Environmental and Social Management Plan (ESMP)

Rehabilitation of the 1.70 km of Raqayga Primary Irrigation Canal and its Auxiliary Structures
Somalia Food Systems Resilience Project (S-FSRP)
Hirshabele State – Buulaburde District, Hiiraan

Prepared by

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In coordination with

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FEDERAL MINISTRY OF AGRICULTURE AND IRRIGATION (FMOAI)

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LIST OF ABREVIATIONS AND ACCRONYMS

Acronym	Definition
BoQ	Bill of Quantities
CBD	Convention on Biological Diversity
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CHS	Community Health and Safety
C-ESMP	Contractor Environmental and Social Management Plan
CoC	Code of Conduct
CP	Chance Find Procedure
DA	District Administration
EHS	Environmental, Health and Safety (World Bank Group Guidelines)
EPMA	Environmental Protection and Management Act (Somalia, 2024)
ESIA	Environmental and Social Impact Assessment
ESS	Environmental and Social Standard (World Bank)
ESF	Environmental and Social Framework (World Bank)
ESMP	Environmental and Social Management Plan
ESMF / FESM	Environmental and Social Management Framework (S-FSRP)
FAO	Food and Agriculture Organization of the United Nations
FGS	Federal Government of Somalia
GBV	Gender-Based Violence
GM	Grievance Mechanism
GRS	Grievance Redress Service (World Bank)
IDP	Internally Displaced Person (not used heavily in this ESMP but included for completeness)
ILO	International Labour Organization
LMP	Labor Management Procedures
MoAI-FGS	Ministry of Agriculture and Irrigation – Federal Government of Somalia
MoAI-HS	Ministry of Agriculture and Irrigation – Hirshabele State
MoECC	Ministry of Environment and Climate Change (Federal)

MIS	Management Information System
NPCU	National Project Coordination Unit (MoAI-FGS)
O&M	Operation and Maintenance
OHS	Occupational Health and Safety
PIU	Project Implementation Unit (State MoAI)
PPE	Personal Protective Equipment
SEA	Sexual Exploitation and Abuse
SEA/SH	Sexual Exploitation, Abuse, and Sexual Harassment
SEP	Stakeholder Engagement Plan
SH	Sexual Harassment
SMP	Security Management Plan / Framework
S-FSRP	Somalia Food Systems Resilience Project
SOP	Standard Operating Procedure
TA	Technical Assistance
TMP	Traffic Management Plan
UNCCD	United Nations Convention to Combat Desertification
WBG	World Bank Group
WMP	Waste Management Plan
WUC	Water User Committee

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Executive Summary

This Environmental and Social Management Plan (ESMP) has been prepared for the rehabilitation of the Raqayga Irrigation Canal, located in Maraaleey Village, Buulaburde District, Hiiraan Region, Hirshabelle State, Somalia. The sub-project is financed under the Somalia Food Systems Resilience Project (S-FSRP) with funding from the World Bank and is implemented by the Federal Ministry of Agriculture and Irrigation (MoAI-FGS) through the National Project Coordination Unit (NPCU), in close coordination with the Hirshabelle State Ministry of Agriculture and Irrigation (MoAI-HS) through the State Project Implementation Unit (PIU). Technical assistance for engineering assessments, design development, preparation of environmental and social safeguard instruments, construction supervision, monitoring, and reporting is provided by the Food and Agriculture Organization of the United Nations (FAO).

The Raqayga Irrigation Canal is a community-established open earth canal designed to convey irrigation water from the riverine system serving Buulaburde District to downstream agricultural lands. The canal forms a key component of the district's traditional irrigation network and has historically supported irrigated crop production that sustains household incomes, food security, and local markets. However, the Raqayga canal has experienced long-term decline in functionality due to a combination of severe sediment deposition, embankment erosion, collapse of side slopes, seepage losses through weak alluvial soils, and unchecked vegetation growth along the canal corridor. These problems have been intensified by recurring seasonal floods that overtopped canal banks, breached embankments, and introduced high sediment loads into the canal alignment.

The effects of canal degradation have reduced conveyance efficiency and limited equitable irrigation service delivery across the command area. Upstream users have typically been able to divert limited amounts of water, while downstream farmers frequently experience reduced access, delays, or complete interruption of irrigation flows during periods of high demand. This has resulted in reduced cultivated area coverage, lower crop yields, and reduced cropping intensity, thereby increasing livelihood vulnerability and exposure to seasonal shocks. In addition, declining canal performance has increased water competition and contributed to local tensions associated with water allocation between users, particularly under drought conditions or when river flow levels decrease.

The proposed rehabilitation of the Raqayga Irrigation Canal is intended to restore reliable irrigation services and strengthen resilience against flood impacts through comprehensive canal excavation and desilting, reshaping of canal geometry, reconstruction and stabilization of embankments, and improvement of intake and flow control structures. Selective lining and protection works will be applied at critical locations where seepage, erosion, or recurrent breaches are most severe, ensuring improved structural integrity and reduced conveyance losses. Rehabilitation will be implemented fully within the existing canal corridor and on publicly available land traditionally allocated for irrigation conveyance, and no land acquisition, physical displacement, or economic displacement is anticipated.

Environmental and social screening classified the Raqayga canal sub-project as a **Moderate Risk** activity under the World Bank Environmental and Social Framework (ESF) (Annex 1: Environmental & Social Screening). Anticipated impacts are site-specific, temporary, and largely reversible, mainly associated with excavation works, vegetation clearance, movement of machinery, dust and noise generation, and temporary workforce presence. Social risks relate primarily to occupational health and safety, community safety near open excavations and machinery operations, temporary disruption of farm access routes, labor management issues, and

low-level SEA/SH risks. These risks will be managed through mitigation and monitoring measures set out in this ESMP in compliance with World Bank Environmental and Social Standards, national regulations, and Good International Industry Practice.
With effective implementation of this ESMP, the Raqayga canal rehabilitation is expected to restore irrigation service delivery, improve water distribution equity, enhance crop production, strengthen climate resilience, and support improved livelihoods and food security for the farming households in Maraaleey Village and surrounding agricultural areas of Buulaburde District.
Key risks include occupational health and safety hazards, temporary irrigation disruption, and sediment-related impacts during excavation. These will be mitigated through implementation of a Contractor ESMP (C-ESMP), phased construction scheduling, erosion control measures, and continuous supervision by FAO. Residual risk is considered Moderate and manageable.

1. Introduction

1.1 Background

Hiiraan Region represents a major agricultural zone in Somalia where riverine communities depend heavily on irrigation to maintain crop production throughout the year. Buulaburde District lies within this riverine belt and is characterized by extensive floodplain farming systems that rely on traditional community-managed irrigation canals to divert and convey surface water to downstream farms. These canals form the backbone of local food systems and provide the foundation for both subsistence and market-oriented agricultural production.

The Raqayga Irrigation Canal is an important irrigation system within Buulaburde District that has historically contributed to agricultural productivity and rural incomes. The canal supports cultivation of cereals and cash crops and helps stabilize food availability across seasons. However, the canal's ability to deliver irrigation water has gradually weakened over time due to combined effects of poor structural protection, minimal mechanized maintenance, and repeated flood damage. Flooding in the district is recurrent and is often accompanied by heavy sediment loads that settle within canal beds and intake points, reducing cross-sectional area and limiting flow conveyance. In addition to sedimentation, canal embankments are frequently eroded or breached by floodwater overtopping, leading to uncontrolled discharge and further weakening canal stability.

As irrigation performance declines, households are forced to reduce cultivated areas, shift to low-water-demand crops, or incur high costs through alternative pumping mechanisms, which are often unsustainable due to fuel price volatility. This reduces income generation opportunities and increases vulnerability for farming households. Furthermore, reduced water availability intensifies competition among farmers, often increasing the burden on canal committees and local leadership structures responsible for water allocation and dispute resolution.

In response to these challenges and in alignment with the objectives of the Somalia Food Systems Resilience Project, the Raqayga canal was prioritized for rehabilitation following technical assessments conducted by MoAI-FGS, the Hirshabelle State MoAI, and FAO. The proposed intervention aims to restore irrigation services, improve water-use efficiency, and strengthen resilience to climate variability. This ESMP has been prepared to ensure that rehabilitation works are implemented in an environmentally sound and socially responsible manner, fully aligned with national regulatory requirements and World Bank safeguard standards.

1.2 Purpose of the ESMP

The purpose of this Environmental and Social Management Plan is to provide a structured framework for identifying, managing, and monitoring environmental and social risks and impacts associated with rehabilitation of the Raqayga Irrigation Canal. The ESMP establishes the mitigation measures and monitoring arrangements required during construction and operation to avoid or minimize adverse impacts and to enhance the positive outcomes expected from improved irrigation performance.

This ESMP has been prepared in accordance with the World Bank Environmental and Social Framework and the relevant Environmental and Social Standards applicable to the sub-project. It also aligns with Somali national environmental and labor regulations and safeguard instruments prepared under the S-FSRP, including the Environmental and Social Management Framework, Labor Management Procedures, Stakeholder Engagement Plan, and the Grievance Mechanism. The ESMP defines institutional responsibilities for implementation and supervision and provides the basis for the preparation and enforcement of the Contractor's Environmental and Social Management Plan (C-ESMP), which will detail the site-specific operational measures required for compliance.

1.3 Methodology

Preparation of this ESMP followed a systematic methodology that integrated desk review, field-level technical assessment, stakeholder engagement, and environmental and social screening. Relevant national regulatory frameworks, World Bank safeguard requirements, and project-level safeguard instruments were reviewed to guide the identification of relevant risks and mitigation measures.

Field assessments were undertaken along the Raqayga canal alignment to document physical conditions including canal geometry, sedimentation patterns, bank stability, erosion-prone sections, vegetation cover, access routes, and proximity to cultivated plots and community pathways. The assessment also considered flood exposure and areas where canal breaches and overtopping have historically occurred. Consultations were conducted with district authorities, canal committee members, village elders, and representative farmers to understand canal management practices, water distribution challenges, seasonal irrigation patterns, and community priorities for rehabilitation.

Environmental and social screening was carried out in accordance with the S-FSRP Environmental and Social Management Framework, resulting in classification of the Raqayga canal sub-project as Moderate Risk. Based on this classification, mitigation and monitoring measures were developed to ensure the rehabilitation is undertaken in a manner consistent with Good International Industry Practice and World Bank requirements.

1.4 Binding Nature of the ESMP

This Environmental and Social Management Plan (ESMP) forms an integral and legally binding part of the construction contract for the Raqayga Irrigation Canal rehabilitation. The contractor shall prepare and implement a Contractor Environmental and Social Management Plan (C-ESMP) consistent with this ESMP prior to commencement of works. No civil works shall begin until the C-ESMP has been reviewed and cleared by the Supervising Engineer and State PIU. Non-compliance with the ESMP shall constitute a contractual breach subject to corrective measures.

2. Sub-project Description

2.1 Overview

The Raqayga Irrigation Rehabilitation Sub-Project is located in Maraaleey Village, Buulaburde District, Hiiraan Region, and has been prioritized in response to strong and sustained community demand to restore irrigation services that have declined due to prolonged canal deterioration, severe sediment accumulation, embankment failures, and repeated flood damage. The irrigation scheme was established as a community-managed open earth canal system designed to convey surface water by gravity from the river diversion system to downstream farmlands.

Over time, the canal has increasingly become constrained by heavy sediment deposition within the canal bed and intake reach, erosion and collapse of canal embankments, and uncontrolled vegetation growth that obstructs flow and reduces conveyance efficiency. These issues have been intensified by the flood-prone nature of the district, where seasonal river overflow events frequently damage canal banks and introduce new sediment loads. The resulting loss of canal depth and effective cross-sectional area has significantly reduced the hydraulic capacity of the canal, leading to unreliable and inequitable irrigation service delivery across the command area.

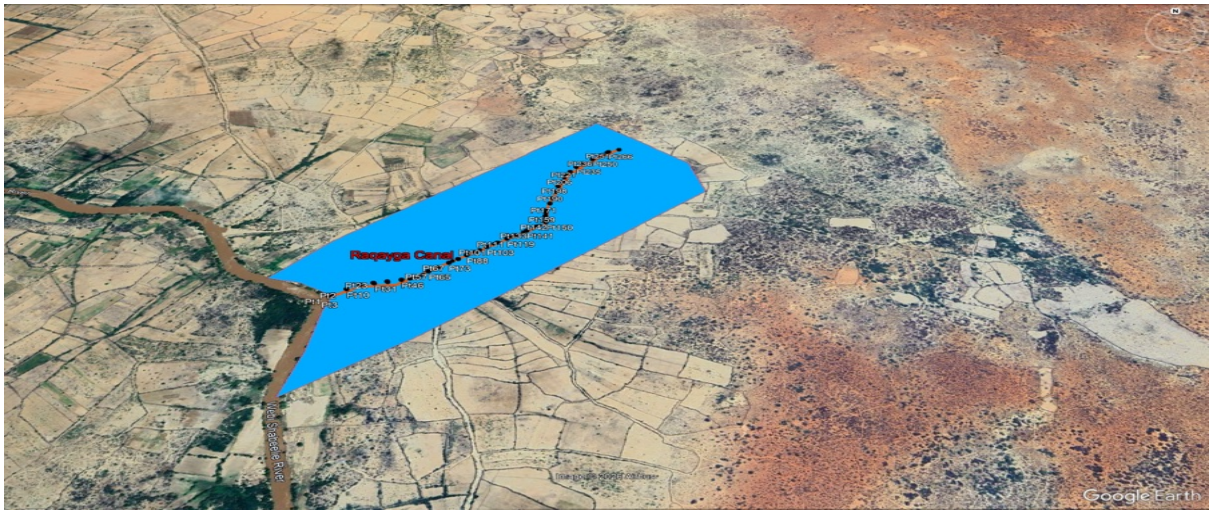
At present, irrigation service coverage is limited, with many farmers receiving insufficient water during peak demand periods and downstream areas experiencing the most severe shortages. This has reduced productivity and cropping intensity and has undermined the sustainability of farming livelihoods. Following rehabilitation, the Raqayga irrigation scheme is expected to restore more reliable irrigation services by improving conveyance capacity, reducing water losses, and ensuring more equitable water distribution between upstream and downstream users. The intervention will upgrade earth canal conveyance through excavation, desilting, reshaping, and embankment stabilization works, enhancing the scheme's resilience against flooding and climate variability and supporting sustainable agricultural production.

Location of the Sub-project

The Raqayga irrigation canal is located in Maraaleey Village within Buulaburde District and extends from its intake area near the river diversion zone through intensively cultivated floodplain farmland. The canal alignment runs across predominantly flat terrain with sandy and silty alluvial soils typical of the Hiiraan riverine environment, **start: 3.811674, 45.596002 End: 3.820288, 45.603012**. Agricultural plots are located immediately adjacent to the canal corridor in many sections, reflecting the canal's central role in farm-based water supply. The canal corridor is also intersected by community footpaths and informal crossings used for movement of farmers, livestock, and transport of agricultural produce.

All works will be conducted entirely within the existing canal corridor and on publicly used land traditionally allocated for irrigation conveyance. No land acquisition, involuntary resettlement, or economic displacement is expected. Detailed layout drawings and site information will be included in the annexes of this ESMP to support implementation planning and supervision.

The figure below illustrates the Raqayga Canal alignment, indicating the intake and tail locations and the surrounding command area.



2.3 Scope of Works

The rehabilitation of the Raqayga irrigation canal will include comprehensive civil and hydraulic works aimed at restoring conveyance capacity, strengthening canal structural integrity, and improving overall performance of the irrigation scheme. Works will include excavation and removal of accumulated sediments along the canal bed, reshaping of the canal profile to restore design depth and width, and reconstruction of eroded embankments through compaction and slope stabilization.

