Enhancing Community Resilience and Local Governance Project Phase II (ECRP II)

MINISTRY OF FINANCE AND PLANNING (MoFP)

UPDATED GENERIC ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (G-ESMP)

FOR

Disaster Risk management Measures for Fashoda County

[Upgrading of Dikes in Kodok Town, Kodok Internal Drainage Rehabilitation, and Kodok Gated Culverts and Wing Walls installation]

JULY 2026

DOCUMENT CONTROL

DOCUMENT TITLE: Environmental and **S**ocial **M**anagement **P**lan (ESMP) for the DRM Infrastructure Upgrading subprojects in Kodok Town, Fashoda County (Kodok Dike Upgrading, Kodok Internal Drainage Rehabilitation, and Kodok Gated Culverts and Wing Walls), South Sudan under the Enhancing Community Resilience and Local Governance Project (ECRP) II (P177093).

TYPE OF PROJECT: Disaster Risk Management Infrastructure Upgrading subprojects under ECRP II Component 1.2 covering two administrative subprojects per the DRM 2026 tracker (Dike upgrading, Gated culvert installation) comprising three engineering components in Kodok Town, Fashoda County: 14.6 km Community Immediate Flood Mitigation Measures (IFMM) Dike Upgrading, 8km Internal Drainage Rehabilitation and 2 gated culvert points (each with 6 barrels of 1.2 m by 1.2 m) with 10 wing walls. Subproject. Each gated culvert comprises 6 barrels of 1.2 m by 1.2 m, fitted with 12 flap gates fabricated from 12 mm steel plate to dimensions of 1200 mm by 1200 mm, together with 10 reinforced concrete wing walls along the main drainage channel.

The dike cross-section is designed with a minimum 4 m crest width and a minimum 10 m base width, with side slopes of 1:1 on the dry side and 1:2 on the west side. The dike height is approximately 2 m on high ground and 3 m on low ground, with fill sourced from the authorised Lemo and Debor borrow areas under the October 2024 ECRP/ESS-F007 record. (ESS5 — Land Acquisition, Restrictions on Land Use and Involuntary Resettlement applies; voluntary land donation documented under ECRP/ESS-F007).

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TABLE OF CONTENTS

LIST OF **TABLES**

LIST OF FIGURES

EXECUTIVE SUMMARY

The Environmental and Social Management Plan (ESMP) has been prepared for the Immediate Flood Mitigation Measures (IFMM) dike upgrading and drainage system works in Kodok Town, Fashoda County, Upper Nile State, under the Enhancing Community Resilience and Local Governance Project Phase II (ECRP II). The project, funded by the World Bank and implemented by the International Organization for Migration (IOM) in collaboration with the Government of South Sudan, seeks to strengthen community resilience, improve access to services, and enhance disaster risk management capacity in flood-prone areas.

The primary objective of the proposed subprojects is to reduce recurrent flood risks that have historically affected Kodok Town and surrounding communities, resulting in displacement, loss of livelihoods, and damage to infrastructure. Specifically, the project aims to protect lives and property, improve food security and access to safe water, support local economic development, and promote sustainable and inclusive community-based approaches to flood management. The intervention is expected to benefit approximately 46,700 people across Fashoda County.

The works will be implemented in Kodok Town, a low-lying settlement located along the White Nile and highly vulnerable to seasonal flooding. The project comprises three main components: upgrading approximately 14.6 kilometres of the existing IFMM dike, rehabilitating about 8 kilometres of internal drainage channels, and constructing two gated culvert systems with associated wing walls to regulate water flow and improve drainage efficiency. These infrastructure investments build on earlier flood protection efforts and are designed using locally available materials combined with nature-based solutions to enhance long-term sustainability.

Baseline assessments indicate that the project area is dominated by floodplain ecosystems, including herbaceous vegetation, wetlands, and riverine environments, with livelihoods centred on agro-pastoralism, fishing, and small-scale trade. Although biodiversity screening did not identify overlaps with protected areas, the broader landscape supports species of conservation importance. The socio-economic context is characterised by a mix of long-term residents, returnees, and vulnerable groups such as women, the elderly, and persons with disabilities, all of whom are directly affected by flooding and stand to benefit from the proposed interventions.

The ESMP identifies a range of environmental and social impacts associated with the project. On the positive side, the subprojects will significantly reduce flood risk, enhance protection of critical infrastructure such as health facilities and water systems, improve food security through increased access to cultivable land, and create employment opportunities during construction. Conversely, potential adverse impacts include temporary air and noise pollution, soil erosion, vegetation disturbance, impacts on aquatic ecosystems, occupational health and safety risks, and social concerns such as community safety, gender-based violence, and potential conflict over resources. However, these impacts are largely site-specific, short-term, and manageable.

To address these risks, the ESMP adopts a mitigation hierarchy approach that prioritizes the avoidance of impacts through improved design and planning, followed by minimization through pollution control measures, erosion prevention, and operational procedures, and where necessary, compensation and restoration measures. Specific mitigation actions include dust suppression, proper waste management using the reduce–reuse–recycle principle, provision of personal protective equipment and occupational health and safety training, biodiversity protection and site rehabilitation, gender mainstreaming, and continuous monitoring and supervision. Capacity building and awareness-raising activities are also emphasized to strengthen local management of the infrastructure and ensure sustainability.

Stakeholder engagement has been a central component of the ESMP preparation process. A total of approximately 190 stakeholders were consulted across different administrative levels, including community members, traditional leaders, government officials, and vulnerable groups. These consultations highlighted strong community support for the project, with stakeholders emphasizing the urgency of completing the works before the onset of the flood season, the importance of local employment opportunities, and the need for continued participation and transparency. A Stakeholder Engagement Plan and Grievance Redress Mechanism have been developed to ensure ongoing communication, accountability, and timely resolution of concerns throughout the project lifecycle.

