks due to water pan safety risks		No	Low	ESMP

EHS screening questions.

Project Name	**Somalia Food System Resilient project**			
Project Description	This project, under the Somalia Food Systems Resilience Program (S-FARP), entails the rehabilitation of the 3.25 km Hussein Primary and Secondary Canal and its eight auxiliary structures in Mareerey Village, Afgoye District, Southwest State of Somalia, located approximately at 2.139722°N, 45.087552°E (start point) and 2.125818°N, 45.088139°E (end point). The intervention aims to restore essential irrigation infrastructure to improve water delivery, support agricultural productivity, and strengthen community resilience to climate variability. Environmental and social screening has classified the project as moderate risk, mainly due to temporary construction-related impacts such as localized soil erosion, increased sedimentation in watercourses, and worker health and safety concerns; all anticipated impacts will be effectively managed through a comprehensive Environmental and Social Management Plan (ESMP).			
Prepared By		**Date of Preparation**		
Approved By		**Date of Approval**		
	Question	**Yes**	**No**	**E&S Rating**

1	Does the project produce excessive noise and vibration	Yes		Moderate-Localized and temporary
2	Does the activities have adverse soil erosion effect		No	Low-Erosion and sediment control is a primary mitigation measure
3	Do the activities require large volumes of construction materials (e.g. gravel, stone, water, timber, firewood)?	Yes		Moderate-Due to potential unsustainable sourcing of gravel/sand and pressure on local water resources.
4	Are there proper measures to minimize and manage Solid wastes	Yes		Low-Waste water Management Plan-Planned measure
5	Are the activities located within or nearby environmentally sensitive areas (e.g. intact natural forests, mangroves, wetlands) or threatened species?		No	Low- Project site is mainly farmland not critical habitat nearby
6	Are the chemicals used in construction properly declared, packaged, labelled, stored, handled and disposed of in accordance with manufacturer's instructions?	Yes		Low-Planned measure for fuels, oils, etc.
7	Create waste that could adversely affect local soils, vegetation, rivers and streams or ground water?		No	Low- Low risk of waste leaching into soil and water proper disposal is essential
8	Are there proper channels to properly discharge wastewater discharges	Yes		Low-For management of any wastewater from works
9	Are the activities have potential exposure to community health and safety risks due to dam safety risks		No	Low-This is a canal Rehabilitation, not a dam.
10	Excavations & tunnels	Yes		Moderate-OHS Plan Excavation safety is a key worker risk
11	Are the activities going to lead to Over-exertion	Yes		Moderate-OHS Plan Worker training, mechanization, work schedules.
12	Are there proper precautionary measures to avoid slips & falls	Yes		Low-OHS Plan Planned measure.
13	Are workers provided by enough protective gears to avoid them being struck by objects	Yes		Low-OHS Plan Planned measure.

14	Are workers trained on the safety measures including the ones associated with moving machinery	Yes		Low-OHS Plan Planned measure.
15	The activities will not result in transmission of zoonotic disease	Yes		Low-standard worker hygiene practices are followed.
	Safety			
16	The transport activities will not be much as to cause traffic accidents	Yes		Low- Localized small logistics for the project
	Potential for high-risk activities including OHS			

<table>
<tr><td>E&S Screening</td><td colspan="3">Results and Recommendation</td></tr>
<tr><td rowspan="2">Screening Results:
Summary of Critical Risks and Impacts Identified</td><td>Risk/Impact</td><td>Individual Risk/ Impact Rating</td><td>Mitigation
At the end of the screen process, tabulate the mitigation measures in an ESMP Format (see below)</td></tr>
<tr><td>Moderate</td><td>C</td><td rowspan="2">Summary of Screening Result Justification</td></tr>
<tr><td rowspan="5">Is Additional Assessment Necessary?
Evaluate the Risks/Impacts and reflect on options (see below)</td><td colspan="2">Screening Result</td></tr>
<tr><td colspan="2">- Environmental and/or Social Assessment required where project is undertaken
- Soil Erosion and Degradation
- Community Health and Safety
- Worker Health and Safety (OHS)
- Cave-in or collapsing soil during excavation, posing danger to workers
- Noise from construction machinery and culvert construction may disturb nearby farmers and workers and prolonged exposure could cause hearing issues for laborers</td><td>Mitigation measures will follow CERC ESMF:
- SEP
- GM
- SMP
- LMP
- OHS</td></tr>
<tr><td colspan="2">No ESIA is required.</td><td></td></tr>
<tr><td colspan="2"></td><td>This project was classified as Category C- Moderate</td></tr>
<tr><td colspan="2">No ESIA & full ESMP is required</td><td>Simplified ESMP will be needed</td></tr>
</table>