Vegetation growing within the canal and on its banks will be cleared to restore unobstructed water flow and facilitate improved maintenance. Where seepage losses and erosion risks are highest, selective lining and protection works will be applied to strengthen the canal and reduce conveyance losses. Intake sections and water control points will be rehabilitated to improve flow regulation and to reduce erosion risks during high-flow periods. Crossings used by farmers and livestock will be improved to maintain safe passage and minimize disruption to movement patterns.

All works will be implemented in a phased manner to minimize disruption to agricultural activities and ensure that access to farms is maintained as much as possible throughout construction. Construction methods will be selected to minimize environmental disturbance and to ensure compliance with occupational health and safety and community safety requirements.

2.3.1 Hydraulic Design Parameters and Capacity Verification

Raqayga is classified as a Primary Irrigation Canal with a total rehabilitation length of approximately 1.70 km and a potential command area of approximately 108 hectares.

The proposed trapezoidal canal cross-section adopts a base width of 1.50 meters, side slopes of 1H:1V, and a design flow depth of 0.5 meters. A standardized freeboard of 0.30 meters has been incorporated, resulting in a total canal depth of 0.80 meters.

The canal longitudinal slope (S) is 0.001 and the Manning's roughness coefficient (n) is 0.025, consistent with stabilized earthen canal systems in riverine floodplain environments.

The required discharge (Qreq) for the irrigable command area is approximately 0.170 m^3/s. Hydraulic verification using Manning's equation confirms that the proposed cross-section provides adequate conveyance capacity under the adopted slope and roughness parameters.

The 0.30-meter freeboard allowance provides structural resilience against overtopping during peak irrigation demand and seasonal Gu and Deyr flood conditions characteristic of the Shabelle River floodplain.

2.4 Duration and Workforce

The rehabilitation of the Raqayga irrigation canal is expected to be implemented over a period of approximately four to six months, depending on seasonal weather conditions, flood risk, and accessibility of work areas. Activities will be scheduled to reduce disruption to irrigation needs during critical cropping periods and to ensure safe working conditions during high rainfall periods.

The workforce will consist of skilled and unskilled labor, including engineers, supervisors, surveyors, machine operators, and safety personnel, alongside local laborers engaged in sediment removal, excavation, embankment reconstruction, and vegetation clearance. Priority will be given to hiring workers from Maraaleey Village and surrounding communities in order to maximize local employment benefits and strengthen local ownership of the rehabilitation works. All workers will be employed in accordance with national labor laws and the project's Labor Management Procedures, including provision of training on occupational health and safety, environmental protection measures, grievance procedures, and the project Code of Conduct. A Worker Grievance Mechanism will be maintained to ensure confidential and accessible handling of labor-related concerns.

2.5 Machinery and Materials

Construction activities will require the use of standard civil works machinery, including excavators for canal excavation and sediment removal, backhoe loaders for clearing and shaping works, tipper trucks for transporting excavated material and construction supplies, and compactors for embankment stabilization. Concrete mixers and related tools will be used for selective lining and structural improvements, while manual tools will support finishing works and vegetation clearance.

Materials to be used will include cement, sand, aggregates, reinforcement steel, and formwork materials for lining and structural components. Locally sourced fill material will be used for embankment reconstruction where suitable. Materials will be procured from approved suppliers and stored in designated areas agreed with community representatives to prevent contamination and avoid disruption to agricultural land use. Excavated spoil and sediment will be reused where feasible for strengthening embankments or disposed of at agreed sites to avoid obstructing drainage paths or affecting productive farmland.

2.6 Access and Logistics

Access to the Raqayga canal alignment will rely on existing rural tracks and farm access routes connecting the village to Buulaburde town and nearby agricultural areas. These routes are used daily by community members for farming activities, transport of produce, and livestock movement. During rainy seasons, access routes may become difficult due to waterlogging, erosion, and flood impacts.

To ensure continuity of construction, the contractor will plan mobilization and delivery schedules considering seasonal constraints and will implement works in manageable sections to maintain access to farms. Temporary staging and storage areas for machinery and materials will be established in consultation with village leaders to avoid encroachment on farmland and residential areas. Safety measures including signage, barriers, and controlled machinery movement will be applied around active work zones to protect community members and livestock. Coordination with canal committees and local leaders will be maintained throughout the construction period to manage access challenges and ensure timely resolution of community concerns.

2.7 Project Beneficiaries

The rehabilitation of the Raqayga irrigation canal will directly benefit farming households cultivating land within the canal's command area by restoring reliable irrigation water supply and improving the equity of distribution between upstream and downstream users. Improved canal performance is expected to increase the area that can be consistently irrigated, increase cropping intensity, improve yields, and strengthen food security and household incomes.

Indirect benefits will include short-term employment opportunities generated during construction, supporting local livelihoods through temporary income generation, and strengthened community capacity for irrigation management through improved infrastructure reliability and reduced water-related disputes. By restoring irrigation services and reducing vulnerability to water shortages, the sub-project will contribute to long-term livelihood stability and climate resilience for the Raqayga farming community.

3. Environmental and Social Baseline

This section provides a detailed characterization of the environmental and social conditions within the Raqayga subproject area in Maraaleey Village, Buulaburde District, Hiiran Region, Hirshabelle State of Somalia. The baseline draws upon field observations, stakeholder consultations, district-level environmental data, and contextual knowledge of the Shabelle River basin. It establishes the reference conditions against which potential environmental and social risks and impacts of the proposed canal rehabilitation will be assessed and informs the design of mitigation and monitoring measures in accordance with the World Bank Environmental and Social Framework (ESF).

3.1 Environmental Baseline

3.1.1 Physical Environment

The Raqayga subproject is situated within the Shabelle River floodplain system, a highly dynamic hydrological environment characterized by seasonal flooding, sediment transport, and alluvial soil formation. The terrain is predominantly flat to gently sloping, enabling gravity-based irrigation but also making the area highly susceptible to flood inundation and waterlogging.

Hydrologically, the project area is influenced by both direct river abstraction and overland flow pathways generated during rainfall events. Surface runoff originates from localized catchment areas and ephemeral channels that drain toward low-lying agricultural fields and canal alignments. While precise hydrological measurements are limited, the contributing micro-catchment feeding the canal system is estimated to be several square kilometers, with runoff primarily generated during the Gu (April–June) and Deyr (October–November) rainy seasons.

Flooding is a defining environmental feature of Buulaburde District. Historical records and community accounts indicate that moderate to severe floods occur frequently, with significant events recorded during El Niño years such as 2019–2020 and 2021. Flood recurrence intervals are commonly estimated at approximately once every 2–5 years for moderate floods and 5–10 years for major flood events. Known flood pathways follow natural depressions and old river channels, often overtopping canal banks and depositing large volumes of sediment. Several sections of the canal system have experienced past bank breaches due to uncontrolled flows and poor maintenance, contributing to sedimentation and reduced conveyance efficiency.

Baseline surface water quality in the Shabelle River reflects a turbid, sediment-laden system typical of seasonal rivers in semi-arid environments. During peak rainy periods, turbidity and total suspended solids (TSS) are high due to upstream erosion and flood runoff. Total dissolved solids (TDS) are generally moderate but may increase during dry seasons due to evaporation and reduced flow. Microbial contamination, including coliform presence, is common in areas with livestock access and human activity along riverbanks. Upstream pollution sources include agricultural runoff, livestock watering points, and localized settlements lacking sanitation infrastructure. These baseline conditions are critical, as they directly influence sedimentation rates, canal blockage, and water quality for irrigation and domestic use.

Ambient air quality in the project area is generally good due to low industrial activity; however, dust levels increase significantly during the dry season as a result of wind erosion and movement along unpaved roads. Baseline noise levels are low, with typical rural background conditions dominated by human activity, livestock, and occasional vehicle movement.

Soils along the canal alignment consist primarily of alluvial clay-loams and silty loams deposited through repeated flooding. These soils are inherently fertile and suitable for irrigation but exhibit moderate salinity risks in poorly drained areas. In some locations, prolonged waterlogging and evaporation contribute to localized soil sodicity and reduced productivity. Soil fertility is generally high where irrigation is maintained, but declines in areas affected by seepage losses and sediment deposition.

From a climate perspective, Buulaburde District experiences a hot semi-arid climate with average temperatures ranging between 26°C and 38°C. Rainfall is bimodal but highly variable, with long-term trends indicating increasing climate variability, including more intense rainfall events and prolonged dry periods. Climate change is contributing to both increased flood intensity and extended drought cycles, exacerbating canal degradation through sedimentation, erosion, and structural stress.

3.1.2 Biological Environment and Ecosystem Services

The project area is characterized by a modified agro-ecosystem dominated by cultivated land, degraded shrubland, and remnant riverine vegetation. Natural vegetation has been significantly altered by agricultural expansion, settlement, and repeated flooding, resulting in the dominance of secondary growth and invasive species such as Prosopis juliflora, which affects soil conditions, reduces grazing availability, and obstructs canal flows.

Wildlife presence is limited and primarily consists of small mammals, reptiles, amphibians, and bird species adapted to human-modified environments. No critical habitats or protected species have been identified within the project footprint.

Despite degradation, the area provides important ecosystem services. Canal banks and surrounding areas support grazing for livestock, particularly during dry seasons when alternative pasture is scarce. Riverine vegetation contributes to bank stabilization, microclimate regulation, and habitat provision for birds and small fauna. Natural drainage pathways facilitate floodwater dispersal and groundwater recharge, although these functions are currently impaired by sedimentation and poor infrastructure maintenance.

3.2 Social Baseline

3.2.1 Demographic and Socio-Economic Profile

Maraaleey Village is a rural agricultural community within Buulaburde District, with an estimated population of approximately 1,200–1,500 people distributed across about 200–250 households. The population structure is youthful, with a high proportion of individuals under the age of 30, reflecting national demographic trends. Gender distribution is approximately balanced, although women are underrepresented in formal decision-making structures.

Livelihoods are primarily based on irrigated agriculture, supplemented by livestock rearing, petty trade, and seasonal labor. Farmers cultivate maize, sorghum, sesame, vegetables, fruits, and fodder crops, with irrigation reliability being a key determinant of productivity and income. Average farm sizes range between 0.5 and 2 hectares, and a significant proportion of households—estimated at over 70%—depend directly on irrigation from the canal system for their livelihoods.

Household incomes are generally low and variable, influenced by seasonal production and market access. Agricultural produce is typically sold in local markets in Buulaburde town, with limited access to larger regional markets due to poor road conditions.

3.2.2 Livelihood Systems and Economic Activities

Livelihood systems in the project area are closely linked to water availability. In addition to crop production, households engage in livestock keeping, including cattle, goats, and sheep, which depend on both irrigation water and natural grazing areas. Seasonal wage labor is common, particularly among youth, who face high levels of unemployment.

The local economy is vulnerable to climate shocks, including drought and flooding, which disrupt agricultural production and income stability. Rehabilitation of the canal is therefore expected to significantly enhance economic resilience by improving water reliability and reducing irrigation costs.

3.2.3 Land Tenure and Land Use

Land tenure in the project area is predominantly governed by customary systems under clan-based ownership and communal arrangements. Agricultural plots are typically allocated through traditional authorities, while canal alignments and rights-of-way are considered communal infrastructure used collectively by water users.

There is no formal land acquisition required for the project, and no physical displacement is anticipated. However, overlapping land-use claims occasionally arise, particularly in areas where canal expansion or maintenance affects adjacent farmland. These disputes are generally resolved through customary conflict resolution mechanisms involving elders and water user committees.

3.2.4 Labor and Employment Conditions

Labor in the project area is largely informal and seasonal, with peak demand during planting and harvesting periods. Youth unemployment is high, and there is strong community interest in employment opportunities generated by the project. Women participate actively in agricultural labor, particularly in planting, weeding, and post-harvest processing, although their access to paid labor opportunities is more limited.

3.2.5 Social Cohesion and Conflict Dynamics

Social cohesion within Maraaleey Village is generally stable, supported by strong clan structures and traditional leadership systems. However, competition over water resources—particularly between upstream and downstream users—has historically been a source of tension. Conflicts are typically seasonal, intensifying during dry periods when water availability is limited.

Conflict resolution is managed through a combination of elders, religious leaders, and water user committees, which play a central role in mediating disputes and ensuring equitable water distribution.

3.2.6 Gender, Vulnerability, and GBV Context

Women play a critical role in agriculture and household water management but face structural barriers in access to land, resources, and decision-making. Vulnerable groups include minority clan families (such as occupational groups traditionally marginalized within the Somali clan system), women-headed households, persons with disabilities, elderly individuals, and land-poor farmers.

Gender-based violence risks, including harassment and exploitation, exist within the broader district context and may be exacerbated by the presence of external workers during construction. The project will implement a GBV Action Plan, including Codes of Conduct, awareness training, confidential reporting mechanisms, and referral pathways to victim support services.

3.2.7 Health and Education Baseline

Common health challenges in the area include waterborne diseases such as diarrhea, malaria associated with standing water, and heat-related illnesses. Access to healthcare is limited, with the nearest health facilities located in Buulaburde town, often requiring travel over poor road conditions.

Educational infrastructure exists but is limited, with primary schools serving the community. Children frequently travel along paths that intersect canal alignments, creating potential safety risks during construction and operation.

3.2.8 Infrastructure and Services

Road access to Maraaleey Village is primarily via unpaved rural tracks, which become difficult to navigate during rainy seasons. Market access is constrained but functional, with trade occurring mainly through Buulaburde town. Existing irrigation infrastructure consists of open canals in varying states of disrepair, with high levels of sedimentation and leakage.

Electricity access is extremely limited, and most households rely on traditional energy sources. Diesel-powered pumps are commonly used for irrigation, resulting in high operational costs.

3.2.9 Cultural Heritage

No known cultural heritage sites have been identified within the project area; however, given the historical settlement patterns along the Shabelle River, there is a possibility of encountering cultural materials during excavation. A Chance Finds Procedure will be implemented, including immediate cessation of work, notification of authorities, and appropriate handling of any discovered artifacts. Geo-referencing of the canal alignment will be used to ensure proper documentation and monitoring.

3.2.10 Security Context

The security situation in Buulaburde District is characterized by localized risks related to clan dynamics and broader regional instability. However, the project area remains accessible for development activities. Security is supported by community structures, Hirshabelle State authorities, and national forces. Coordination with local authorities will be maintained to ensure safe project implementation.

3.3 Summary of Baseline Conditions

The environmental and social baseline conditions of the Raqayga subproject area reflect a highly dynamic floodplain system with strong dependence on irrigation for livelihoods, combined with vulnerabilities related to climate variability, infrastructure degradation, and socio-economic constraints. These baseline characteristics underscore the importance of the proposed rehabilitation in enhancing resilience, improving water management, and supporting sustainable rural development.

4. Legal and Regulatory Framework

The relevant national environmental and social legislation, as well as the WB Environmental and Social Framework (ESF) under which the (S-FSRP) is financed will guide the implementation of this Environmental and Social Management Plan (ESMP) for the Subproject. Together, these frameworks ensure that project activities are carried out in a manner that safeguards the environment, promotes social inclusion, and upholds the principles of sustainability and accountability.

4.1 National Legal and Institutional Framework

The provisional Constitution of Somalia:

Article 10 – Human Dignity: Human dignity is the basis for all human rights. It is inviolable and must be protected by all. The State power must not be exercised in a manner that violates human dignity.

Article 11 – Equality: All citizens, regardless of sex, religion, social or economic status, political opinion, clan, disability, occupation, birth or dialect shall have equal rights and duties before the law. The State must not discriminate against any person on the basis of age, race, color, tribe, ethnicity, culture, dialect, gender, birth, disability, religion, political opinion, occupation, or wealth. Thus, all laws, or political and administrative actions that are designed to achieve full equality for individuals or groups who are disadvantaged, or have suffered from discrimination in the past, shall be deemed to be not discriminatory.