The ESMP is aligned with the World Bank Environmental and Social Framework and relevant national legislation of South Sudan, including requirements related to land use, environmental protection, labour management, and stakeholder engagement. Environmental and social screening classified the project as having moderate risk, indicating that impacts are limited in scope and can be effectively managed through appropriate mitigation measures.

In conclusion, the ESMP demonstrates that the proposed dike upgrading and drainage works in Kodok Town are environmentally and socially viable. The anticipated benefits, particularly in terms of flood protection, improved livelihoods, and enhanced resilience, outweigh the potential negative impacts. With proper implementation of the mitigation measures, continuous stakeholder engagement, and adherence to established environmental and social standards, the project is expected to deliver sustainable and inclusive development outcomes for the communities of Fashoda County.

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ACRONYMS AND ABBREVIATIONS

BDCs	Boma Development Committee
CASEVAC	Casualty Evacuation
CDRMC	County Disaster Risk Management Committee
C-ESMP	Construction Environmental and Social Management Plan
CRRC	Contingency Emergency Response Component
CRS	Coordinate Reference System
DRC	Danish Refugee Council
DRM	Disaster Risk Management
E&S	Environmental and Social Safeguards
ECRP II	Enhancing Community Resilience and Local Governance Project Phase II
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standards
GBV/SEA	Gender Based Violence/ Sexual Exploitation and Abuse
GIIP	Good International Industry Practice
GoSS	Government of South Sudan
GRM	Grievance Redress Mechanism
IBAT	Integrated Biodiversity Assessment Tool
IDPs	Internally Displaced Persons
IFMM	Immediate Flood Mitigation Measures
IOM	International Organization for Migration of the United Nations

IUCN	International Union for Conservation of Nature and Natural Resources
LGB	Local Government Board
LMP	Labor Management Procedures
MoFP	Ministry of Finance and Planning
MoGCSW	Ministry of Gender Child and Social Welfare
MSF	Med Sans Frontiers
O&M	Operation and Maintenance
OHS	Occupational Health and Safety
OMC	Operation and Maintenance Committee
PAPs	Project Affected Persons
PDO	Project Development Objectives
PDRMC	Payam Disaster Risk Management Committee
PHCU	Primary Health Care Unit
PMU	Project Management Unit
PPE	Personal Protective Equipment
SEP	Stakeholder Engagement Plan
SMoLG	State Ministry of Local Government
SOPs	Standard Operating Procedures
UNHAS	United Nations Humanitarian Air Service
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations International Children's Education Fund
UNMAS	United Nations Mine Action in South Sudan
UNMISS	United Nations Mission in South Sudan
UXOs	Unexploded Ordinance
WFP	World Food Program
WHO	World Health Organization

CHAPTER 1

BACKGROUND AND INTRODUCTION

Enhancing Community Resilience and Local Governance Project Phase II (ECRP II)

The Enhancing Community Resilience and Local Governance Project Phase II (ECRP II) is funded by the World Bank and managed by the Ministry of Finance and Planning and the Local Government Board (LGB), with the International Organization for Migration (IOM) as the project's implementing partner in 17 counties. The project seeks to strengthen the capacity of local governance and community-level institutions and to build infrastructure to address gaps in basic services in 17 counties across six states in South Sudan. Since implementation began, IOM has engaged selected communities in participatory planning processes at the county, payam, and boma levels. These processes mobilize and empower communities to convey their needs, analyse challenges they are facing, propose creative solutions to those challenges, and vocalize their preferences to promote and shape community development. ECRP II works to operationalize South Sudan's Local Government Act by supporting the functioning of Boma Development Committees (BDCs) and Payam Development Committees (PDCs) as sustainable drivers of community development. The overall Project Development Objective (PDO) is to improve access to services, strengthen flood resilience, and enhance institutional capacity for local service delivery and integrated disaster risk management at the national and sub-national levels.

The project consists of the following components:

Component 1: Infrastructure and Services for Community Resilience

The component supports eligible investments in community-level infrastructure and services and physical investments for flood risk reduction.

Subcomponent 1.1: Community Infrastructure and Services.

This subcomponent supports eligible investments in community-level infrastructure and services in selected vulnerable areas, including additional support for refugee hosting counties, through a participatory planning process.

Subcomponent 1.2: Flood Risk Reduction Investments:

This subcomponent will finance physical infrastructure for flood risk reduction and related technical assessments including feasibility studies, detailed engineering designs, and safeguards assessments. The appropriate solutions and physical investments for flood risk reduction will be determined based on detailed studies considering the flood hazard, exposure of people, and assets, as well as the vulnerabilities of at-risk communities in the target counties. The DRM 2026 portfolio under Subcomponent 1.2 covers six counties: Rubkona, Fashoda, Pibor, Duk, Twic East, and Bor.

Subcomponent 1.3: Operations and Maintenance (O&M**)**.
The ECRP II envisions implementing a variety of O&M approaches based on the type of infrastructure, the socioeconomic character of project communities, and the demographic features of locations.

Component 2. Institution Strengthening
The component supports the participatory planning process for the identification of subprojects to be financed under Component 1, monitoring of the construction of subprojects, as well as capacity building of relevant national and local institutions.

Subcomponent 2.1. Community Institution Strengthening.
This subcomponent will build on the activities undertaken under Enhancing Community Resilience and Local Governance Project Phase I (ECRP I), albeit recalibrated based on lessons learned.

Subcomponent 2.2. County Government Strengthening.
This subcomponent will support county governments to fulfil their responsibilities for local service delivery and disaster risk management.

Subcomponent 2.3 National and State Government Strengthening.
This sub-component will support the capacity building of the Project Management Unit (PMU), the Ministry of Finance and Planning (MoFP), and the LGB (based on an assessment of their technical competencies) in the areas of Financial Management (FM), procurement, project planning, Monitoring and Evaluation (M&E), O&M planning and execution community engagement methods, and Environmental and Social (E&S) standards.