Annex 2: Public Consultation Documentation Template/Form – Completed

Public Consultation Documentation Template/Form – Completed

1. **Consultation Date**: *21/09/2025*
2. **Sub-project Type:** Rehabilitation of Canal
3. **Specific Name of the Project:** *Rehabilitation of Hussein irrigation Canal*
4. **Place of Consultation**: **State**: *Southwest state,* **Region:** *Lower-Shabelle* , **District:** *Afgoye*, **Village (Specific site):** *Mareerey Village*
5. **Purpose of Consultation:** The consultation was conducted to engage the Hussein irrigation Canal community to discuss the planned rehabilitation works under the S-FSRP. The meeting aimed to:

    - Briefing the community on the objectives of the assessment to understand and cooperate
    - Discuss the current canal condition and irrigation and farming challenges.
    - Identify potential environmental and social risks and safeguards in line with World Bank's ESS requirements.
    - Confirm community needs, priorities, and contributions during implementation and post implementation sustainability
    - Collect technical and socio-economic data to support assessment requirements (e.g., irrigated area before/after deterioration, number of farmers benefiting, changes in canal width/depth, and the condition of associated structures).
    - Ensure inclusive participation of women, youth, elders, and vulnerable groups.).

6. **Consultation Time Started**: 11:3*0 A.m.*

7. **Consultation Method:** *Interviewing and discussion, questionnaires* (**group discussions and individual interviews** with elders, women, youth, and farmers)

8. **Consultation Agendas/ Issues:**

    - Shortage of water conveyed by the canal due to reduced dimensions of the canal by accumulated silt and bank breaches community requested urgent rehabilitation to restore its original dimensions and can convey sufficient water.
    - Irrigation coverage has reduced and farmland productivity has declined due to both sedimentation and seasonal flooding.
    - Cross-culverts, intakes and division boxes have deteriorated; community requested their rehabilitation.
    - The community requested installation of solar system for pumping the water for irrigation as they now incur high fuel cost for irrigating their farming land
    - Bad condition of the feeder roads connecting farms and market particularly during rainy season, community requested urgent intervention of rehabilitation

9. Additional Issues Raised During Consultation

- Lack of farm equipment/tools/machineries for improved productivity and facilitating the daily works in the farm.
- Need for certified seeds to increase agricultural production/yields.
- Request for canal committee training on water management and operation & maintenance (O&M) for sustainable use of the water.
- Provision of pesticides and fertilizers and to train farmers on their applications;
- Training of the farmers on modern agricultural technologies.

10. Agreed Agendas/ Issues

- Canal rehabilitation is urgent and strongly supported by the community.
- The community agreed to cooperate with FAO/FSRP team and contractors during implementation and post-implementation.
- Restore the original dimensions of the canal to maximize water flow and ensure downstream users benefit.
- To install solar system and pump system which will allow farmers get sufficient water in cheaper cost taking advantage of the solar energy, this will also give them the opportunity to expand their land cultivation
- The community will contribute labor and support through the canal committee during rehabilitation works and to ensure O&M after rehabilitation.
- Contractor will schedule works in phases, notify communities in advance of any major disruption, and safeguard anything arise during works.
- FAO/FSRP to ensure timely communication and use of a Grievance Mechanism (GM) to address community concerns.
-

11. Disagreed Agenda/issues including Reasons for

- No major disagreements were recorded.