Article 24 – Labor Relations: Every person has the right to fair labor relations. All workers, particularly women, have a special right of protection from sexual abuse, segregation and discrimination in the workplace and, every labor law and practice shall comply with gender equality in the workplace.

Article 31 – Language and Culture: The state shall promote the positive traditions and cultural practices, whilst striving to eliminate customs and emerging practices, which negatively impact the unity, civilization and wellbeing of the Somali society and the state shall promote the cultural practices and local dialects of minorities.

Article 32 – Right of Access to Information: Every person has the right of access to information held by the state, and the right of access to any information that is held by another person which is required for the exercise or protection of any other just right.

Article 27 (1 & 5) – Economic and social rights- right to clean portable water. Women, aged, disabled, and minorities who have suffered discrimination to be supported to realize their full potential.

Article 43 Land: land is recognized as primary resource and the basis of the people's livelihood; b) land shall be held, used and managed in an equitable, efficient, productive and sustainable manner; c) the FGS shall develop a national land policy, which shall be subject to constant review, d) no permit may be granted regarding the permanent use of any portion of the land, sea or air of the territory of the Federal Republic of Somalia, e) the FGS, in consultation with the FMS and other stakeholders, shall regulate land policy, and land control and use measures.

Article 111J – The Office of the Ombudsman: The office is protected against interference from any other person or entity. As such, independence, integrity and effective service delivery are also maintained. The Ombudsman shall: (i) Investigate complaints against government workers regarding: allegations/ outright violations concerning basic rights and freedom, abuse of power, unfair behavior, mercilessness, lack of clemency, indiscipline or disrespect, corruptive act, illegal behavior, or those that could lead to mischief or injustice; (ii) Investigate complaints in relation to the activities of the Public Service Commission and other administrative institutions of the government, including defense and police forces that could lead to unequal services, unfair recruitment, or administration; (iii) Take appropriate steps to rectify or change items mentioned in earlier clauses through a fair, and appropriate process of consultations and sacrifices among the people concerned; (iv) Report on the complaints and issues raised and submit to the head of the offender; (v) Forward cases to the Attorney General and bring them before a court, as appropriate.

Article 111H – National Security Commission: A National Security Commission shall be established to study and develop an integrated security framework to address present and future needs of Somalia. It shall present proposals to ensure that human security is prioritized and incorporated into such a framework, through which the public may provide oversight and monitor security related expenditure and seek redress from abuses by security personnel.

Article 45 (—Environment||) states that the government shall give priority to the protection, conservation, and preservation of the environment against anything that may cause harm to natural biodiversity and the ecosystem. Furthermore, all people have a duty to safeguards and enhance the environment and participate in the development, execution, management, conservation and protection of the natural resources and the environment. The FGS and the governments of the FMS affected by environmental damage shall take urgent measures to clean up hazardous waste dumped on the land or in the waters of the FGS; take necessary measures to reverse desertification, deforestation and environmental degradation, and to conserve the environment and prevent activities that damage the natural resources and the environment of the nation, among other measures.

Article 115 (—Civil service||) outlines civil service values and protection of their rights Constitution:

4.2. Relevant National legislation

The proposed subproject is governed by applicable national legal and regulatory frameworks of the Federal Republic of Somalia, which establish the foundation for environmental protection, public health, and infrastructure development. These frameworks are complemented by state-

level administrative procedures and sectoral guidelines relevant to irrigation and rural development.

Environmental Protection and Management Act, 2024: The act guarantees the right to a clean, safe and healthy environment, provides requirements for waste management including hazardous wastes. The act requires the application of the polluter pay and precautionary principle in environment management. The construction project is required to adhere to all the relevant requirements prescribed by the act.

Environmental and Social Impact Assessment and Audit Regulations (ESIA) 2024: Part III, regulations 13, 16 and 17, guides public participation, collection and incorporation of views from the public.

the Somali Labour Code (Law No. 36 of 2024), the Public Health legislation, Somalia National Gender Policy (2016) includes strategies to eradicate harmful traditional practices such as female genital mutilation/cutting (FGM/C) and child marriage and to improve services for the management of GBV/SEAH cases.

Institutionally, environmental and social management responsibilities will be shared among several entities. The Federal Ministry of Agriculture and Irrigation (MoAI) provides overall oversight and national environmental policy and regulation while FAO Somalia will supervise day-to-day implementation and safeguards compliance. Additionally, The State MoAI facilitates local coordination, security, and grievance management. Collectively, these institutions will ensure compliance with Somalia's environmental and social laws throughout the project cycle.

4.3 The World Bank Environmental and Social Framework (ESF)

As the Subproject is classified as having a "Moderate" environmental and social risk, a full Environmental Impact Assessment (EIA) is not required. This site-specific **Environmental and Social Management Plan (ESMP)** will serve as the primary instrument for identifying, assessing, and managing all potential risks and impacts.

In the absence of specific Somali national standards for air quality, water quality, or noise, or where such standards are less stringent, the project will adhere to internationally recognized benchmarks, including the WB ESF, **World Bank Group's General EHS Guidelines** and, where applicable, **World Health Organization (WHO)** standards. These standards will guide all management and monitoring activities throughout the project lifecycle.

World Bank Environmental and Social Framework (ESF): The following Environmental and Social Standards (ESSs) are relevant to this project.

Table 1: Summary of Potential Environmental and Social Risks

ESS	Specific Relevancy (Risks Only)
ESS1: Assessment and Management of Environmental and Social Risks and Impacts	- ESS1 is directly applicable to this subproject as it establishes the overall framework for identifying, assessing, and managing environmental and social risks throughout the project lifecycle. The risks identified—including soil erosion, embankment instability, hydrological disruptions (turbidity, sedimentation, and backflow), temporary interruption of irrigation flows, cumulative impacts from seasonal river dynamics, and potential water-use conflicts—

	are addressed through a structured set of management instruments. - These risks are managed through the preparation and implementation of a site-specific **Environmental and Social Management Plan (ESMP)**, which defines mitigation measures, monitoring indicators, institutional responsibilities, and reporting requirements. In addition, the contractor is required to develop and implement a **Contractor Environmental and Social Management Plan (C-ESMP)** that operationalizes ESMP requirements at the site level, including method statements for excavation, spoil management, traffic control, and occupational health and safety. - Hydrological and sedimentation risks are addressed through engineering design controls, phased construction scheduling, and monitoring of water flow conditions. Risks related to temporary irrigation disruption and water-use conflicts are managed through stakeholder engagement, advance notification to water users, and coordination with Water User Committees (WUCs). - ESS1 also ensures that risks associated with weak implementation capacity are mitigated through defined supervision arrangements, regular site inspections, and reporting by the PIU and environmental and social specialists. Adaptive management is applied whereby monitoring results inform corrective actions throughout implementation. - Addresses the risk of poor coordination between the Contractor, FAO, NPCU, and State PIU leading to unmanaged impacts. - Addresses the risk of inadequate monitoring and delayed reporting of environmental and social issues.
ESS2: Labor and Working Conditions	- ESS2 is applicable to the subproject as it addresses risks associated with labor management, working conditions, and occupational health and safety during construction and operation. Identified risks include potential use of child or forced labor due to weak verification procedures, unfair or non-transparent recruitment practices, delayed wage payments, absence of written contracts, and exclusion of vulnerable groups such as women and youth. - These risks are managed through the implementation of a Labor Management Procedures (LMP), which establishes clear requirements for worker recruitment, age verification, contractual arrangements, wage payment, and non-discrimination. The LMP ensures that all workers are engaged under fair and transparent conditions consistent with national labor requirements and ESS2. - Occupational health and safety (OHS) risks—including injuries from machinery, open excavations, unstable canal banks, and unsafe site conditions—are addressed through the Contractor Environmental and Social Management Plan (C-ESMP) and site-specific OHS plans. These instruments define mandatory safety procedures, including hazard identification, provision and enforcement of appropriate personal protective equipment (PPE), safe site layout, and controlled access to hazardous areas.

	- Worker exposure to noise, vibration, heat stress, and dehydration is addressed under ESS2 as part of occupational health and safety management. Mitigation measures include limiting exposure duration, provision of hearing protection where necessary, ensuring shaded rest areas, access to safe drinking water, and scheduling work to avoid peak heat periods. While noise generation as an environmental issue is addressed under ESS3, its impact on workers is managed under ESS2. - The project also establishes a Worker Grievance Mechanism (Worker GM) that is confidential, accessible, and separate from the community GM, allowing workers to raise concerns related to employment conditions, safety, or misconduct without fear of retaliation. - Monitoring and enforcement are ensured through routine site supervision, incident reporting systems, and corrective action procedures, including root cause analysis of accidents and proper record-keeping of labor conditions, working hours, and safety performance. -
ESS3: Resource Efficiency and Pollution Prevention and Management	- Addresses the risk of dust emissions from excavation, vehicle movement, and dry soil surfaces. - Addresses the risk of noise and vibration affecting nearby households and farm users, even if impacts are minor in a rural agropastoral setting. - Addresses the risk of air emissions (smoke, diesel fumes) from poorly maintained machinery, even if overall impacts are limited. - Addresses the risk of fuel and oil spills contaminating soil and canal water. - Addresses the risk of increased turbidity and sediment loads in irrigation canals and drainage channels. - Addresses the risk of accumulation of construction debris and vegetation waste along the canal. - Addresses the risk of inadequate waste segregation, including hazardous versus non-hazardous materials. - Addresses the risk of waste disposal in unauthorized locations and community exposure to unsafe waste piles. - Addresses the risk of erosion and sedimentation affecting river/canal systems.
ESS4: Community Health, Safety, and Security	- Addresses the risk of community members being exposed to construction hazards such as machinery, trucks, and open excavations. - Addresses the risk of unsafe access around auxiliary structures (crossing culverts, division boxes, intakes) and unstable canal banks. - Addresses the risk to children walking near the works or along farm paths adjacent to the canal. - Addresses the risk of misconduct, intimidation, or abuse by security personnel if used. - Addresses the risk of tension or conflict between hired guards and local communities. - Addresses the risk of harmful inward migration or labor influx due to perceived project benefits.

	- Addresses the risk of friction between villages over canal access, water distribution, or workforce selection. - Addresses the risk of increased traffic from machinery, trucks, and service vehicles causing accidents involving farmers, children, and livestock. - Addresses the risk of accidents at blind spots, turning points, or informal crossings used by communities.
ESS5: Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement	- ESS5 is not triggered because the canal lies fully within existing public land owned by the Government (*as confirmed in Annex 2)*. - Addresses only temporary risks such as short-term disruption of access to canal banks and footpaths during excavation. - Addresses the risk of farmers temporarily finding it difficult to reach farms, water points, or division boxes during works. - Addresses the risk of perceived unfairness in water distribution during rehabilitation activities. - Addresses the risk of misunderstandings about boundaries or right-of-way if the work area is not clearly demarcated.
ESS6: Biodiversity Conservation	- Addresses the risk of minor vegetation clearance along canal banks beyond what is strictly necessary for works. - Addresses the risk of temporary disturbance to livestock and small fauna that use canal corridors for movement or watering. - Addresses the risk of short-term alteration of micro-habitats during excavation and spoil placement. - Confirms that no sensitive species or critical habitats were identified, but acknowledges localized, reversible impacts on common species and grazing areas.
ESS8: Cultural Heritage	- Addresses the risk of chance finds of cultural or historical materials during excavation (e.g., pottery, graves, artifacts). - Addresses the risk of damaging culturally important trees, markers, or unrecorded burial sites. - Addresses the risk of community conflict if cultural heritage is discovered and not reported or managed appropriately.
ESS10: Stakeholder Engagement and Information Disclosure	- Addresses the risk of excluding women, youth, minority groups, and vulnerable households from consultations and project decision-making. - Addresses the risk of poor communication leading to confusion about project objectives, benefits, and construction schedules. - Addresses the risk of insufficient information disclosure on temporary water disruptions, access restrictions, and safety risks. - Addresses the risk of low awareness or poor access to the GM, resulting in unresolved grievances. - Addresses the risk of weak coordination and miscommunication between MoAI-FGS, Hirshabelle MoAI, district authorities, FAO, and community leaders.
SEA/SH – Sexual Exploitation, Abuse, and Harassment (Cross-cutting: ESS1, ESS2, ESS4, ESS10)	- Addresses the risk of SEA/SH incidents involving workers and community members, particularly women and girls. - Addresses the risk of increased vulnerability to SEA/SH due to worker–community interaction around the project area. - Addresses the risk of underreporting of SEA/SH due to stigma, fear of retaliation, or lack of confidential reporting channels. - Addresses the risk of misconduct by security personnel or project workers that could lead to exploitation, abuse, or harassment.

World Bank Group EHS Guidelines: The project will adhere to the WBG's General Environmental, Health, and Safety (EHS) Guidelines (EHSGs). The Subproject's commitment to adhering to the World Bank Group's General Environmental, Health, and Safety (EHS) Guidelines is a cornerstone of its risk management strategy. These guidelines are technical reference documents that define **Good International Industry Practice (GIIP)** for managing EHS issues in a sustainable manner.

For this civil works project, they are critically important as they provide a practical and authoritative framework for implementing effective mitigation measures related to **Occupational Health and Safety** (e.g., use of PPE, site safety protocols), **Community Health and Safety** (e.g., site security, traffic management), and **Environmental Pollution Control** (e.g., managing dust, noise, and waste) during construction and operation. Their application ensures the Subproject is implemented to a high standard of safety and environmental stewardshipIn cases where Somali regulations and World Bank policies differ, the World Bank Standards will prevail and will be applied. This ESMP, along with the associated plans, S-FSRP Frameworks, and Manuals (ESMF, RPF, IPMP, LMP, WMP, GM, SEP, etc.), is legally binding on the contractor. The Contractor is required to prepare their C-ESMP upon signing the work contract and before commencing work. This preparation is based on the proposed management framework of this document (ESMP), the World Bank Environmental and Social Framework (ESF), and the Good International Industry Practice (GIIP) included in the EHSGs.

Gap Analysis Between National Legislation and World Bank ESS

A comparative assessment was undertaken between the applicable national legal framework of Somalia and the World Bank Environmental and Social Standards (ESS) to identify gaps and define measures to ensure full compliance. While Somalia's Environmental Protection and Management Act (2024) and ESIA Regulations (2024) provide a foundational framework for environmental management, several areas require strengthening to meet the more comprehensive requirements of the World Bank ESF.

Key gaps include limited procedural detail on stakeholder engagement and disclosure (ESS10), absence of formalized labor management procedures and worker grievance mechanisms (ESS2), and insufficient provisions for community health and safety, including SEA/SH risk management (ESS4). In addition, national regulations provide less detailed requirements on monitoring, reporting, and adaptive management compared to ESS1, and do not explicitly require structured environmental and social management plans with defined performance indicators.

To address these gaps, the project adopts the World Bank ESF as the guiding framework. Specific gap-filling measures include the preparation and implementation of a site-specific ESMP and Contractor ESMP (C-ESMP), development of Labor Management Procedures (LMP), establishment of both community and worker Grievance Mechanisms (GM), integration of SEA/SH prevention and response measures, and structured stakeholder engagement in line with ESS10. Monitoring, reporting, and supervision arrangements have also been strengthened to align with Good International Industry Practice (GIIP).

Where differences exist between national legislation and World Bank requirements, the more stringent provisions of the World Bank ESS will apply to ensure robust environmental and social risk management.