Component 3: Project Management and Learning
This component will support (a) project management including technical planning, Financial Management, procurement, E&S risk management, and communications; (b) project monitoring which includes a geo-enabled monitoring system and beneficiary feedback/grievance redress mechanism (GRM) which will be accessible by refugees, IDPs and host communities; (c) impact evaluation; (d) continuous conflict analysis; (e) just-in-time studies, as needs arise; (f) financing for a Third-Party Monitoring (TPM) agent; and (g) PMU operating costs.

Component 4: Contingency Emergency Response
A Contingency Emergency Response Component (CERC), initially without a budget allocation, will allow for the rapid reallocation of project funds in the event of natural or man-made crises and major disease outbreaks of public health importance during the implementation of the project, following the World Bank Investment Project Financing (IPF) Policy, paragraphs 12 (Projects in Situations of Urgent Need of

Assistance or Capacity Constraints). Implementation modality and eligible activities to be financed under the CERC will be described in a separate CERC Project Implementation Manual.

Project Design Principles

The project design is premised on the following key principles:

Principle 1: Engagement in early recovery and advancing the humanitarian-development nexus to address service needs and strengthen institutions for resilient and sustainable development.

Principle 2: Coordination and building on ongoing and planned government/partner investments through working in synergy with other complementary development initiatives, led by the government or other partners to maximize on project investment.

Principle 3: Investment in conflict-sensitivity approaches to ensure the project promotes inter-communal cohesion, including engagement in thematic and geographically themed studies two to four times per year, and assessing the interaction between subprojects interventions and different conflict and social dynamics.

Principle 4: Focus on sustainability and community-centric development approaches, including promoting climate-resilient designs and building infrastructure that are appropriate for end users to withstand, respond to, and recover rapidly from the negative consequences of climate hazards. Designs and building infrastructure consider the use of locally available materials, parts, and labor in dike construction and maintenance.

Principle 5: Ensure appropriate evidence-based O&M approaches are deployed in project communities taking demographic, socio-economic, and subprojects type factors into consideration.

Principle 7: Inclusion of marginalized groups by being deliberate about gender, age, disability, and displacement status representation across all areas of project activities, for example, through the active participation of women in BDCs and PDCs, as well as youth and others in ongoing project activity.

Principle 8: Reduce South Sudan's vulnerability to flooding and climate-related disasters by addressing the root causes of climate change through the provision of physical infrastructure (levees, embankments, stormwater drainage, and green infrastructure solutions) to protect communities from floods and improve government technical capacities for flood and disaster risk management.

DRM INFRASTRUCTURE UPGRADING SUBPROJECTS IN KODOK TOWN, FASHODA COUNTY *(Kodok IFMM Dike Upgrading, Kodok Internal Drainage Rehabilitation, and Kodok Gated Culverts and Wing Walls, Kodok Town, Fashoda County, Upper Nile State)*

The proposed subprojects have been subjected to ES Screening and assessment leading to their subsequent classification as subprojects with potential ***moderate*** ES risks. As such, in a bid to provide for the sound management of environmental and social risks, this Environmental and Social Management Plan has been developed to guide the management of identified environmental and social risks during the implementation of the proposed subprojects.

In compliance with the project Environmental and Social Management Framework (ESMF), all proposed subprojects should be subjected to the environmental and social screening process to determine their environmental and social risks and the corresponding management risk management strategy to be adopted. The screening results show that the subprojects have ***moderate*** environmental and social risks and impacts resulting from the proposed works. However, these impacts are site specific and are limited in scope and can be readily addressed through mitigation measures outlined in this Environmental and Social Management Plan (ESMP).

This ESMP is therefore prepared to set out mitigation, monitoring, and institutional measures to be taken during implementation to avoid adverse environmental and social impacts, offset them, or reduce them to acceptable levels whilst enhancing the positive impacts.

CHAPTER 2

SUBPROJECTS DESCRIPTION

(i) Subproject's location

The proposed subprojects are located in Kodok Town, Kodok Town Payam, Fashoda County, Upper Nile State, see Figure 1 below. Fashoda County lies on the western edge of Upper Nile State and is bordered by Manyo County to the north, Melut County to the north-east, Baliet County to the east, Malakal County to the south-west, and the international boundary with Sudan to the west. Kodok Town is the county headquarters and serves as the administrative, commercial and river port hub. Access is by river along the White Nile throughout the year, and by feeder road during the dry season; during the rainy season, river transport remains the principal means of access for goods and personnel.

Kodok Town has been periodically exposed to seasonal flooding from the Kodok River and the White Nile, with the most severe events recorded between 2021 and 2024 leaving the town partially inundated and disrupting movement, livelihoods and access to basic services. Existing community infrastructure within Kodok Town includes the County Headquarters offices, the Kodok Port and associated dock, the Seven Days School, Kodok hospital, government compounds, the UNMISS compound, residential clusters, and an unofficial cemetery in the southern part of the town. The proposed works are designed to protect these assets and the residents of Kodok Town.

Climate change is expected to increase the frequency and intensity of extreme rainfall and flooding in the region, and the design of the works reflects this. The dike and drainage are sized against the recent severe flood seasons rather than a long-term historical average: the hydraulic design adopts the 2019 peak flood as the design event and uses the 2022 wet-season rainfall dataset, both of which represent the kind of high-flow years that are becoming more common. In line with Project Design Principles 4 and 8, the works are climate-resilient by design, the dike is set above the modelled peak flood level, the gated culverts and rehabilitated drainage allow floodwater to recover within twenty-four hours rather than impounding it, and the non-structural watershed and emergency-preparedness measures in this ESMP provide further resilience as flood conditions change. The design assumptions are to be reviewed against updated flood records over the operation period so that the protection remains adequate under a changing climate.

The 2026 DRM Infrastructure Upgrading works are anchored at Kodok Town and serve a wider catchment of Kodok Town Payam and surrounding payams. The portfolio comprises two administrative subprojects recorded on the DRM 2026 Subprojects Tracker maintained by IOM: R28 Dike upgrading (the Kodok IFMM Dike Upgrading), and R29 Gated culvert installation (covering the Kodok Internal Drainage Rehabilitation and the Kodok Gated Culverts and Wing Walls). Both administrative subprojects have PMU detailed design clearance dated 13 April 2026.