12. Consultation Ended Time: *02:00 p.m.*

Consultation Facilitators' Name & Role: **Signature:**

1. Abdirahman Nour, Civil Engineer ---------- Abdinor ----------

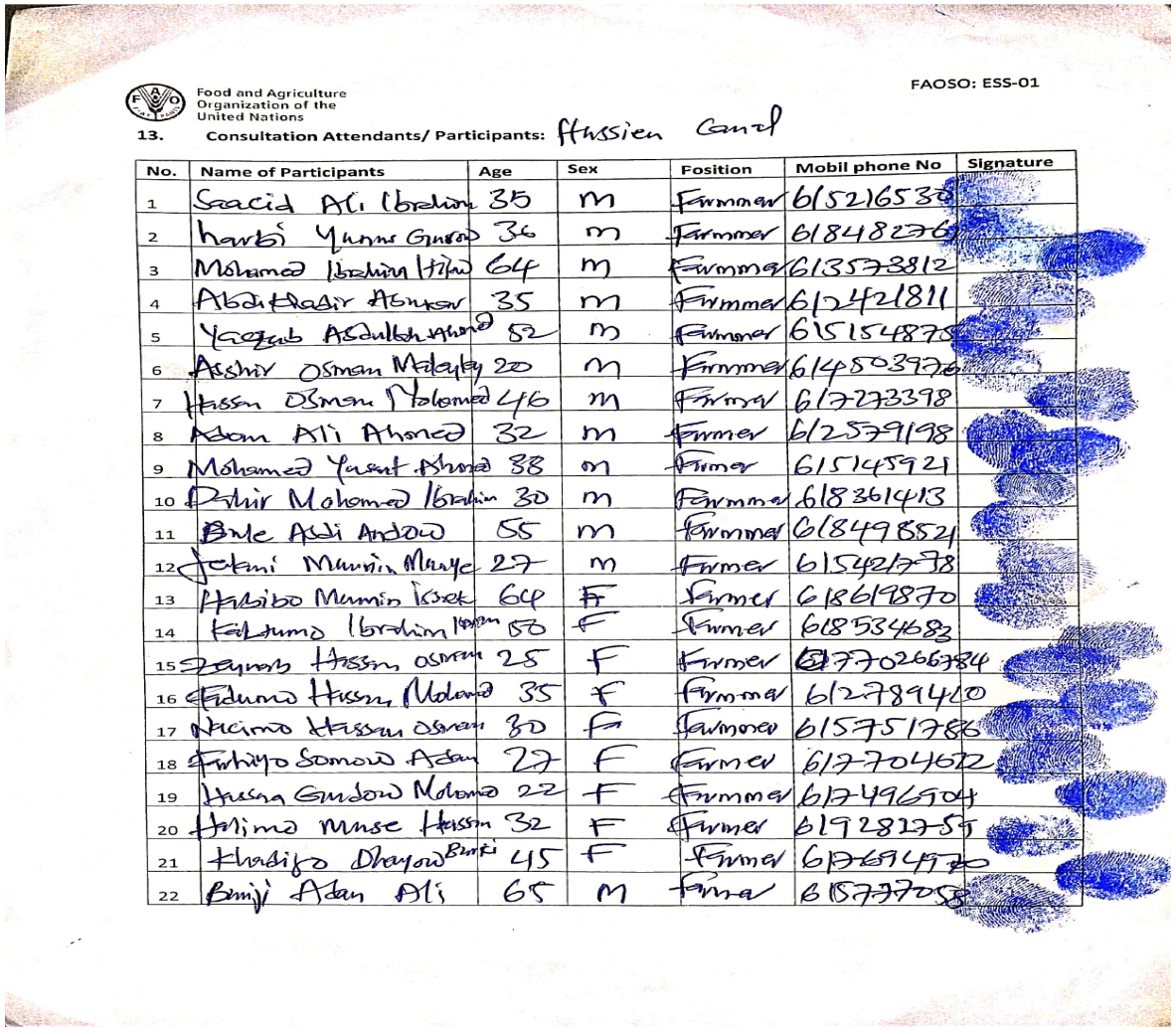
Subproject's (IP) Seal: (optional) _____

Summary of the community meeting

No	District meeting held	Location meeting held	Dates of meeting conducted	No. of council/ elders who attended	Number of women who attended	Number of men who attended	Subject discussed	What was agreed	Names of the attended members
1	Afgoye	Mareerey	22/09/2025	4	16	10	1. Deteriorated dimensions of the canal (reduced depth, bank breaches, accumulation of silt at the bed), reduced conveyance capacity of the canal. 3. Need for rehabilitation of the feeder roads connecting farmers to the market. 3. Need to rehabilitate existing cross culverts,	1. Community supported urgent intervention and rehabilitation of the canal, rehabilitation of the feeder roads, installation of solar system as an alternative energy for delivering of water to the farms 2. Agreed to cooperate with FAO/FSRP/contractors during works. 3. Restore canal dimensions and slope for water flow to downstream farms. 4. Community will assist in O&M after rehabilitation for	(Full names, phone numbers, and signatures attached can be found in **Annex 3**- Consultation attendants/Participants)

							intake, division boxes and cross culverts 4. need to install of solar system to irrigate agricultural land as a cheaper energy than high fuel cost	sustainable use of the water. 5. Contractor to phase works, provide advance notification, and safeguard vulnerable assets.	