5. Environmental and Social Risks and Impacts

While the Raqayga Canal rehabilitation subproject is expected to generate substantial long-term benefits, a broader range of environmental and social risks—beyond immediate construction impacts—has been identified through screening, baseline analysis, and stakeholder consultations. These risks are typical of irrigation rehabilitation projects within dynamic riverine systems such as the Shabelle Basin and require comprehensive management through the ESMP and Contractor ESMP (C-ESMP).

From an environmental perspective, there is a potential risk of water quality degradation, particularly related to increased turbidity, total suspended solids (TSS), total dissolved solids (TDS), and localized contamination during excavation, in-channel works, and improper waste handling. These risks are closely linked to the hydrological behavior of the Shabelle River, where seasonal flows and sediment loads are naturally high. In addition, climate-change–induced hydrological variability, including more intense rainfall events and prolonged dry periods, may exacerbate sedimentation, overtopping risks, and structural stress on rehabilitated canal sections.

Construction activities may also introduce risks of soil contamination, particularly from accidental spills of fuel, lubricants, or cement materials, as well as improper storage of construction inputs. Although groundwater use is limited in the project area, localized groundwater interference may occur in low-lying sections where excavation alters infiltration or drainage patterns. Furthermore, sourcing of construction materials such as sand, gravel, or borrow material may lead to borrow pit impacts, including land degradation, erosion, and safety hazards if not properly managed and restored.

Although the project is confined to an existing canal alignment, there remains a risk of habitat disturbance beyond the immediate footprint, particularly where construction activities extend into adjacent farmland, grazing areas, or riparian vegetation zones. Improper handling of excavated materials and construction debris may also result in solid waste mismanagement, leading to localized pollution, obstruction of drainage paths, and visual impacts.

From a social perspective, the project may generate impacts that extend beyond temporary access disruptions. These include potential livelihood disturbances, particularly where irrigation flows are interrupted for longer durations or where farmland access is constrained during construction. In addition, labor-related risks may arise, including tensions linked to recruitment practices, perceived exclusion of local workers, or inequitable employment opportunities.

The project is implemented within a context where social cohesion is generally stable but sensitive to resource distribution, particularly water. As such, there is a risk of community conflict, especially between upstream and downstream users if water allocation is perceived as inequitable during rehabilitation phases. Construction activities may also introduce child safety risks, particularly where open trenches, machinery, and construction zones intersect with community movement routes or school pathways.

Given the strong dependence on livestock in the area, livestock safety risks are also significant, including injury from open excavations, restricted access to watering points, or accidental entry into construction zones. In addition, community health risks may arise from dust emissions, stagnant water accumulation, and increased mosquito breeding, particularly if drainage is not properly managed during construction.

Worker-related risks extend beyond physical injuries to include heat stress, dehydration, and fatigue, particularly under high-temperature conditions typical of Buulaburde District. These risks are compounded by the physically demanding nature of excavation and construction activities.

There is also a potential risk of disturbance to community or cultural assets, particularly where canal alignments intersect areas of local significance, although no formal cultural heritage sites have been identified. In addition, local security dynamics, while generally manageable, may influence site accessibility and require coordination with local authorities.

Finally, communication and rumor-related risks may arise if project information is not effectively disseminated, potentially leading to misinformation, unrealistic expectations, or mistrust among community members.

These environmental and social risks are consistent with those identified in the project screening and baseline analysis and are considered moderate in magnitude, site-specific, and manageable. They will be addressed through a combination of mitigation measures defined in the ESMP, implementation of the Contractor ESMP (C-ESMP), application of the Labor Management Procedures (LMP), Waste Management Plan (WMP), Occupational Health and Safety (OHS) measures, and the project Grievance Mechanism (GM). Continuous monitoring, supervision, and adaptive management will ensure that residual risks remain low.

6. Environmental and Social Management Plan

The Environmental and Social Management Plan (ESMP) outlines the specific mitigation measures required to address the environmental and social risks associated with the rehabilitation of the Raqayga Primary Canal. These measures are aligned with the World Bank Environmental and Social Standards (ESSs) and the S-FSRP Environmental and Social Management Framework. The ESMP provides clear responsibilities, practical methods, and implementation timelines to ensure that all anticipated impacts are avoided, minimized, or properly managed throughout the construction period. The table 3 below summarizes the key risks and the corresponding mitigation measures for each applicable ESS.

Table 2: Environmental & Social Mitigation Plan

Risks / Impacts	Mitigation Measures	Methods / Tools / Resources	Responsibility	Project Phase	Timeline / Frequency	Mitigation Budget
ESS1 – Assessment and Management of Environmental and Social Risks and Impacts						
A. Environmental Risks: Failure or weakness in the assessment, planning, and implementation of environmental and social management measures may result in unmanaged impacts, including soil erosion and embankment instability during excavation, hydrological disruptions (turbidity, backflow, sedimentation), temporary interruption of irrigation flows, and cumulative impacts linked to seasonal river dynamics. Additional risks include inadequate coordination with water users, weak monitoring systems, and insufficient application of mitigation measures on site. *B. Social Risks:* - Water-use conflicts among farmers; *C. Administrative Risks:*	*A. Environmental:* - Implement and enforce site-specific ESMP and Contractor ESMP (C-ESMP) - Apply method statements for excavation, spoil management, and flow control - Establish monitoring and supervision systems (daily contractor checks, PIU oversight) - Maintain adaptive management, adjusting mitigation based on monitoring results - Ensure stakeholder coordination with Water User Committees (WUCs) - Integrate Grievance Mechanism (GM) for real-time issue resolution *B. Social:* - Conduct conflict mapping prior to works; - Transparent targeting of vulnerable/marginalized groups;	- ESMP & C-ESMP - Sediment/flow control tools - FAO inspection checklists - Conflict mapping tools; - GM logs & communication sheets	- Contractor (primary) - FAO Supervising Engineer - NPCU – MoAI (oversight) - Hirshabelle State PIU (coordination)	Construction	- Daily inspection (Contractor); - Weekly supervision (FAO SE) - Continuous during critical works	- Included in contract price; - Included in FAO supervision & management budget

- Weak ESMP/C-ESMP implementation; - Poor coordination between Contractor, FAO, NPCU & PIU; - Inadequate monitoring & delayed reporting.	- Maintain daily communication with WUCs; - Use GM to record/resolve grievances; - Coordinate water distribution schedules. *C. Administrative:* - Weekly FAO supervision + non-compliance notices; - Contractor keeps daily logs & ESMP checklists; - Monthly E&S refresher training for workers; - Strengthen C-ESMP using FAO TA tools/templates.					
ESS2 – Labor and Working Conditions						
A. Labor Risks: - Risk of child labor and/or forced labor; - Unfair recruitment practices and exclusion of women, youth, and vulnerable groups; - Delayed payment of wages leading to disputes; - Lack of written contracts and unclear employment terms. *B. Occupational Health & Safety (OHS) Risks:* - Injuries from machinery, open excavations, unstable banks; - Exposure to excessive noise and vibration;	*A. Labor Standards:* - Implement the project's LMP in full; - Verify worker ages (18+ only); - Establish and publicize a confidential worker GM; - Promote inclusion of women, youth and minority groups; - Communicate payment schedules clearly to avoid disputes. *B. Occupational Health & Safety:* - Provide full PPE (helmets, gloves, boots, reflective vests, ear protection);	- Labor Management Procedures (LMP); - Code of Conduct (CoC); - Worker GM tools; - PPE sets; - OHS toolbox talk templates; - Accident/incident logs; - Payment monitoring tools; - Safety Risk Assessment forms; - Training attendance registers	- Contractor (primary implementer); - FAO Technical Assistance team (training, oversight); - FAO Supervising Engineer (verification) - NPCU – MoAI (labor compliance oversight); - Hirshabelle State PIU (worker engagement/support)	Construction & Operation	- Daily OHS toolbox talks; - Weekly OHS inspections by contractor; - Weekly FAO supervision - Monthly labor audits	- Included in contract price - Supported under FAO supervision budget; - Included in MoAI operational costs

- Heat stress, dehydration, and unsafe working hours; - Lack of PPE and inconsistent use; - Poor site layout and unsafe access paths. *C. Administrative and Compliance Risks:* - Poor implementation of Labor Management Procedures (LMP); - No worker GM or weak confidential reporting system; - Lack of OHS incident reporting, RCAs, and training; Labor standards not aligned with national laws or EHSGs; - Inadequate record-keeping (hours worked, incidents, contracts).	- Conduct daily toolbox talks and weekly OHS sessions; - Provide clean drinking water, shaded rest areas, and sanitation facilities; - Implement heat-stress management (adjust shifts, rest breaks); - Train machinery operators and enforce licensing requirements; - Conduct Safety Risk Assessments and update site layout; - Keep accident and near-miss logs and conduct Root Cause Analysis (RCA); *C. Administrative Measures:* - Monthly refresher training for all workers; - Maintain up-to-date labor registers, GM records, OHS logs; - Enforce Code of Conduct (CoC) for all workers with clear penalties; - Continuous supervision by FAO to ensure compliance.					
ESS3 – Resource Efficiency and Pollution Prevention						
A. Pollution Risks: - Dust emissions from excavation, vehicle movement, dry soils; - Noise and vibration from machinery and equipment (minor since the subproject	A. Pollution Control: - Use water sprinklers to suppress dust on required access roads and work sites; - Maintain vehicles and machinery regularly (oil	- Waste Management Plan (WMP); - Water truck / sprinklers; - Fuel/oil bunds; - Spill kits;	- Contractor (primary implementer) - FAO Supervising Engineer (verification); - NPCU – MoAI (oversight);	Construction & early operation	- Daily pollution checks; - Weekly waste & fuel inspections;	- Included in contract price; - Included in FAO supervisio n budget

site locates a ruler agropastoral setting; - Air emissions (smoke, diesel fumes) from poorly maintained machinery (negligible); - Fuel and oil spills contaminating soil and water sources; - Increased turbidity in irrigation canals and drainage channels *B. Waste Management Risks:* - Accumulation of construction debris and vegetation waste; - Lack of proper waste segregation (hazardous vs non-hazardous); - Disposal of waste in unauthorized locations; - Community exposure to unsafe waste piles; *C. Water & Soil Quality Risks:* - Erosion and sedimentation entering river/canal systems (low); - High Total Dissolved Solids (TDS) water used for irrigation causing soil salinization; - Increased Total Suspended Solids (TSS) in canal water; - Contamination of shallow water sources;	change, tuning, filter replacement); - Limit noisy activities to daytime hours and notify nearby households; - Store fuel/oil in bunded, labeled containers away from waterways; - Keep spill kits on site and train workers on their use; *B. Waste Management:* - Implement Waste Management Plan (WMP); - Clearly label waste bins: general waste, hazardous waste, organic waste; - Identify authorized disposal sites in collaboration with WUC & State MoAI; - Remove debris regularly and ensure safe transport to disposal sites; - Prohibit burning of waste; *C. Water & Soil Quality Safeguards:* - Minimize vegetation disturbance to avoid exposed soils. - Install erosion control measures (brush barriers, silt fences were required); - Conduct TDS/TSS analysis before allowing irrigation water use; - Avoid using water with TDS > 1,500 ppm for irrigation;	- Water testing kits (TDS, TSS); - Training materials	- Hirshabelle State PIU (coordination & local enforcement)		- Monthly reporting by contractor; - Continuous monitoring during excavation & earthworks	

	- Monitor turbidity during excavation near water inlets.					
ESS4 – Community Health, Safety, and Security						
A. Community Health & Safety Risks: - Exposure to construction hazards (machinery, trucks, excavations); - Unsafe access around open trenches, axillary structures (crossing culverts, division boxes & intake reconcentration/rehab specified sites) and unstable canal banks; - Child safety risks when children walk near the site or along farm paths; *B. Security Risks:* - Misconduct, intimidation, or abuse by security personnel; - Tension or conflict between hired guards and communities; - Excessive or disproportionate security practices. *C. Fragility, Conflict & Social Tension Risks*:	*A. Community Health & Safety Measures:* - Install robust fencing, barriers, and warning signage around all hazardous zones; - Restrict unauthorized entry into the construction area except for workers; - Conduct community awareness sessions on construction risks, especially targeting women, youth, and farmers; - Provide safe and clearly marked temporary access routes including footpaths, vehicle bypasses, and pedestrian crossings around all work areas involving culverts, intakes, sluice gates, division boxes, and excavated sections of the canal; - Remove debris regularly following EHSG guidelines; *B. Security Management Measures*:	- Security Management Plan (SMP); - Traffic Management Plan (TMP); - Fencing, barriers & signage; - Debris removal procedures; - EHSG safety guidelines; - GM system (including security channel); - Training materials (security, GBV, community safety); - Community awareness materials	- Contractor (primary implementer); - FAO Supervising Engineer (verification & compliance enforcement); - FAO Technical Assistance (training & oversight); - Hirshabelle State PIU (community coordination); - WUC (local communication)	Construction	- Daily safety checks (Contractor); - Weekly FAO supervision; - Monthly security reviews; - Continuous community sensitization	- Included in contractor's price; - Included in project management & FAO supervision budget

- Harmful inward migration driven by perceived project benefits; - Community dynamics disrupted by labor influx; - Clashes or friction between villages over canal access, water distribution, or workforce selection; *D. Traffic and Road Safety Risks:* - Increased traffic from machinery, trucks, and service vehicles; - Accidents involving children, livestock, or farmers using the same paths; - Unsafe turning points, blind spots, and unregulated movement of heavy equipment.	- Implement and monitor the Security Management Plan (SMP); - Hire the security guards from the local community & train on respectful engagement, and proportional use of force to avoid conflicts; - Require guards to sign and comply with a Security Code of Conduct; *C. Fragility & Social Risk Mitigation*: - Base targeting decisions on FINA findings and transparent vulnerability criteria; - Conduct consultations with local authorities, village elders and WUCs/Canal Committee to reduce tension; - Track population influx risks and adjust site management plans accordingly; - Provide clear communication on project benefits and eligibility. *D. Traffic and Road Safety Controls*: - Develop and implement a Traffic Management Plan (TMP);					

	- Enforce strict speed limits around work zones; - Install traffic warning signs at key points used by pedestrians, trucks and livestock; - Train vehicle operators and road workers on safety risks; - Maintain access routes clear and safe for community use.					
ESS5 – Land Acquisition, Restrictions on Land Use and Involuntary Resettlement						
- **ESS5 is *not triggered*.** The canal lies fully within existing public land owned by the Government**,** as confirmed in *Annex 2 – Land Ownership Confirmation Letter***.** No land acquisition, displacement, or loss of assets is required. ***Temporary Risks Only*:** - Short-term access disruption to canal banks and footpaths during excavation; - Temporary difficulty accessing farms or water points/division boxes; - Perceived concerns about fairness in water distribution during works.	- Maintain open community access routes and farm paths wherever possible; - Use temporary bypass paths and clearly mark safe pedestrian areas; - Provide advance notice (48–72 hours) before temporary flow interruptions or access restrictions; - Coordinate daily with the WUC to manage water distribution schedules; -	- Consultation records; - Access route signage; - WUC/Canal Committee coordination logs - GM system	- Contractor (implementation); - State PIU (liaison & awareness) - FAO Supervising Engineer (verification); - NPCU (oversight)	Pre-construction & Construction	- Daily access checks; - Weekly community updates	- Included in contractor' s price;
ESS6 – Biodiversity Conservation						