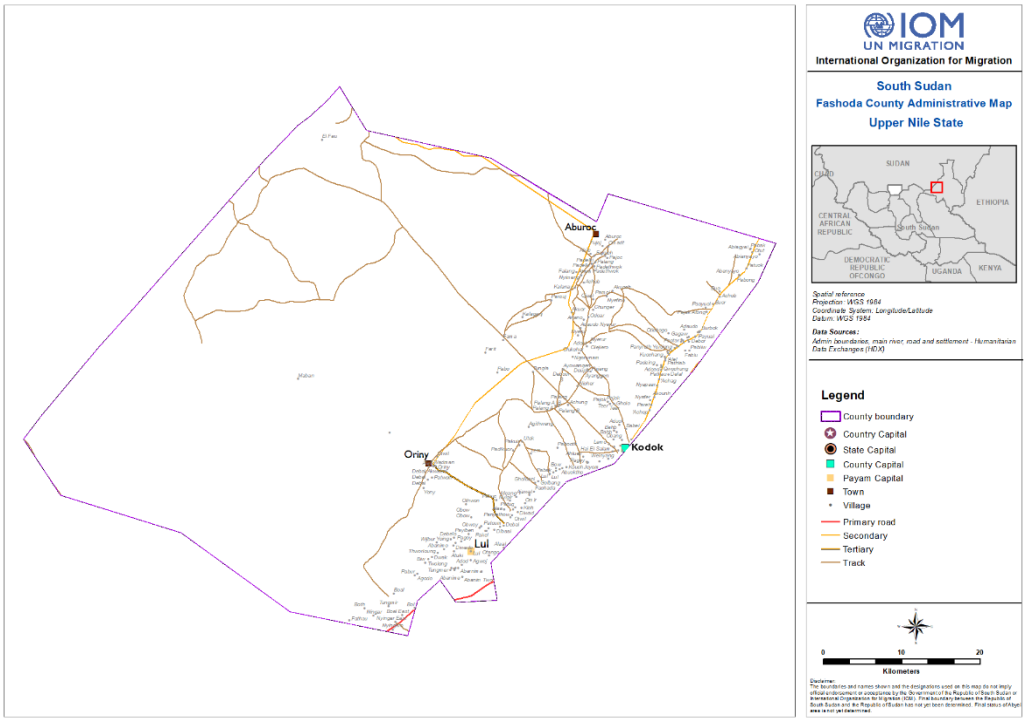

Figure 1 Location of Kodok Town in Fashoda County in Upper Nile State

(ii) Current situation in Kodok Town

Kodok Town has been periodically exposed to seasonal flooding from the Kodok River and the White Nile. The town is now protected by the ECRP II Immediate Flood Mitigation Measures dike constructed in 2025. Residents of Kodok Town have been able to remain in their homes, continue their businesses, and access community facilities that had been inaccessible in previous years due to flooding. The November 2025 World Bank supervision mission

noted remarkable progress on the flood-risk reduction infrastructure, with the dyke effectively preventing floodwaters from breaching the town perimeter during peak inundation periods. The mission visited the Kodok project sites and recorded the protective performance of the IFMM dike around Kodok Town during the 2025 flood season.

Figure 2. IFMM Dike in Kodok

(iii) General overview of the subprojects

The proposed subprojects focus on the DRM Infrastructure Upgrading subprojects for Kodok Town, Fashoda County. The portfolio comprises three engineering components:

A. Kodok IFMM Dike Upgrading. The existing IFMM dike that surrounds Kodok Town will be upgraded for 14.6 km following the IOM internal dike design, to strengthen structural integrity, improve flood protection for community infrastructure, and enhance overall safety of residents.

B. Kodok Internal Drainage Rehabilitation. The Kodok drainage system, approximately 8 km in length, will be rehabilitated and improved. The drainage network will be interconnected so that all stormwater is directed into a main channel, discharging through a gated culvert or collection basin into the Kodok River and the White Nile.

C. Kodok Gated Culverts and Wing Walls. Two (2) gated culvert points (each with 6 barrels of 1.2 m by 1.2 m) will be constructed along the Kodok Town dike, together with the installation of ten concrete wing walls along the main drainage channel inside the town. These structures will facilitate the flow of water from reclaimed areas toward the river network and support secure access for Kodok residents during the flood season.

Figure 3. Kodok town Dike location

This ESMP has been developed to cover all the subprojects that have been subjected to ES Screening (see Annex 6: Environmental and Social Screening Reports (Forms 1, 2 and 3) for details and have been approved by PMU under the DRM 2026 portfolio for Fashoda County. As the project continues to progress, this ESMP will be regularly updated to feed in the environmental and social findings of other Immediate Flood Mitigation Measures (IFMM) that will be screened in other targeted areas.

(iv) Scope of Work

The proposed scope of work covers the three engineering components in Kodok Town, Fashoda County. The scope includes (a) upgrading of the existing Kodok IFMM dike around Kodok Town for 14.6 km according to the IOM internal dike design; (b) rehabilitation of the Kodok Town internal drainage channel system for approximately 8 km, with interconnection of all stormwater into a main channel discharging through a gated culvert or collection basin into the Kodok River and the White Nile; and (c) construction of two gated culvert points on the Kodok Town dike, each comprising six 1.2 m by 1.2 m barrels with flap gates, headwall and wing wall, together with ten concrete wing walls along the main drainage channel inside Kodok Town. Dike upgrading uses locally available material with integration of nature-based solutions as adopted by the ECRP II team. Material sourcing for dike upgrading uses the authorised borrow pit at Lemo village; the Lemo borrow pit Alternative End Use as a community haffir (earth dam/ reservoir) is set out in Chapter 6.2.4 and Annex 13.