Annex 3: Consultation attendants/Participants



Food and Agriculture Organization of the United Nations

FAOSO: ESS-01

13. Consultation Attendants/ Participants: Ftissien Canal

No.	Name of Participants	Age	Sex	Position	Mobil phone No	Signature
1	Saacid Ali Ibrahim	35	m	Farmmer	615216538	
2	Hawbi Yunus Guuleed	36	m	Farmmer	618482364	
3	Mohamed Ibrahim Hilow	64	m	Farmmer	613573812	
4	Abdikadir Aden	35	m	Farmmer	612421811	
5	Yacqub Abdullahi Mohamed	52	m	Farmmer	615154875	
6	Asshir Osman Mataley	20	m	Farmmer	614503726	
7	Hassan Osman Mohamed	46	m	Farmer	617273398	
8	Adan Ali Ahmed	32	m	Farmer	612579198	
9	Mohamed Yusuf Ahmed	88	m	Farmer	615145921	
10	Dahir Mohamed Ibrahim	30	m	Farmmer	618361413	
11	Bule Abdi Andow	55	m	farmmer	618498524	
12	Jakmi Mumin Maye	27	m	Farmer	615421798	
13	Habibo Mumin Isack	64	F	farmer	618619870	
14	Fadumo Ibrahim Hassan	50	F	Farmer	618534683	
15	Zeynab Hassan Osman	25	F	Farmer	617702667 84	
16	Fadumo Hassan Mohamed	35	F	Farmmer	612789410	
17	Nacima Hassan Osman	30	F	farmmer	615751786	
18	Fatiya Samow Adan	27	F	farmer	617704622	
19	Hasna Gudow Mohamed	22	F	Farmmer	617496504	
20	Halima Munse Hassan	32	F	Farmer	619282754	
21	Khadija Dhayow Bunki	45	F	farmer	617694770	
22	Bunji Adan Ali	65	M	farmer	615777058	

Food and Agriculture Organization of the United Nations

FAOSO: ESS-01

13. **Consultation Attendants/ Participants:** Hussien Gaal

No.	Name of Participants	Age	Sex	Position	Mobil phone No	Signature
1	Yusuf Adan Hus	22	M	Farmer	617707538	
2	Fadumo Abdikadir Ali	36	F	Farmer	0770718654	
3	Mumina Hussien Adan	22	F	Farmer	61101638	
4	Hajimo Ahmed Dini	18	F	Farmer	615258682	
5	Amina Ali Hussien	40	F	Farmer	61308866	
6	Habiba Yusuf Osman	54	F	Farmer	0770505124	
7	Casho Ali Abdikadir	40	F	Farmer	61076372	
8	Habiba Hassan Hij	50	F	Farmer	770683546	
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Annex 4: Community Consultation photos

Community Consultation Photos.zip

Annex 5: Landownership documents

Land ownership.pdf

Annex 6: Capacity Building Schedule

Target Staff	Topic	Timeline / Frequency	Type of Training	Resources	Cost Estimate (USD)
Contractor	• Inclusion of Environmental & Social (E&S) Clauses in bidding documents • Mandatory compliance with ESMP and World Bank ESF requirements	Before contract award	Indoor briefing session	FAO / S-FSRP NPCU Safeguards Specialists	Part of NPCU training budget
Contractor's Project Manager, Site Engineer, OHS/E&S Officer, and Foreman	• C-ESMP preparation and implementation • Occupational Health and Safety (OHS) procedures • Emergency response protocols • Waste Management Plan implementation • Worker and Community GM procedures • GBV/SEA/SH risk mitigation and Code of Conduct enforcement	At project start-up	Face-to-face workshop & on-site practical training	FAO / MoAI E&S Specialists	1,200

NPCU E&S Specialist & Supervising Engineer	• ESMP supervision and monitoring requirements • World Bank ESF compliance obligations • Quarterly monitoring tools and reporting templates • Reviewing contractor monthly E&S reports	At project outset & quarterly refresher	F2F workshop / online refresher course	World Bank E&S Specialists / External consultant	Part of NPCU training budget
All Construction Workers	• OHS (PPE use, safe excavation practices, site safety rules) • Worker Code of Conduct • Worker GM awareness • GBV/SEA/SH prevention • Traffic and machinery safety • Basic security protocols for the Hussein Canal work zone	During induction & weekly toolbox talks	On-site toolbox talks	Contractor's OHS Officer	Included in contract price

Annex 7 Engineering Designs

Engineering Designs.zip