- Minor vegetation clearance along canal banks; - Temporary disturbance to livestock and small fauna using canal corridors; - Short-term alteration of micro-habitats during excavation. ***Note:*** No sensitive species or critical habitats identified during the baseline survey. Impacts are ***site-specific and fully reversible.***	- Limit vegetation removal to areas strictly needed for canal shaping; - Avoid harming livestock; maintain access routes for grazing animals; - Ensure machinery operates only within the existing canal footprint; - Prohibit dumping spoil in vegetated or grazing areas.	- Hand tools with controlled clearing techniques were required; - Site supervision checklists	- Contractor (implementation); - FAO Supervising Engineer (monitoring); - State PIU (coordination)	Construction	- Daily supervision during clearing; - Weekly monitoring by FAO SE	- Included in contractor' s price;
ESS8 – Cultural Heritage						
- Low probability of encountering cultural or historical materials during excavation **Note:** No known cultural heritage sites are located within the project's footprint, but ***chance finds remain possible.***	- Apply the WB Chance Finds Procedure; - Immediately stop work if artifacts or bones of dead bodies are discovered; - Notify State MoAI PIU, NPCU and elders; - Resume works only after official written clearance.	- Chance Finds Procedure; - Reporting forms; - Barrier tape/fencing materials	- Contractor (implementation); - FAO Supervising Engineer (verification); - NPCU – MoAI (oversight)	Construction	- Activate procedure *only if triggered*; - Immediate reporting within same day	- Contractor cost (no additional budget required)
ESS10 – Stakeholder Engagement and Information Disclosure						
A. Inclusion & Participation Risks: - Exclusion of women, youth, minority, and vulnerable groups from consultations and project decisions;	*A. Inclusion Measures:* - Implement the Stakeholder Engagement Plan (SEP) throughout project stages; - Hold inclusive consultations ensuring participation of women, youth, elders, WUC	- Stakeholder Engagement Plan (SEP); - GM tools (register, hotline, complaint forms); - Consultation attendance sheets;	- NPCU – MoAI (oversight); - Hirshabelle State PIU (community engagement); - FAO Technical Assistance (support & training);	Pre-construction & Construction	- Weekly community updates; - Monthly GM reviews; - Consultations as needed	- Included in project management budget; - Included in contractor obligations

- Poor communication causing confusion about project benefits or schedules; *B. Information Disclosure Risks:* - Insufficient dissemination of project information to farmers and water users; - Limited understanding of temporary water disruptions or construction impacts; *C. GM Risks:* - Low awareness or poor access to the grievance mechanism; - Difficulty monitoring social harm or addressing complaints promptly.	members, and vulnerable groups; Provide schedules, updates, and notices in simple local Somali language. *B. Information Disclosure:* - Regularly inform communities of construction timelines, flow interruptions, and safety precautions; - Share updates through WUCs, village leaders, and State PIU; - Display key information on boards at site and village centers. *C. GM Strengthening:* - Disseminate/publicize GM channels widely (phone numbers, focal persons, complaint boxes); - Maintain GM logs at PIU & contractor level; - Provide feedback to complainants and close cases promptly; - Monitor GM performance monthly and escalate cases if unresolved.	- Community information boards	- Contractor (on-site disclosure, GM awareness)			
SEA/SH – Sexual Exploitation, Abuse & Harassment						
- Risk of SEA/SH involving workers and community members; - Worker–community interaction increasing	- Implement and monitor the SEA/SH Action Plan; - Mandatory Code of Conduct (CoC) for all workers and security staff;	- SEA/SH Action Plan; - Signed CoCs; - Confidential GM channels;	- Contractor (implementation); - FAO Technical Assistance (training & oversight);	Construction	- Monthly worker training	- Included in contract price; - Included in TA &

vulnerability of women and girls; - Underreporting due to stigma or fear; - Security personnel misconduct; *Cross-cuts ESS1, ESS2, ESS4 & ESS10.*	- Conduct SEA/SH awareness and prevention sessions for workers and communities; - Provide confidential, survivor-centered SEA/SH GM reporting pathway; - Train SEA/SH community focal points; - Ensure separate sanitation facilities for men and women on site; - Immediate referral of survivors to appropriate support services.	- Training & sensitization materials; - Focal point appointment letters	- FAO Supervising Engineer (verification); - State PIU (community awareness); - NPCU (compliance)		- Continuous GM availability; - Weekly supervision	project management budget

6.1 Environmental & Social Monitoring Plan

The Environmental and Social Monitoring Plan describes how the implementation of mitigation measures will be systematically tracked, verified, and adapted throughout the construction phase. Monitoring ensures that safeguard commitments are effectively implemented, emerging environmental and social risks are identified early, and corrective actions are taken in a timely manner. In addition to conventional construction-related impacts, the monitoring framework integrates the broader range of environmental and social risks identified in Section 5, including water quality changes (turbidity, TSS/TDS), sedimentation and hydrological disruptions, climate-related risks such as flooding and erosion, soil and groundwater contamination, and impacts associated with material sourcing and waste management.

The plan also incorporates monitoring of key social risks, including livelihood disruptions, labor and recruitment practices, worker health and safety (including heat stress and fatigue), community health risks (dust, stagnant water, and vector breeding), child and livestock safety, social cohesion and conflict dynamics, and risks related to communication, misinformation, and stakeholder engagement. Specific attention is given to monitoring SEA/SH risk mitigation measures, worker behavior, and the effectiveness of grievance mechanisms.

Monitoring will be undertaken through a combination of routine site inspections, environmental and social checklists, water quality observations, incident reporting systems, and community feedback mechanisms. The Contractor is responsible for day-to-day monitoring and reporting under the C-ESMP, while the FAO Supervising Engineer and State PIU Environmental and Social Specialists will conduct regular supervision, verification, and compliance audits. The NPCU provides oversight and ensures alignment with World Bank Environmental and Social Framework requirements.

Monitoring frequency will vary depending on the nature and sensitivity of activities, with daily site-level checks during active construction, weekly supervision visits, and continuous monitoring during high-risk activities such as excavation, water diversion, and works near communities. All monitoring activities are covered under the ESMP budget and project supervision costs. The table below presents the indicators, methods, responsibilities, and reporting arrangements for continuous monitoring of ESMP implementation.

Table 3: Environmental & Social Monitoring Plan

ESS / Area	Monitoring Indicators	Monitoring Method	Responsibility	Frequency	Reporting To
ESS1 – E&S Risk Management	ESMP and C-ESMP implementation status; corrective actions closed; embankment stability; water flow continuity; sediment control effectiveness; conflict incidents recorded and resolved; monitoring reports submitted on time	Site inspections; supervision checklists; photographic records; ESMP compliance audits; GM database review	Contractor (primary); FAO Supervising Engineer; State PIU	Daily (site); Weekly (supervision)	NPCU & FAO
ESS2 – Labor & OHS	PPE compliance rate; worker contracts and age verification; toolbox talks conducted; OHS incidents recorded and root cause analysis completed; worker GM cases resolved; heat stress management measures in place (rest breaks, water access)	Site observation; worker records; OHS logs; incident reports; GM review	Contractor; FAO Supervising Engineer	Daily / Weekly / Monthly	NPCU
ESS3 – Pollution Prevention & Resource Efficiency	Dust levels controlled (no visible excessive emissions); noise within acceptable limits; spoil disposal at approved sites; waste segregation and disposal compliance; TSS/TDS levels within acceptable range; no uncontrolled fuel/oil spills; borrow areas rehabilitated	Visual inspection; water/soil testing; waste logs; spill records; borrow site inspections	Contractor; FAO Supervising Engineer	Daily / Weekly	State PIU / NPCU
ESS4 – Community Health & Safety	Safety signage and fencing installed; traffic management measures implemented; zero community accidents; livestock access safely managed; no stagnant water accumulation; mosquito/vector risks controlled; security personnel compliant with code of conduct	Safety audits; site inspections; community feedback; GM review	Contractor; FAO Supervising Engineer; PIU	Weekly / Continuous in high-risk areas	NPCU
ESS5 – Land Use & Temporary Access	Access routes maintained; alternative/bypass routes functional; no prolonged restriction of irrigation or grazing access; grievances related to access resolved within timeframe	Site inspections; WUC coordination records; GM logs	Contractor; FAO Supervising Engineer	Daily	PIU / FAO
ESS6 – Biodiversity & Ecosystem Services	Vegetation disturbance minimized; no unnecessary clearing beyond footprint; grazing routes maintained; no disruption to natural drainage patterns; borrow areas restored	Field observation; supervision checklists	Contractor; FAO Supervising Engineer	Weekly	NPCU
ESS8 – Cultural Heritage	Chance finds reported and managed according to procedure; works halted where required; community notified	Review of Chance Finds records; supervision reports	Contractor; FAO Supervising Engineer	As required (triggered)	NPCU

ESS10 – Stakeholder Engagement	Consultations conducted as per plan; participation records (including vulnerable groups); information disclosed locally; grievances received and resolved within timelines; feedback incorporated into implementation	SEP records; attendance sheets; GM database; community validation meetings	State PIU; FAO Technical Assistance	Weekly / Monthly	NPCU
SEA/SH – Cross-cutting	Code of Conduct signed and enforced; SEA/SH training conducted; awareness sessions delivered; confidential SEA/SH cases managed and referred appropriately; no unresolved SEA/SH complaints	Training records; CoC logs; confidential GM review	Contractor; FAO TA; State PIU	Monthly / Continuous	NPCU

6.2 Capacity Building and Training Plan

Effective implementation of this ESMP depends on the capacity of the contractor, supervising institutions, and community structures to understand and apply the environmental and social requirements. The capacity-building activities will:

- Train and familiarize all actors with the ESMP, World Bank ESF requirements, and relevant national regulations.
- Strengthen the contractor's ability to prepare and implement a Contractor ESMP (C-ESMP), including OHS, GM, SEA/SH, and waste management through training on WB ESS and the implementation of the ESMP.
- Equip the PIU and supervising engineers to monitor ESMP compliance and report effectively.
- Build the capacity of the Canal/Water User Committee and community representatives to support operation and maintenance (O&M), use the GM, and promote GBV/SEA/SH awareness.
- Ensure all workers receive induction and continuous toolbox talks on OHS, Code of Conduct, GM, and SEA/SH prevention and action plan and available pathways.

These trainings will be delivered jointly by FAO with the State MoAI PIU, and the contractor's OHS/E&S team

Table 4: Summary of Capacity Building Plan

Target Group	Training Topic(s)	Timeline / Frequency	Type / Modality	Lead Facilitator(s)	Cost / Responsibility
Prospective Contractors (bidders)	Key E&S clauses in bidding documents; ESMP and ESF obligations; required OHS, LMP and SEA/SH requirements	Once, during pre-bid / pre-contract briefing	Short indoor or virtual session	FAO E&S Specialist, NPCU/PIU	Covered under FAO TA / project preparation
Contractor's Project Manager, Site Engineer, OHS/E&S Officer, Foremen	C-ESMP preparation and implementation; OHS procedures and emergency response; Waste Management Plan; Worker and Community GM; SEA/SH Action Plan and Code of Conduct	At project start (mobilization)	Half-day face-to-face workshop plus on-site practical session	FAO E&S Specialist and State PIU E&S staff	Covered under FAO TA / PIU operating budget
PIU E&S Specialist and Supervising Engineer (State MoAI / NPCU)	Supervision and monitoring of ESMP/C-ESMP; WB ESF and national ESIA requirements; review of contractor E&S reports; use of simple monitoring tools	At start of works and one mid-term refresher	Face-to-face or online training session	FAO E&S Specialist	Covered under FAO TA / PIU operating budget
Canal/Water User Committee and Community Representatives (elders, women, youth)	Basic canal O&M; community role in ESMP monitoring; GM access and referrals; GBV/SEA/SH awareness; community safety around works	Once during mobilization and one refresher before completion	On-site participatory training in the canal village	FAO and PIU E&S staff, with WUC	Covered under FAO TA / PIU community engagement budget

All Construction Workers (including drivers and security staff)	OHS (PPE use, site rules, safe excavation, traffic management); Code of Conduct; worker GM; SEA/SH prevention and sanctions; appropriate security behavior	Induction for all new workers and weekly toolbox talks	On-site toolbox talks / tailgate sessions	Contractor's OHS/E&S Officer, supervised by supervising engineer / FAO	Included in contractor's contract cost
Contractor Engineers & Foremen	**Hydrology & Flood Risk; Staged Works; Backflow Control** *Learning objectives:* • Identify Gu/Deyr flood triggers and stand-down thresholds • Apply staged excavation to prevent uncontrolled backflow • Protect weak embankments and maintain freeboard during works	During mobilization + pre-Gu refresher	On-site practical along critical canal segments	FAO Supervising Engineer (SE) + State PIU	Included in contractor price / PIU ops budget
Contractor E&S/OHS + WUC Monitors	**Water Quality (TDS/TSS/pH) Sampling & Records** *Learning objectives:* • Use handheld meters & turbidity tubes; record results correctly • Apply accept/reject thresholds for irrigation water • Trigger corrective actions when exceedances are found	Monthly + during excavation near intake	Hands-on field demo & simple logbook practice	FAO E&S Specialist + Lab/Tech support	PIU supervision budget
Drivers / Operators / Flaggers	**Traffic Management Plan (TMP) – Pedestrian & Livestock Safety** *Learning objectives:* • Enforce site speed limits and marshal control at blind spots	Induction + quarterly refresh	Yard simulation & on-road drill	Contractor OHS + FAO SE	Included in contract cost

	• Set up and maintain signage, barriers and safe crossings • Respond to near-miss/incident using the TMP protocol				
Security Personnel	**Security Management (SMP) & Code of Conduct (incl. SEA/SH prohibitions)** *Learning objectives:* • Apply proportionate, do-no-harm security practices • Log and escalate incidents; link with GM channels • Uphold zero-tolerance on SEA/SH; survivor-centered referrals	Induction + semi-annual	Scenario-based tabletop & role play	PIU Security Focal + FAO	Contractor & PIU
All Workers & Community Reps (via WUC)	**Child & Livestock Safety Around Works** *Learning objectives:* • Map school routes & livestock corridors crossing work zones • Install/maintain fencing, flaggers, and safe temporary crossings • Deliver simple safety messages to caregivers and herders	Before deep excavations and when fronts shift	Joint toolbox/community huddles	Contractor + WUC + PIU Social	Contractor / PIU community engagement budget
Contractor Liaison, WUC & PIU Social Team	**Conflict Sensitivity & Water Allocation During Works** *Learning objectives:* • Identify upstream/downstream tension triggers	Before planned outages; weekly during phased works	Facilitated clinics with WUC/elders	PIU Social + FAO TA	Project management budget

	• Publish transparent water schedules during outages • Use GM to de-escalate and document resolutions				
Contractor & PIU Supervisors	**Incident Notification (24-hr) & 7-day Root Cause Analysis (RCA)** *Learning objectives:* • Define serious incidents and notification steps • Complete RCA templates and track corrective actions • Report to NPCU/WB lines per ESCP	Induction + after any serious incident	Table-top exercise & form-filling practice	FAO SE / PIU	Project management budget
Machine Operators & Foremen	**Chance Finds Procedure (ESS8) – Field Drill** *Learning objectives:* • Recognize potential artifacts/remains and stop work • Cordon, notify, and document per procedure • Resume only after written clearance	Induction + reminders before deep cuts	Toolbox talk with visual aids	PIU/FAO	Contractor
PM / Foremen / Logistics	**Borrow Pits & Material Sourcing; Spoil & Invasive Species Control** *Learning objectives:* • Use only approved sources; avoid unauthorized extraction • Place/reuse spoil to protect drainage and farmland	Mobilization + mid-term	Site walk & yard demo	FAO E&S/OHS	Included in contract cost

	• Prevent spread of Prosopis via spoil handling				
Mechanics / Operators / E&S Staff	**Advanced Waste & Pollution Control (ESS3)** *Learning objectives:* • Set up bunded storage and spill-kit stations • Manage cement washout & hazardous waste manifests • Drill spill response and reporting	Mobilization + quarterly	Yard demo & spill drills	Contractor OHS/E&S + FAO	Included in contract cost
All Workers	**Heat Stress, Hydration & Fatigue Management.GM SEA/H** *Learning objectives:* • Apply work-rest cycles and shaded break standards • Recognize and respond to heat illness symptoms • Record heat incidents and adjust shifts accordingly	Induction + daily toolbox during hot season	On-site micro-drills	Contractor OHS	Included in contract cost
Contractor E&S/OHS; PIU; Supervising Engineer	**Monitoring, Data & Documentation (ESMP/GM/SEA-SH)** *Learning objectives:* • Use daily/weekly checklists and photo evidence • Maintain GM logs with sex/vulnerability disaggregation • Protect confidentiality in SEA/SH pathways	Monthly	Practical logbook & GM demo	FAO E&S / PIU	Project management budget

Contractor Liaison, WUC & PIU Comms	**Stakeholder Comms, Rumor Management & Disclosure** *Learning objectives:* • Issue clear 48–72 hr outage notices and site updates • Use message-mapping to counter misinformation • Align site boards, WUC briefings and GM notices	Weekly during works & before shutdowns	Message-mapping sessions	PIU Comms + FAO	Project management budget
Water User Committee (WUC)	**Post-handover O&M & Escalation Protocols** *Learning objectives:* • Run monthly intake/structure inspections • Schedule pre-Gu desilting & routine cleaning • Escalate defects to State MoAI using standard forms	Near completion + one post-handover refresher	On-site drill with checklists	State MoAI + FAO	PIU community engagement budget

1. Implementation Arrangements

Effective implementation of the subproject rehabilitation activities requires close coordination among the Federal MoAI, the Hirshabele State MoAI PIU, FAO as the Technical Assistance provider, the contractor, and community structures. Responsibilities have been organized to ensure that environmental and social measures are applied consistently and in full alignment with the World Bank ESF and national regulations.