Alternative analysis of dike construction material types at Kodok Town

Dikes can be constructed using various materials based on the expected design period of the dike to serve, material availability, logistical limitations, and others. The situation in Fashoda county, particularly at Kodok Town, also has its own nature, particularly environmental factors, which should be considered on alternative dike preferences. In this analysis, geotechnical, economic, and ecological aspects, exploring the use of various materials were considered including using available soil, with consideration for geotechnical, economic, and ecological aspects.

List of alternatives: -

1. **Dike with reinforcement materials**

Basically, this approach utilizes stones, plastic and Steel Sheet Pile Walls: Plastics and steel are used for reinforcement to prevent backward erosion piping and improve dike stability. Plastic offers flexibility for locations with piping only, while steel is used in high-stress zones. In the context of Fashoda, most of these construction materials are not readily available and given the current context, the importation, transport and final deployment of such materials will be challenging for the scale of dike construction work that is envisaged in Kodok Town, Fashoda County.

2. **Dike work supported by Geosynthetic Materials**

Geosynthetic clay liners (bentonite mats) can substitute traditional clay layers, providing excellent waterproofing. These can be combined with layers of local soil for erosion control, piping prevention, and structural reinforcement. However, this approach requires consideration of cost effectiveness, long-term performance, local soil compatibility, and maintenance in the situation of Kodok Town, Fashoda county. Moreover, it leads to less feasible conclusions to implement as IFMM scope.

3. **Dikes using soil stabilizers or Chemical additives (Lime/Cement etc), Ash, etc**

Mixed with other materials, such as lime, cement, dredged sand to create stable mixtures for the diking body. This will improve cohesion, strength, and reduce permeability. However, it will add construction complexity, limit meeting the target due to logistic challenges and technical complexity that requires careful mix design and characterization. Moreover, it needs mixtures that must meet minimum unit weight and mechanical criteria. The imported material's environmentally friendly nature needs to pass through a detailed quality check. As a result, this approach is less recommendable for the case.

4. Dike by unitizing locally available material with integration of nature-based solutions

This approach will prioritize the use of locally available materials. However, the selection of soil will be guided by on-site geotechnical analysis. In South Sudan, the most common soil type is black cotton soil, which requires adequate moisture to construct an effective dike. Additionally, planting selected grass species with deep, penetrating root systems will help stabilize the soil. Integrating soil with nature-based solutions will promote sustainable, community-led maintenance of the dike without the need to transport materials from other areas. Considering environmental sustainability, cost-effectiveness, and local availability, the ECRP II team adopted this type of dike for implementation.

General dike construction process under ECRP II

The proposed dike will undergo three phases of construction that will include, IFMM/Stage 1, Flood resilient dike/Stage 2 and Stage 2 dike. The stage dikes were to be implemented in September 2025. It was anticipated that the IFMM stage will be completed by December 2025 while the Stage II will commence from June 2026 onwards and be completed before December 2026.

Note: Stage 2 dike methodology is referenced for context only; the current scope of works under this ESMP comprises the Stage 1 upgrading of the existing 14.6 km Kodok IFMM dike loop as described in Chapter 2.

The methodology applied in this ESMP is consistent with the approach set out in the Inception Report dated 27 April 2026 and incorporates the field engagement plan endorsed by the IOM Safeguarding Officer.

Table 1. Dike construction steps

Dike Construction Step	Activity Description	Typical Illustration
IFMM Dikes /Stage 1 Dike		
Dike Alignment and initial assessment	The Dike Alignment and Initial Assessment phase establishes a foundation for successful dike projects by integrating environmental, engineering, and community considerations. - Baseline data collection (Topographic Surveys, Hydrologic Analysis and Soil Sampling) - Environmental and safeguarding. - Risk assessment. - Dike Alignment Determination and stakeholder review. - Geotechnical investigation soil sample collection phase conducted by IOM engineers at field level.	***Typical Field assessments and soil quality analysis*** 
In-situ excavation of dike	For IFMM Dike/Stage 1: This stage of Dike design is used when we are developing new flood protected areas through the construction of new	***Typical dike construction using in-situ materials***

Dike Construction Step	Activity Description	Typical Illustration
IFMM Dikes /Stage I Dike		
construction materials	dikes. This directly responds to the need to protect highly vulnerable communities (host and IDPs) who are at risk of flooding in their current location, or who require permanent settlement in new flood protected areas For this stage the soil , the fill material for the Stage I Dyke (IFMM) should be excavated from the future wet side. To minimize adverse instabilities, the excavation must be carried out at a distance greater than 5 meters. The material will be compacted using the excavator bucket. If the material is excessively wet, it will be left to dry on the dam under construction for one or two days.	
Dike shaping and compaction	Compacting and shaping of the stage I dike is to develop and get long-term resilience, control the erosion and decrease the cracks in the crest. To improve resilience to similar flood events by compacting the soil in layers by using heavy machines, adequate side slope, erosion protection, and appropriate crest level.	**Typical excavator shaping the dike** 

(v) Dike's Cross-sectional view

The Kodok Dike Upgrading will feature a 1:1 slope on the dry side (habitable side) and a 1:2 slope on the wet side (retained water), minimum 4 m crest width, minimum 10 m base width, dike height 2 m in high ground level and 3 m in low ground level for filling. To prevent damage from human and animal crossings, temporary footways will be constructed using sandbags where needed. The cross-section of a typical structure is illustrated below. A typical section may vary from location to location and depends on its location, height of existing, and type of material used for the structure, the highest previous flood level records. Figure 3 & 4 below shows the typical cross-sectional drawing of the dike design.