The main institutional responsibilities are as follows:

- ***MoAI-FGS / NPCU*:** Provides overall oversight, approves the ESMP and the Contractor ESMP (C-ESMP), ensures compliance with the Environmental and Social Commitment Plan (ESCP), consolidates E&S performance reports, and submits official updates to the World Bank.
- ***FAO Somalia (Technical Assistance and Supervision):*** Leads technical assessments, safeguards training, and construction supervision. As the Supervising Engineer, FAO conducts regular site inspections, verifies compliance with the ESMP and C-ESMP, issues non-compliance notices, monitors corrective actions, and reports environmental and social indicators through the S-FSRP MIS and dashboard.
- **The Federal Ministry of Environment and Climate Change (MoECC):** The Federal Ministry of Environment and Climate Change (MoECC) provides statutory regulatory oversight in accordance with the Environmental Protection and Management Act (EPMA, 2024). MoECC confirms the applicability of the environmental instrument and may conduct compliance inspections where required. While not involved in day-to-day supervision, MoECC ensures national environmental regulatory compliance alongside World Bank ESF implementation.
- ***Hirshabele State MoAI PIU:*** Facilitates field operations, supports community engagement, maintains the state-level grievance register, accompanies supervision missions, and ensures that community-level safeguard commitments and notifications are consistently applied.
- ***Construction Contractor:*** Implements all ESMP requirements through an approved C-ESMP. Core responsibilities include environmental protection, occupational health and safety, labor management in line with the LMP, maintaining a worker grievance mechanism, enforcing SEA/SH Codes of Conduct, and applying community safety and traffic measures. The contractor must maintain daily logs, incident records, OHS documentation, and weekly reports.
- ***Community Structures (Water User Committee and village leaders):*** Support construction access, communicate schedules, assist with handling minor grievances, monitor water distribution during temporary interruptions, and contribute to long-term operation and maintenance of the rehabilitated canal.

Reporting follows a coordinated structure: the contractor submits weekly updates to FAO and the State PIU; FAO verifies compliance and prepares consolidated supervision notes; and the NPCU compiles and submits environmental and social performance reports to the World Bank. Serious incidents or accidents must be reported within 24 hours in line with ESF and project protocols.

At the end of construction, FAO and the State PIU will conduct a joint inspection with the contractor and community representatives to confirm that all works meet design and safeguards requirements. Following this, the rehabilitated canal will be handed over to the Hirshabele State MoAI and the Water User Committee for continued operation and maintenance, with periodic post-construction monitoring to ensure sustainability.

Incident Reporting and Escalation Protocol: Any serious environmental, social, occupational health and safety, or security-related incident shall be reported by the Contractor to the FAO Supervising Engineer and the State PIU within 24 hours of occurrence. The NPCU shall notify the World Bank within 48 hours in accordance with the Environmental and Social Commitment Plan (ESCP). A Root Cause Analysis and corrective action plan shall be submitted within seven (7) days.

Operation and Maintenance Arrangements: Upon completion, the rehabilitated canal will be formally handed over to the Hirshabelle State MoAI and the Water User Committee (WUC). The WUC will conduct routine desilting before Gu season, inspect intake structures monthly, regulate division boxes to ensure equitable water distribution, and report structural concerns to the State MoAI. The State MoAI will conduct quarterly monitoring visits during the first-year post-construction.

8. Public Consultation and Disclosure

Stakeholder engagement for the Raqayga Irrigation Canal Rehabilitation Sub-Project was conducted in accordance with the S-FSRP Stakeholder Engagement Plan (SEP) and included consultations at both government and community levels. Key stakeholders engaged during the assessment process included Ministry of Agriculture and Irrigation (MoAI-FGS/NPCU), the Hirshabelle State MoAI Project Implementation Unit (PIU) and Buulaburde District authorities, village elders, the Canal Committee / Water User Committee (WUC), women, youth, internally displaced persons (IDPs), and other vulnerable groups. Consultations focused on the condition of the existing intake and pumping facilities, irrigation challenges, environmental and social risks, proposed mitigation measures, implementation arrangements, and the functioning of the project-level GM.

8.1 Consultations with Hirshabelle State MoAI & Buulaburde Local Authorities

Stakeholder identification was conducted in accordance with ESS10 through a combination of field assessments, coordination with district authorities, and community entry meetings. Stakeholders were categorized into (i) directly affected parties, including farmers within the Raqayga command area, pastoralists, water users, and households relying on the canal system; and (ii) interested parties, including Hirshabelle State Ministry of Agriculture and Irrigation (MoAI), Buulaburde District Administration, FAO, and local leaders.

Special consideration was given to vulnerable and marginalized groups, including women-headed households, youth, elderly persons, persons with disabilities, land-poor farmers, and minority clan groups. Seasonal and mobile pastoralists using the canal corridor for livestock watering were also considered in stakeholder mapping to ensure inclusive engagement.

8.2 Community Consultations in Maraaleey Village – Raqayga Canal Community

Consultations were conducted during the project preparation phase, prior to finalization of the ESMP, ensuring that stakeholder feedback informed project design and safeguard measures. Engagement methods included community meetings, focus group discussions (FGDs), and key informant interviews with elders, farmers, women, youth, and government representatives.

Information was delivered in Somali language using oral presentations, simple explanations, and interactive discussions to ensure participation of non-literate stakeholders. Visual explanations of the canal rehabilitation scope, construction impacts, and mitigation measures were used to facilitate understanding.

Consultations were held at accessible community locations in Maraaleey Village and at the Buulaburde District offices, with participation records documented and included in the ESMP annexes.

8.3 Key Issues Raised and How They Are Addressed

Participants raised priority concerns related to persistent water shortages, unequal access for downstream farmers, safety risks during excavation and construction works, local labor expectations, and clarity on GM and SEA/SH reporting channels. These concerns have been addressed through: (i) provision of safe crossing points, bypass routes, and temporary access measures to maintain mobility for farmers, children, and livestock during construction;
(ii) implementation of safety measures, including signage, barriers, and controlled work zones;(iii) clear delineation of roles and responsibilities among MoAI-FGS/NPCU, the State PIU, FAO, and the contractor; (iv) establishment of a functional project-level GM at both community and PIU levels; and (v) enforcement of Codes of Conduct, SEA/SH awareness sessions for workers and community members, and confidential, survivor-centered reporting pathways (see more details in Annex 2).

All consultation records, including signed attendance sheets, consultation forms, and participant contact details, are provided in Annexes 3 and 4 of this ESMP.

A summary of stakeholder meetings conducted during project preparation is presented in Table 5 below.

Table 5: Stakeholder Meeting Summary

Date	Stakeholder Group	Location	Purpose	Main Points Raised

13 October 2025	Hirshabelle MoAI, Hiiraan & Buulaburde e District Authorities	Buulaburde	Project prioritization and technical review	Irrigation water shortages, need for solar pumping system, coordination roles
16 October 2025	Community Representatives	Maraaleey Village	Environmental and social screening	Safety concerns, access disruptions, employment opportunities
16 October 2025	Elders, Farmers, Women, Youth, Canal Committee	Maraaleey Village	Community consultation meeting	Demand for rehabilitation, training needs, labor contribution commitments

8.4 Participation Summary and Inclusion Measures

Consultation meetings included representation from farmers, elders, women, youth, and local institutions. Participation was structured to ensure inclusive representation, with deliberate efforts made to engage women and vulnerable groups through separate discussions where necessary.

Women's participation was facilitated through culturally appropriate engagement approaches, including smaller group discussions and timing meetings to align with their availability. Youth were actively engaged given their role in agricultural labor and potential employment during construction.

Targeted inclusion measures ensured that vulnerable groups—including elderly persons, persons with disabilities, and minority clan members—were able to express concerns related to access, safety, and equitable benefit-sharing.

8.5 Integration of Stakeholder Feedback into Project Design

Stakeholder feedback directly influenced the design and implementation approach of the subproject. Community concerns regarding water shortages and limited irrigation coverage informed the prioritization of rehabilitation works and improved system capacity. Requests for safe access during construction resulted in the inclusion of temporary bypass routes, crossing points, and phased construction scheduling.

Concerns related to safety—particularly for children and livestock—led to the integration of site fencing, signage, and controlled work zones within the ESMP. Community expectations regarding employment were addressed through commitments to prioritize local labor recruitment.

Feedback on water allocation and downstream access informed the emphasis on equitable water distribution and coordination with Water User Committees (WUCs). In addition, community concerns regarding grievance handling led to the strengthening of the project-level Grievance Mechanism (GM) and awareness provisions.8.6 SEA/SH Risk Communication and Gender-Sensitive Engagement

Specific measures were undertaken to address SEA/SH risks through targeted awareness and communication. Gender-sensitive consultations were conducted, including separate discussions with women where appropriate, to ensure safe and open dialogue.

SEA/SH risks were explained to both community members and workers, including available reporting channels and survivor-centered response mechanisms. Confidential grievance channels were introduced, and emphasis was placed on non-retaliation, privacy, and referral pathways for support services.

Codes of Conduct for workers include SEA/SH provisions, and awareness sessions will continue throughout construction to reinforce acceptable behavior and reporting procedures.

8.6 Disclosure of ESMP and Information Accessibility

The draft ESMP was disclosed and discussed with key stakeholders during consultation meetings prior to finalization, allowing community input to be incorporated into the final document. Following approval, the ESMP will be disclosed at multiple levels, including:

- Buulaburde District MoAI office

- Maraaleey Village public meeting areas and Canal Committee office
- State PIU offices
- Submission to NPCU and the World Bank for wider disclosure

To ensure accessibility for non-literate stakeholders, information will be communicated through community meetings, oral briefings, and local leaders.

8.7 Communication Strategy During Construction

During implementation, a structured communication strategy will be applied to ensure continuous information flow. This will include:

- Community noticeboards at key locations
- Regular meetings with community leaders and WUCs
- Use of local communication channels (including WhatsApp groups where available)
- Public announcements prior to major construction activities
- Continuous presence of contractor and PIU focal points at site level

This approach ensures that communities are informed of construction schedules, potential disruptions, and safety measures.

8.8 Grievance Mechanism Linkage

The stakeholder engagement process is closely linked to the project Grievance Mechanism (GM), which serves as a continuous feedback and accountability tool. The GM will be introduced during consultations and reinforced throughout implementation.

Community members will be informed of how to submit grievances, including verbal, written, and anonymous options. Focal points at community and PIU levels will support grievance handling, ensuring accessibility for all groups, including non-literate stakeholders.

8.9 Issue–Response Integration Matrix

Key issues raised during consultations and corresponding responses are summarized below:

Issue Raised	**Response / Design Integration**
Water shortages and limited coverage	Rehabilitation and system capacity improvement
Safety risks during construction	Fencing, signage, controlled work zones
Access disruptions	Temporary bypass routes and phased construction
Employment expectations	Prioritization of local labor
Water allocation concerns	Strengthened WUC coordination
Need for grievance handling	Establishment of GM and awareness measures

8.10 Future Engagement Plan (Construction and O&M)

Stakeholder engagement will continue throughout construction and early operation phases. Regular consultations will be conducted at key milestones, including:

- Pre-construction mobilization
- Start of excavation works
- Periods of access disruption
- Project completion and handover

The State PIU, FAO, and contractor will be responsible for ongoing engagement, supported by Water User Committees.

8.11 Conflict-Sensitive Engagement

Given the potential for water-use conflicts, particularly between upstream and downstream users, a conflict-sensitive approach will be applied. This includes:

- Engagement through trusted community leaders and elders
- Transparent communication of water allocation arrangements
- Strengthening of WUC roles in dispute resolution
- Use of the GM to address grievances related to water access

This approach aims to prevent escalation of disputes and promote equitable resource sharing.

9. Grievance Mechanism (GM)

The Grievance Mechanism (GM) provides an accessible and transparent process for community members, workers, and other stakeholders to raise concerns related to the Raqayga Canal rehabilitation. Its objectives are to enable timely and fair resolution of issues, strengthen communication between the project and the community, identify recurring concerns that may require adjustments to project implementation, provide confidential channels for sensitive complaints including SEA/SH, and ensure that no one is excluded from project benefits due to fear of retaliation.

Separate grievance channels shall be maintained for community-level grievances, worker grievances, and SEA/SH-related complaints. SEA/SH complaints shall follow confidential referral pathways consistent with survivor-centered principles and shall not be investigated through community-based mechanisms.

9.1 GM Structure and Process

The GM follows a simple pathway that prioritizes resolving issues as close as possible to the community level. Complaints may be submitted verbally or in writing to the Water User Committee focal persons, the Hirshabelle MoAI PIU representative, FAO field staff, the contractor's environmental or OHS officer, or trusted community leaders. Each concern is recorded in the SFSRP GM register or the standard digital template used across the project.

Once a grievance is received, the responsible focal point acknowledges receipt ordinarily within 48 hours and conducts an initial assessment to determine the nature and severity of the issue. Minor matters such as noise, disturbance, or simple clarifications can often be resolved immediately at this stage. Issues requiring further investigation are reviewed jointly by the State PIU and FAO, and where necessary, the contractor. A proposed resolution is typically provided within 7 to 14 days, depending on complexity. If a matter cannot be resolved locally or if the complainant remains dissatisfied, it may be escalated to the NPCU or, for serious or unresolved cases, to the World Bank's Grievance Redress Service. After a resolution is agreed upon, the case is formally closed in the GM register. All GM tools, registers, and standard complaint templates referenced in this section are provided in *Annex 2*: Grievance Mechanism Tools and Templates

9.2 Handling of SEA/SH-Related Cases

Complaints involving gender-based violence, sexual exploitation, or harassment follow a confidential survivor-centered process. They are reported directly to the designated GBV focal point or through any confidential channel, without requiring personal details or written statements. Such cases are never handled by community leaders or recorded with identifying information. The GBV focal point immediately refers survivors to appropriate service providers and ensures their safety and dignity. All contractor workers are required to sign the Code of Conduct and undergo compulsory training on respectful behavior and SEA/SH prevention (see full referral pathway in Annex 2). Therefore, regular refresher trainings will be conducted, and sanctions including

suspension or termination are applied in cases of Code of Conduct violations, in line with contractual obligations and national law.