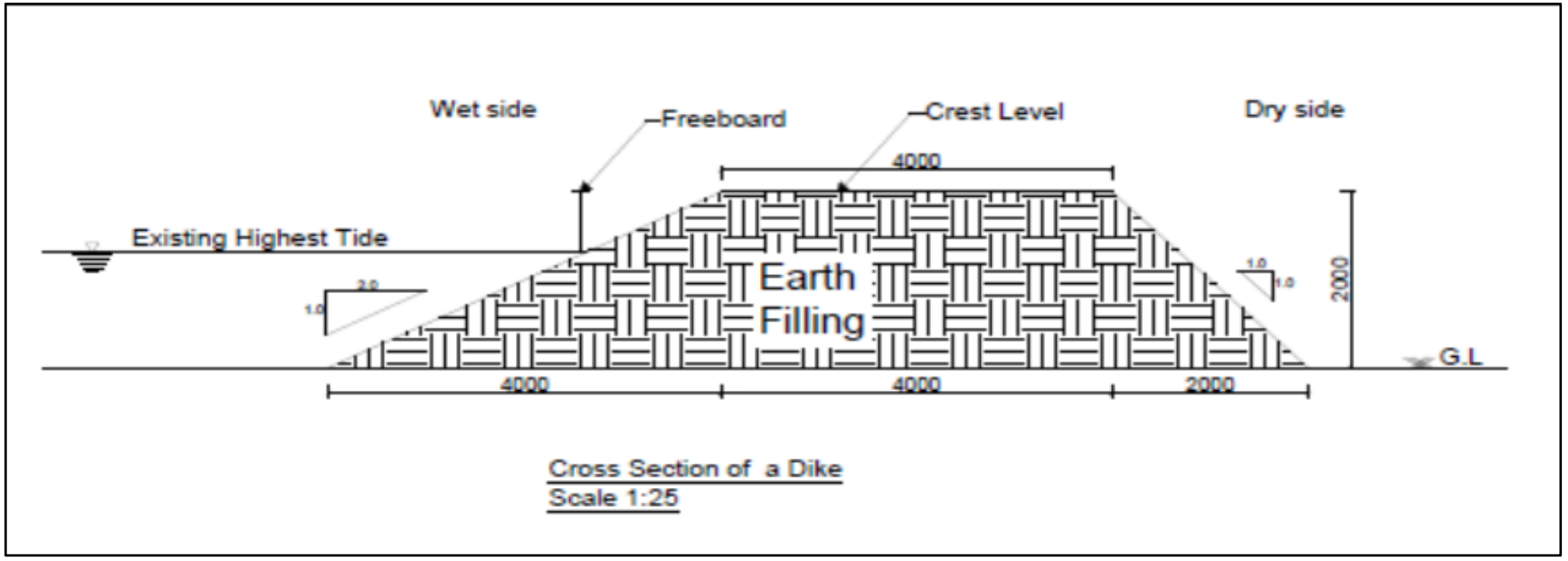

Figure 4. Dike cross section

Figure 5. Dike Crossing point

The scope of the stage II dike construction will involve managing the nature-based solution for water flow. The stage II dikes will use living elements like wide green dikes and sediments to absorb wave energy, reduce erosion, and self-adapt to rising river levels.

Crossing points are vital for community mobility to access water for domestic purposes. . These considerations enhance the public right to water within the minimum dimensions of dikes required to maintain soil stability, under impact of human settlement activities. The crossing points will not interfere with water seepage, permeability, and erosion control over the dikes.

A. The drainage system

The Kodok Town internal drainage system, approximately 8 km in length, will be rehabilitated and improved. The drainage network will be interconnected so that all stormwater is directed into a main channel discharging through a gated culvert or collection basin into the Kodok River and the White Nile. Three types of drainage channel cross-section will be applied along the network as presented in the layouts below.