SEA/SH complaints will not be handled through general community-level mechanisms. They will be referred confidentially to trained focal points using survivor-centered protocols in accordance with the project SEA/SH Action Plan.

9.3 GM Accessibility and Communication

The mechanism is designed to be easily accessible. Stakeholders may submit grievances directly to WUC or PIU focal points, through phone calls or written submissions, via designated complaint boxes in public locations, or verbally during mobilization and community meetings. FAO field teams also receive complaints during supervision missions. Information on GM procedures will be shared regularly in community sessions, displayed on notice boards, and reinforced during pre-construction awareness activities. To ensure inclusivity, GM information will be disseminated in local languages, female focal points will be engaged, separate confidential channels for SEA/SH cases (including dedicated hotline numbers) will be established, targeted outreach will be conducted for women, youth, IDPs, and persons with disabilities, and GM accessibility will be monitored using sex- and vulnerability-disaggregated data.

9.4 Roles and Responsibilities

Community representatives and the Water User Committee serve as the first point of contact and help record and forward grievances. The Hirshabelle MoAI PIU maintains the official GM register, coordinates follow-up actions, and communicates outcomes. FAO provides technical guidance, participates in investigations, and verifies that corrective actions have been implemented, while the contractor addresses all grievances related to construction activities, labor issues, and worker conduct. Escalated cases are handled by the NPCU, which reports significant grievances to the World Bank in accordance with ESF requirements. Detailed procedures on grievance acknowledgment and resolution timelines, documentation of actions taken, protection against retaliation, confidential handling of sensitive and SEA/SH-related cases through survivor-centered channels, and periodic GM performance reporting using sex- and vulnerability-disaggregated data are provided in Annex 2 (GM Tools and Templates).

9.5 Monitoring, Reporting, and Improvement

The GM is monitored continuously to track the nature of complaints, their frequency, and the time taken to resolve them. The State PIU prepares monthly summaries for FAO, which are consolidated into NPCU's quarterly environmental and social performance reports to the World Bank. As implementation progresses, the project team will review the mechanism's performance and introduce improvements where needed, including additional training, enhanced community communication, or adjustments to reporting tools.

10. ESMP Implementation Budget.

The Environmental and Social Management Plan (ESMP) includes costs associated with safeguards compliance, occupational health and safety (OHS), community engagement, waste management, monitoring, and reporting. For this subproject, the ESMP budget is calculated *at 5% of the total contract price***.**

Table 6: ESMP Budget Breakdown

ESMP Component	**Description of Activities Covered**	**Estimated Cost (USD)**

1. OHS Implementation	PPE for workers, safety signage, site fencing, first-aid kits, heat-stress mitigation measures, daily toolbox talks	**3,120.27**
2. Environmental Measures	Waste management, spoil disposal, dust suppression, erosion and sediment control, spill-prevention materials	**2,339.01**
3. Social Safeguards	Community awareness sessions, GBV/SEA/SH messaging, SEA/SH focal point support, community safety measures	**1,559.62**
4. GM Management	Complaint boxes, hotline operation, GM registers, documentation, visibility and disclosure materials	**976.17**
5. Monitoring & Reporting	FAO/PIU joint monitoring missions, reporting tools, compliance verification, field follow-ups	**1,753.65**
6. Stakeholder Engagement (SEP)	Community consultations, meetings, information disclosure materials	**780.07**
7. Capacity Building	Training on ESF, OHS, LMP, SEA/SH, and GM for contractors, workers, and PIU staff	**1,171.21**
Total ESMP Cost		**11,700**

Annex 1: Environmental & Social Screening

Project Name	Somalia Food System Resilient project (SFSRP) (P177816)		
Project Description	This project, under the Somalia Food Systems Resilience Program (S-FSRP), involves the rehabilitation of the **1.70 km** of Raqayga Primary Canal and it's Auxiliary Structures in **Maraaleey** Village, **Buulaburde** District, Hirshabelle State, Start: **3.811674° E, 45.596002 ° N** End: **3.820288° E, 45.603012 ° N**, to restore critical irrigation infrastructure, improve agricultural water access, and enhance community resilience to climate variability; based on the environmental and social screening, the project carries an overall ***moderate risk*** *rating* due primarily to temporary construction-related impacts such as soil erosion, water sedimentation, and worker safety, which will be mitigated through a detailed **Environmental and Social Management Plan (ESMP).**		
Prepared By	Daud Mohamed Hussein	Date of Preparation	**16/10/2025**
Approved By		Date of Approval	

No	Question	Yes	No	E&S risk rating, - Low, Moderate, Substantial & High	Documents Required	Remarks/Comments
	ESS1: Assessment and Management of Environmental and Social Risks					
1	Does the project affect downstream water flows?	Yes		Moderate	ESMP	There will be temporary interruptions during implementation.
2	Does it require clearing of trees, pasture/browse?	Yes		Low	ESMP	Little vegetations along the canal banks.
3	Is an Environmental and/or Social Assessment required?	Yes		Moderate	ESMP	ESMP to cover OHS, waste, community safety.
4	Is there a risk of diversion of project benefits?	Yes		Moderate	SEP + GM	Possible during temporary water disruptions.
5	Is there a risk of lack of monitoring due to remoteness/insecurity?		No	Moderate	SMP	Liaising with local authorities while considering Buulaburde/ Somali's general context.
6	Will the project generate dust, noise, or air pollution?	Yes (minor)		Low	ESMP	Manage by water spraying & restricting to daytime works.
	ESS2: Labour and Working Conditions					
7	Any risk of child/forced labour?		No	Low	LMP	Community-based monitoring.

8	Does the activity include construction?	Yes		Moderate	ESMP	Works involve canal excavation.
9	Risk of lacking OHS for workers?	Yes		Moderate	OHS Plan	Toolbox talks, PPE, safe procedures.
10	Are workers provided PPE?	Yes (mandatory)		Moderate	OHS Plan	Helmets, boots, gloves, vests.
11	Are workers trained on safety/machinery?	Yes (mandatory)		Moderate	OHS Plan	Induction + toolbox training.
12	Risk of delayed/underpayment?	Yes (Possible)		Moderate	LMP	Ensure fair contracts, monitor payments.
13	Are women equally included in work opportunities?	Yes (to be ensured)		Moderate	LMP + GBV Plan	Promote equal access; monitor gender inclusion.
	ESS3: Resource Efficiency and Pollution Prevention					
14	Will the project use large volumes of materials?	Yes		Low	ESMP	Mainly soil/water for excavation.
15	Will it use water reducing community supply or water during or after construction, which will reduce the local availability of ground water and surface water?		No	Low	ESMP	River has sufficient flow; use mainly for curing/dust suppression.
16	Will it create solid/vegetation wastes?	Yes		Low	WMP	Spoil & vegetation debris cleared in/around the canal banks
17	Will it create hazardous waste (fuels, oils)?	Yes (fuels/lubricants)		Moderate	ESMP + WMP	Store in bunded areas far from canal; spill kits available.
18	Will it result in wastewater discharges?		No	Low	ESMP	Canal follow water and rainwater may disturb the excavation. Use settling pits before release.
19	Will it disturb flora/fauna?		No	Low	–	Agricultural setting; no critical habitats nearby.
20	Will it require chemical inputs (pesticides/fertilizers)?		No	Low	–	Not applicable.
21	Risk of accidental spills/leaks?	Yes		Low	ESMP	Spill prevention measures, bunding, fire extinguishers.
	ESS4: Community Health and Safety					
22	Risk of community exposure to physical hazards (open excavation)?	Yes		Moderate	ESMP	Fence off site, signage, and safe crossing points.

23	Risk of traffic/road accidents?	Yes		Low	ESMP	Limited traffic; monitor transport routes.
24	Risk of GBV/SEAH due to labor influx?	Yes		Low	GBV Action Plan	Awareness, code of conduct, reporting channels.
25	Risk of spread of communicable diseases (due to labor influx, sanitation, or hygiene issues	Yes		Moderate	ESMP	Hygiene, PPE, awareness campaigns.
26	Is an area where there has been insecurity incidents in the past 12 months?		No	Moderate	Security Management Plan	Coordinate with authorities, proportionate security.
	ESS5: Land Acquisition, Restrictions on Land Use, Resettlement					
27	Will land be acquired?		No	Low	–	Works within canal footprint
28	Will households/assets be displaced?		No	Low		no assets/households be displaced
29	Will there be restriction of access?	Yes		Moderate	ESMP	Temporary during canal excavation and rehab/reconstruction of auxiliary structures
30	Risk of loss of income, assets or livelihoods?		No	Low		No risk of assets, income loss or livelihoods.
31	Involve significant excavations, demolition, and movement of earth, flooding, or other environmental changes?	Yes		Low	ESMP	Excavation of canal bed only and
32	Will IDPs/vulnerable groups be affected?		No	Low	SEP + GM	No direct, but ensur IDPs and vulnerable groups are included in consultation and compensation processes, if impacts arise.
	ESS6: Biodiversity Conservation					
33	Will the project affect sensitive ecosystems (e.g., intact natural forests, mangroves, wetlands) or threatened species?		No	Low	–	Canal lies in agricultural setting; no critical habitats nearby.
34	Will it cause soil erosion/degradation?	Yes (minor)		Low	ESMP	
35	Affect habitats/migration routes?		No	Low	–	No wildlife corridors nearby.
36	Spread invasive species via spoil?	Yes		Low	WMP	Approved spoil disposal only.

	ESS7: Indigenous Peoples / Historically Underserved Communities					
37	Are Indigenous Peoples or historically underserved traditional communities present in or around the project area?		No	N/A	–	No such groups identified communities in Buulaburde District/ Hirshabelle State or in generally Somalia
38	Could the project affect Indigenous Peoples' rights, lands, resources, or culture?		No	N/A	–	Not applicable in Somalia context
	ESS8: Cultural Heritage					
39	Is site near archaeological/cultural heritage?		No	Low	–	None identified.
40	Potential for chance finds?	Yes	Low		Chance Find Procedure	Contractor to apply chance find protocol.
	ESS9: Financial Intermediaries					
42	Is the project implemented through financial intermediaries (banks, MFIs)?		No	N/A	–	It is a direct rehabilitation activity, not financial intermediation.
43	Will financial intermediaries on-lend funds to sub-projects?		No	N/A	–	Not applicable.
	ESS10: Stakeholder Engagement and Disclosure					
44	Risk of exclusion of women/youth in consultations?	Yes (Possible)		Moderate	SEP	Ensure equal participation.
45	Lack of grievance redress?		No	Low	GM	Functional GM in place.
46	Lack of government consultation?	Yes (generally weak)		Moderate	SEP	Continuous engagement with local authorities.
47	Historical exclusion of disabled persons?	Yes (Possible)		Moderate	SEP	Ensure accessibility & inclusion.
48	Lack of social baseline data?	Yes		Moderate	ESMF	Use rapid participatory appraisal + FAO data.
	EHS Screening (Environmental, Health & Safety)					
49	Does intervention cause dust/noise/air pollution?	Yes (minor)		Low	ESMP	Water spraying is required where necessary.
50	Large volumes of construction materials?	Yes		Low	ESMP	Locally sourced where possible.

51	Solid waste properly managed?	Yes		Low	WMP	Contractor to implement WMP.
52	Are chemicals (fuel/lube) properly handled?	Yes		Moderate	ESMP	Bunded storage, away from the canal.
53	Wastewater discharge risks?	Yes (rainwater)		Low	ESMP	Settling pits before release.
54	Excavations/tunnels?	Yes		Low	ESMP	Open canal excavation, control spoil & restore canal banks.
55	Risk of over-exertion?	Yes		Moderate	OHS Plan	Task rotation, rest breaks, hydration.
56	Slips & falls risk?	Yes		Moderate	OHS Plan	Safe walkways, signage.
57	PPE availability?	Yes		Moderate	OHS Plan	Enforced PPE use, monitoring.
58	Workers trained in OHS?	Yes		Moderate	OHS Plan	Toolbox talks, induction.
59	High-risk activities?	Yes		Moderate	OHS Plan	Excavation, machinery, working near water; mitigation required.
60	Traffic Risks?	Yes		Moderate	OHS Plan	Temporary – Community (pedestrian), workers and trucks will require safe paths near rehab/reconstructing activities during implementation.

E&S Screening	**Results and Recommendation**		
Screening Results: Summary of Critical Risks and Impacts Identified	**Risk/Impact**	**Individual Risk/ Impact Rating**	**Mitigation** At the end of the screen process, tabulate the mitigation measures in an ESMP Format (see below)
	Moderate	**C**	**Summary of Screening Result Justification**
Is Additional Assessment Necessary? Evaluate the Risks/Impacts and reflect on options (see below)	**Screening Result**		
	- Environmental and/or Social Assessment required where project is undertaken - Water interruptions during excavation and rehab/reconstruction of auxiliary structures - Soil Erosion and Degradation - Community Health and Safety - Worker Health and Safety (OHS)		Mitigation measures will follow **CERC ESMF**: - SEP - GM - SMP - LMP - OHS - SMP - GBV Action Plan

	- Noise from construction machinery and culvert construction may disturb nearby farmers and workers and prolonged exposure could cause hearing issues for laborers - Gender/social exclusion risks	
	No ESIA is required.	
		This project was Risk-rated as Moderate
	No ESIA & full ESMP is required	**Simplified ESMP will be needed**

Annex 2: Grievance Mechanism (GM) Tools and Templates

This annex summary presents the grievance process, reporting channels, and key contacts for the Raqayga Irrigation Canal Rehabilitation under S-FSRP. Stakeholders may submit complaints at any time, anonymously or openly. The GM flows these steps:

- ***Step 1 – Submit a Complaint (Any Channel)***: Complaints may be submitted verbally or in writing through community leaders, WUC focal persons, the contractor, FAO field officers, the State PIU, or the toll-free numbers. SEA/SH cases bypass local structures and go directly to the PIU GBV Focal Point or FAO/OIG.
- ***Step 2 – Register and Acknowledge***: The Hirshabelle State PIU registers all complaints and acknowledges receipt (normally within 48 hours). Initial screening determines whether the issue can be resolved immediately or requires escalation.
- ***Step 3 – Assess and Resolve***: The State PIU, FAO, and contractor collaborate to investigate and resolve issues—typically within 7–14 days. Technical issues may be escalated to NPCU if needed.
- ***Step 4 – Close or Escalate:*** If a resolution is accepted, the case is closed. If the complainant is not satisfied, the grievance may be escalated to NPCU or FAO Compliance, and ultimately to FAO OIG or the World Bank's GRS for serious cases.

Table 8: GM Contact List (Project, State, National & FAO/OIG)

Table 7: GM Contact List (Project, State, National & FAO/OIG)

Level	Contact Person / Office	Contact Details	Notes
Project Level	WUC / Community Focal Points	Local contacts	First point of intake
State PIU – Hirshabelle MoAI	Social Safeguards & GBV Team	**Email:** GM@fsrp.gov.so	State-level GM & GBV focal points
National GBV	National GBV Specialist	gbv@fsrp.gov.so	National-level GBV
National PCU – MoAI-FGS	National FSRP GM Secretariat	**Hotlines:** 570 / 540 (toll-free)	National escalation channels
FAO Compliance Unit	Ibrahim Bare, AAP & Compliance Officer	Ibrahim.bare@fao.org	Responsible for FAO Somalia project accountability
	Head of Compliance, Risk Management, Accountability	Bakhta.Boualam@fao.org	Escalation for sensitive cases
FAO Somalia Complaint Hotline	FAO Feedback Hotline	+252 633 550 120	Phone/SMS option
FAO OIG – Independent Oversight	Office of the Inspector General	**Online:** fao.ethicspoint.com **Email:** Investigations-hotline@fao.org / inspector-general-office@fao.org **Mail:** FAO OIG, Rome	Serious, confidential, or unresolved cases

Table 8: GM Intake/register

GM Code	Date Received	Complainant (Optional)	Location	Issue Summary	Category	Action Required	Responsible Unit	Status	Date Closed	Notes

SEA/SH Survivor-Centered Referral Pathway

This pathway ensures survivors can report safely and confidentially, without fear of retaliation or exposure. No personal details or written statements are required.