Cross-sectional view of the proposed drainage channels

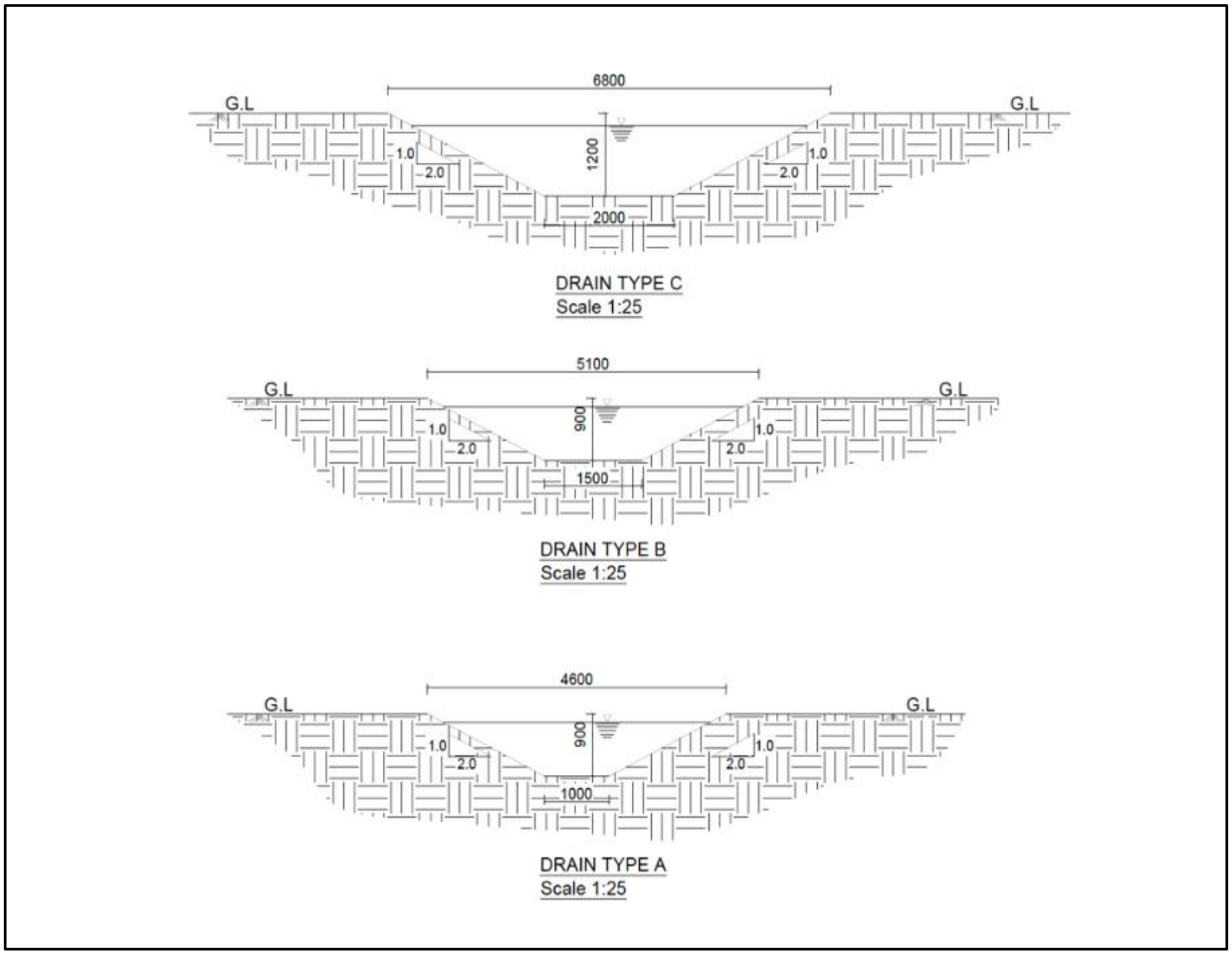

Figure 6 Cross sectional drawings for the three drainage systems

(vi) Kodok Gated Culverts and Wing Walls

Two (2) gated culvert points will be constructed along the Kodok Town dike. Each gated culvert comprises six barrels of 1.2 m by 1.2 m with headwall and wing wall. The box culvert design parameters are length 1.6 m, height 1.5 m, width 1.5 m, wall thickness 0.3 m, perimeter 6 m, area 1.8 square metres, volume 2.88 cubic metres. Each gated culvert location will receive a culvert box, culvert joint per box, apron, headwall and wing wall as illustrated in the engineering drawings.

The flap gates are specified as 12 mm thick steel flap doors (density 7,850 kg per cubic metre) with dimensions 1,200 mm by 1,200 mm, corresponding to the 1.2 m by 1.2 m barrel cross-section. Each of the six barrels per gated culvert is fitted with one flap gate as the closure mechanism, permitting outflow when interior water levels exceed river levels and preventing river ingress when the river rises during flood events. With two gated culverts at six barrels each, the total flap gate count is twelve. Each gate has a steel frame (12 mm thick by 100 mm wide), three steel hinges (70 mm internal diameter, 90 mm external diameter, 100 mm long), one seal fabricated from neoprene sheets (20 mm thick, 50 mm wide), three bushes fabricated from bronze rods (50 mm internal diameter, 70 mm external diameter, 100 mm long), and three hinge pins fabricated from stainless steel rod (50 mm by 100 mm long).

Ten concrete wing walls will be constructed along the main drainage channel inside Kodok Town. Wing wall geometry, reinforcement and gabion erosion protection follow the design engineer drawings SSDRR-ARP-FA-XX-DR-IN-10203 (culvert plan), -10204 (sections and foundation options), -10208 (wing wall reinforcement), -10211 (gabion walls) and -10212 (erosion protection).