1. *Safe and Confidential Reporting Options*

Survivors may report directly to:

- State PIU GBV Specialist (confidential inbox): GM@fsrp.gov.so and gbv@fsrp.gov.so
- FAO Compliance Unit**:** Ibrahim.bare@fao.org
- FAO OIG (independent and confidential): fao.ethicspoint.com
- FAO OIG email: Investigations-hotline@fao.org

Note: SEA/SH cases **must not** be reported through community leaders or recorded in public registers.

2. *Immediate Safety and Support*

The GBV focal point ensures:

- Immediate safety assessment
- Confidential conversation
- No personal identification recorded
- Referral to appropriate local service providers (health, psychosocial, legal, and case management services)
- SEA/SH cases are handled separately from the general GM and are not mediated with alleged perpetrators

3. *Coordination and Follow-Up*

FAO and the State PIU coordinate discreetly to ensure the survivor receives assistance.
No project staff investigate SEA/SH cases — they are treated strictly through survivor support and professional services.

4*. Accountability Measures*

The contractor must:

- Remove any implicated workers from the project site pending investigation
- Apply contractual sanctions, including termination, in line with the Code of Conduct and applicable national law
- Report SEA/SH allegations promptly through confidential channels to the PIU and the designated GBV focal point
- Retrain all personnel on the Code of Conduct and SEA/SH prevention, including reinforcement during regular toolbox meetings
- Ensure non-retaliation against complainants and witnesses at all times

11. Annex 3: Community Consultation Minutes and Attendance

Public Consultation Documentation Template/Form – Completed

1. **Consultation Date**: *16/10/2025*
2. **Sub-project Type:** Rehabilitation of Canal
3. **Specific Name of the Project:** *Rehabilitation of Raqayga Canal*
4. **Place of Consultation**: **State**: *Hirshabelle state,* **Region:** *Hiraan,* **District:** *Buulaburde*, **Village (Specific site):** *Maraaleey Village*
5. **Purpose of Consultation:** The consultation was conducted to engage the Raqayga 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:*00 A.m.*

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

8. **Additional Issues Raised During Consultation**
    - Lack of farm equipment/tools/machineries for improved productivity.
    - Need for certified seeds to increase agricultural production/yields.
    - Request for canal committee training on water management and operation & maintenance (O&M).
    - Provision of pesticides and fertilizers and to train farmers on their applications;

Issue raised	*Name of participant who raised it*	*Response given*	*Name of Respondent and Institution where Officer comes from*
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.	Cali Cabdi Haji Maxamed Xuseen Osman Hussein Ahmed Gurre	Canal rehabilitation is urgent and strongly supported by the community.	FAO Somalia – Supervising Engineer (S-FSRP), in coordination with Hirshabelle State MoAI PIU
Irrigation coverage has reduced and farmland productivity has declined due to both sedimentation and seasonal flooding.	Xasan Maxamed Jimcale Nuur Osman Guurey	The community agreed to cooperate with FAO/FSRP team and contractors during implementation and post-implementation.	Hirshabelle State MoAI PIU – Environmental & Social Focal Point, with technical oversight from FAO Somalia
Cross-culverts, intakes and division boxes have deteriorated; community requested their rehabilitation.	Munno Aden Maxamed Fadumo Maxamed Muse Gure	Restore the original dimensions of the canal to maximize water flow and ensure downstream users benefit.	FAO Somalia – Infrastructure Engineer (S-FSRP), with coordination from Hirshabelle MoAI PIU and oversight from NPCU (MoAI-FGS)

Cross-culverts, intakes and division boxes have deteriorated; community requested their rehabilitation.	Munno Aden Maxamed Fadumo Maxamed Hasan Osman Gure	The community will contribute labor and support through the canal committee during rehabilitation works and to ensure O&M after rehabilitation.	FAO Somalia – Infrastructure/Supervising Engineer (S-FSRP), in coordination with Hirshabelle MoAI PIU and oversight from NPCU (MoAI-FGS)
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	Abukar Elmi Xussein Amino Muse Gure	Contractor will schedule works in phases, notify communities in advance of any major disruption, and safeguard anything arises during works.	FAO Somalia – Technical Irrigation Engineer (S-FSRP), with coordination from Hirshabelle MoAI PIU and safeguards oversight by NPCU (MoAI-FGS)
Construction of elevated tanks for drip irrigation (there are boreholes available intended to use during winter time when river water depletion occurs)	Abdilahi Abdi Shirwa Ceeble Maxamed Jimcale	FAO/FSRP to ensure timely communication and use of a Grievance Mechanism (GM) to address community concerns.	Hirshabelle State MoAI PIU – Irrigation Officer, with technical validation by FAO Somalia and regulatory oversight by Federal MoECC

11. Disagreed Agenda/issues including Reasons for

- No major disagreements were recorded. The community emphasized to prioritize the rehabilitation of the canal.

12. Consultation Ended Time: *2:07 p.m.*

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

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

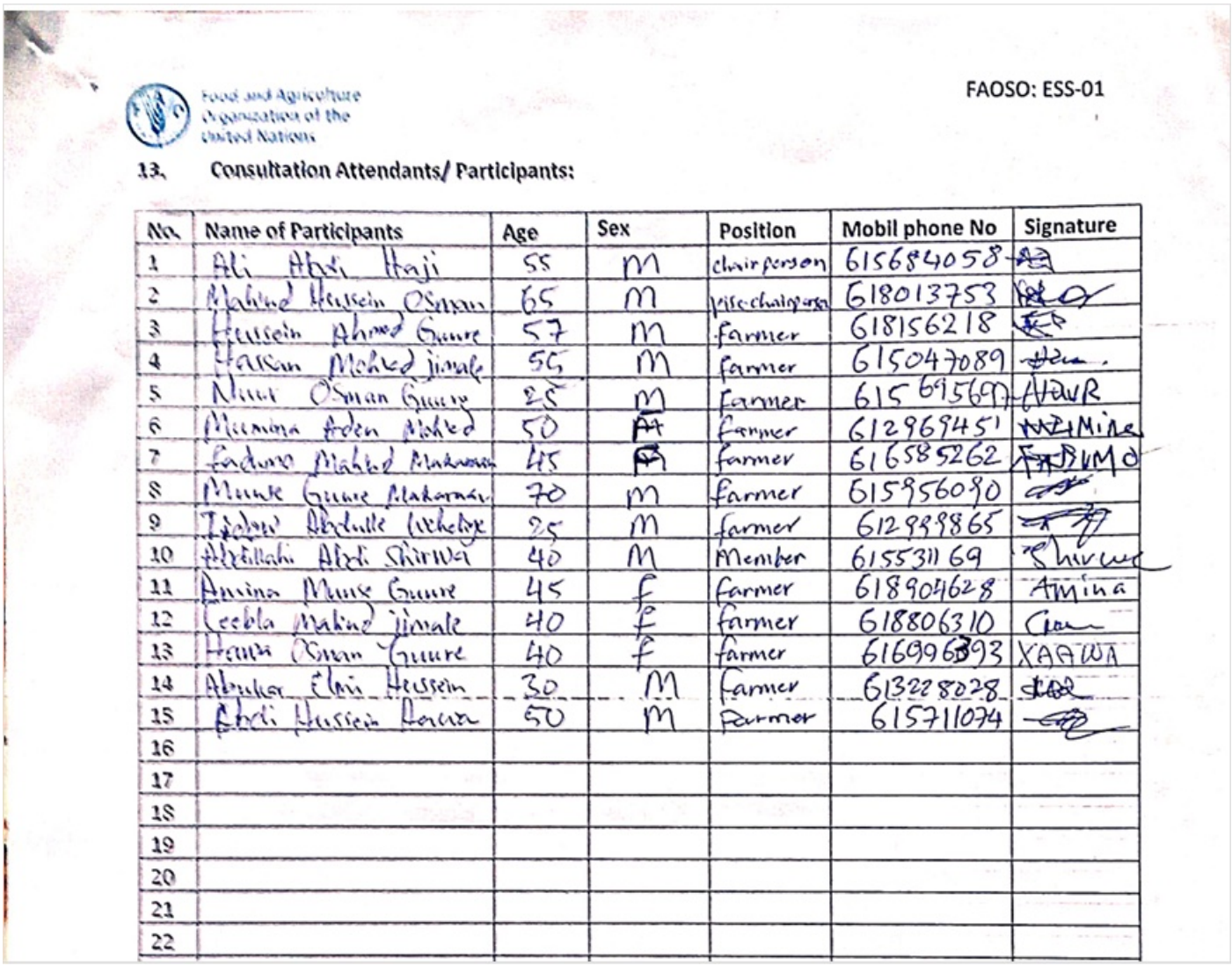
Subproject's (IP) Seal: (optional) _____

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	Buulaburde	Maraaley	16/10/2025	15	5	10	1. Deteriorated dimensions of the canal (reduced depth, bank breaches, accumulation of silt at the bed). 3. Reduced conveyance	1. Community supported urgent intervention and rehabilitation of the canal 2. Agreed to cooperate with FAO/FSRP/contractors during works. 3. Restore canal dimensions and slope	(Full names, phone numbers, and signatures attached in Annex X)

							capacity of the canal. 3. Need to rehabilitate existing cross culverts, 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	for water flow to downstream farms. 4. Community will assist in O&M after rehabilitation for sustainable use of the water. 5. Contractor to phase works, provide advance notification, and safeguard vulnerable assets.	

Table 3: Consultation attandants/Participants



Food and Agriculture Organization of the United Nations

FAOSO: ESS-01

13. Consultation Attendants/ Participants:

No.	Name of Participants	Age	Sex	Position	Mobil phone No	Signature
1	Ali Abdi Haji	55	M	chairperson	615684058	
2	Mahind Hussein Osman	65	M	vice-chairperson	618013753	
3	Hussein Ahmed Gaure	57	M	farmer	618156218	
4	Hassan Mohed jimale	55	M	farmer	615047089	
5	Nimo Osman Gaure	25	M	farmer	615695697	
6	Mumina Aden Mohed	50	F	farmer	612969451	
7	Fadumo Mohed Mahamud	45	F	farmer	616585262	
8	Muse Gaure Mahamud	70	M	farmer	615956090	
9	Idow Abdulle Ibrahim	25	M	farmer	612999865	
10	Abdillahi Abdi Shirwa	40	M	Member	61553169	
11	Amina Muse Gaure	45	F	farmer	618904628	Amina
12	Leebla Mahind jimale	40	F	farmer	618806310	
13	Hamda Osman Gaure	40	F	farmer	616996393	XAAWA
14	Abuker Elmi Hussein	30	M	farmer	613228028	
15	Abdi Hussein Hassan	50	M	farmer	615711074	
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12. Annex 4: Buulaburde District Authorities Consultation

1. **Consultation Dates**: *13/10/2025,*
2. **Sub-project Types:** Irrigation Canal Rehabilitation Works
3. **Specific Name of the Project:** FSRP
4. **Place of Consultation**: **State**: *Hirshabelle,* **Regions**: *Hiiran*, **District**: *Buulaburde*, **Village** (Specific site): *District Office*

Purpose of Consultation: The consultation was organized to engage the Buulaburde District Administration regarding the planned canal rehabilitation activities under the Somalia Food Systems Resilience Program (SFSRP). The meeting aimed to:

- Discuss the current condition of irrigation canals, including flood-prone sections, and deteriorated canal segments.
- Share district-level knowledge on main river flow paths, and canal command areas affected by flooding and sedimentation.
- Align district priorities with those identified by the Hirshabelle State MoAI, FSRP, and technical teams for canals.
- Confirm coordination, facilitation, and security support roles of the district administration during assessment and implementation.
- Identify institutional concerns, environmental and social risks, and safeguard considerations in line with the World Bank Environmental and Social Standards (ESS).

5. **Consultation Time Started** 10:15

6. **Consultation Method:** *Interviewing and discussion* (**group discussions and individual interviews**)

7. Consultation Agendas/ Issues:

- Poor condition of several irrigation canals**,** including sedimentation, bank erosion, and damaged intake points resulting from repeated flooding.
- Identification of main river flow paths, and priority canals requiring urgent rehabilitation.
- The interlinkage between embankment protection and canal functionality**,** emphasizing that canal rehabilitation is essential to restore agricultural production following flood control works.
- Coordination mechanisms between the Buulaburde District Administration**,** Hirshabelle State MoAI**,** FAO/S-FSRP, and contractors.

8. Additional Issues Raised During Consultation

- District authorities expressed appreciation to FAO and the Ministry of Agriculture and Irrigation for their sustained support to Buulaburde in responding to deterioration of irrigation canals over the past years.
- Continued flooding and the deterioration of irrigation canals were identified as major threats to livelihoods, food security, and local economic stability.
- Strong emphasis was placed on the need for integrated solutions, combining durable irrigation canal rehabilitation with canal restoration works and improved intake structures to enhance flow control and reduce flood impacts.

9. Agreed Agendas/ Issues

- The Buulaburde District Administration welcomed the proposed irrigation canal rehabilitation and restoration sub-projects and confirmed their alignment with district development priorities.
- District authorities committed to liaising closely with the FSRP team, FAO, the State PIU, and the NPCU, and to facilitating all required administrative support, coordination, and site access arrangements, particularly for contractors.

- The district shared information on priority irrigation canal failures and damaged sections, major floodwater flow pathways, and severely degraded canal reaches, confirming that district-identified sites are consistent with those prioritized by the Ministry.
- All parties agreed to maintain close coordination throughout assessment, construction, and post-rehabilitation phases.

10. Disagreed Agenda/issues including Reasons for Disagreement

- No major disagreements recorded

11. **Consultation Ended Time**: *15:30*

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

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

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	Buulaburde	Hiiraan Regional Office	13/10/2025	8	0	8	• Irrigation canal failures / canal breaches • Irrigation canal deterioration • Floodwater flow paths / major river flow paths • Coordination and stakeholder collaboration	Flooding, embankment breaches, canal deterioration, river flow paths, coordination	Find full names, Phone numbers below

Attended Participants List:

Food and Agriculture Organization of the United Nations

Buloburde Local District admin office (Mayor office)

FAOSO: ESS-01

13. **Consultation Attendants/ Participants:**

No.	Name of Participants	Age	Sex	Position	Mobil phone No	Signature
1	Abdirahman Ali [illegible]	30	Male	Mayor	0615634035	[illegible]
2	Hassan Mohamed Abdi	31	Male	D.C	0615583118	[illegible]
3	[illegible] Jamac Mosed	55	Male	iskudurmo	061553116?	[illegible]
4	Mohamed Ali Abdulle			D.	0615255132	[illegible]
5	Samadeh Abdi Mohamed	26	Male	Eng/FAO	061-6263126	[illegible]
6	Ali Abdi Abdullahi	29	male	Eng/Moi	0615270791	[illegible]
7	Abdirahman Nour Ahmed	38	Male	Eng/FAO	0611215869	[illegible]
8	Ahmed muse Mohamed	30	male	Eng/Hirsh	0615927287	[illegible]
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13. Annex 5: Government Land Ownership Confirmation

Land Ownership and Confirmation Letter B

14. Annex 6: Drawings & Sections Layouts

Raqayga canal section and Culvert.pc

Raqayga Devision box.pdf

Raqayga profiles.pdf

Raqayga structural design.pdf

15. Annex 7: Stakeholder Consultation Photos