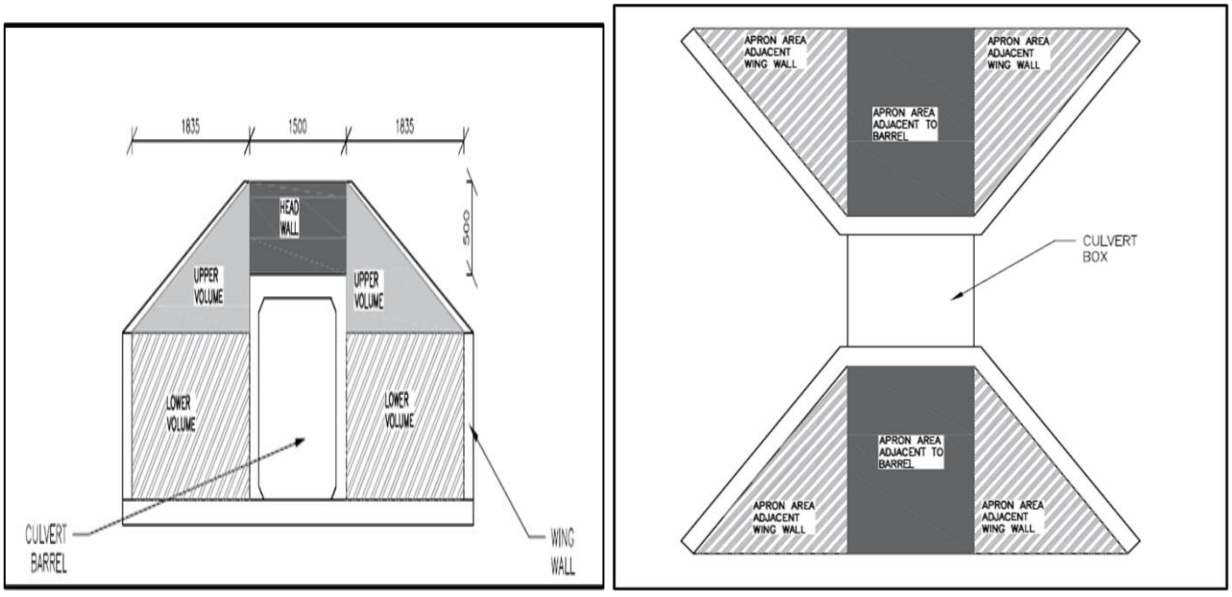

Figure 7. Gated culvert and wing wall design

LARGE CULVERT GEOMETRIC PROPERTIES (INITIAL DESIGN SIZING)																							
General Parameters			Culvert Box			Culvert Joint (per box)			Bed (per box)			Apron (adjacent to wing wall) for both upstream and downstream sections			Apron infront of culvert boxes (per barrel) for both upstream and downstream sections			Headwall (per barrel) for both upstream and downstream sections			Wingwalls		
Property	*Qty*	*Unit*	*Property*	*Qty*	*Unit*	*Property*	*Qty*	*Unit*	*Property*	*Qty*	*Unit*	*Property*	*Qty*	*Unit*	*Property*	*Qty*	*Unit*	*Property*	*Qty*	*Unit*	*Property*	*Qty*	*Unit*
Box Length	1.6	m	Thickness	0.3	m	Thickness	0.1	m	Thickness	0.3	m	Apron Length	2	m	Apron Length	2.00	m	Height above box	0.5	m	Height	1	m
Box Height	1.5	m	Perimeter	6.00	m	Area	1.80	m2	Width	1.5	m	Apron Width	1.835	m	Apron Width	1.50	m	Thickness	0.3	m	Length	2.71	m
Box Width	1.5	m	Area	1.80	m2	Volume	0.18	m3	Length	1.6	m	Thickness	0.30	m	Thickness	0.30	m	Width	1.50	m	Lower Volume	3.26	m3
			Volume	2.88	m3				Volume	0.72	m3	Volume	2.20	m3	Volume	1.80	m3	Volume	0.45	m3	Upper Volume	1.63	m3

Figure 8. Culvert geometry

B. Filed/Laboratory Analysis of materials

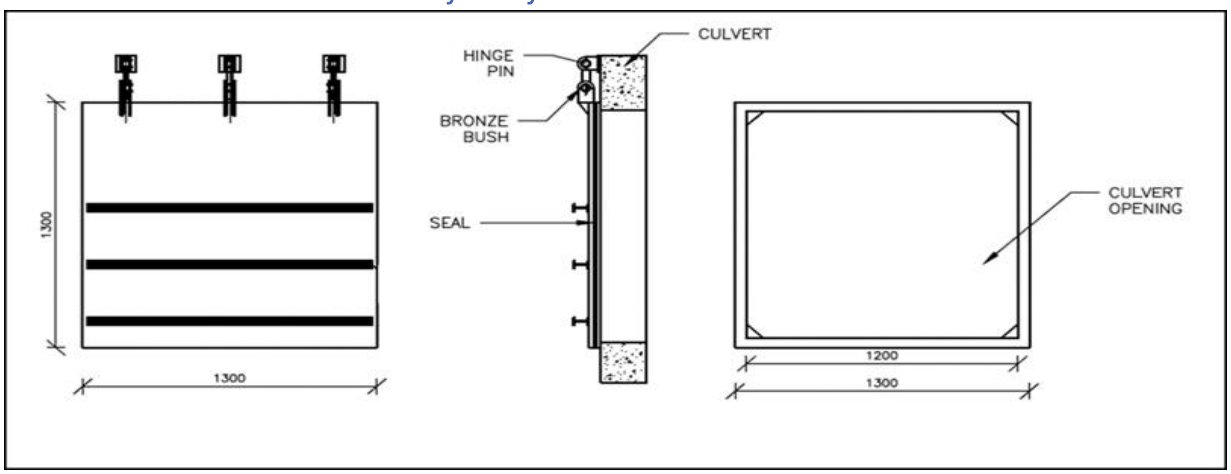

Figure 9. Flap Gate

The soil characteristics of available material from the designated borrow pit at Lemo village will be checked for permeability, stability, the potential for seepage, settlement, and compressibility. The material utilized will be the locally available clay soils commonly known as the Black Cotton Soil (BCS), whose high clay content makes it an excellent structural material for construction. The BCS's characteristics and fine soil particles inhibit water permeation. The clay covering the bank, though, is exposed to air and sun, which changes its moisture content making it drier and prone to erosion from human activities and moving water.

C. Schedule of work

Table 2. Proposed workplan

PROPOSED WORK PLAN																								
DRM Infrastructure Upgrading subprojects in Kodok Town, Fashoda County																								
	Month One				Month Two				Month Three				Month Four				Month Five				Month Six			
	WK 1	WK 2	WK 3	WK 4	WK 1	WK 2	WK 3	WK 4	WK 1	WK 2	WK 3	WK 4	WK 1	WK 2	WK 3	WK 4	WK 1	WK 2	WK 3	WK 4	WK 1	WK 2	WK 3	WK 4
Detailed Site Assessments																								
Environmental and Social Screening																								
Development of the ESMP &Approval of ESMP																								
Community Engagement activities																								
Mobilization Excavators, Dump Trucks																								
Construction works dike upgrading, drainage rehabilitation, gated culverts and wing walls																								
Handover of assets																								

NB: The first three activities were completed between January and July 2026 - Detailed Site Assessments; Environmental and Social Screening; and Development of the ESMP &Approval of ESMP

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Summary of ESMP Terms of Reference

The ESMP has been developed in a bid to meet the requirements of the ECRP II ESMF and site-specific Environmental and Social Standards (ESSs) Screening results and recommendations of the environmental and social checklist. Accordingly, the site-specific ESMP details measures necessary to prevent, minimize, or mitigate predicted negative impacts of the subprojects during implementation, and specifically, this ESMP is designed to ensure the following:

- Identify potential environmental and social impacts that may occur during the implementation stage of the subprojects and maintenance.
- Develop detailed specific mitigation measures with relevant cost implications that will need to be achieved during and after subprojects.
- Specify responsibilities and institutional arrangements that will be put in place to ensure that the mitigation measures are implemented.
- Integrating environmental and social aspects fully into the various activities during the subprojects and ensuring inclusion of environmental and social requirements into tender documents,
- continuing management, monitoring and evaluation of the environmental and social performance of the subprojects.
- Providing detailed design criteria for specific mitigation measures to be implemented.
- Tracking completion and effectiveness of the proposed mitigation measures at meeting the discharge standards.
- Provide implementation and monitoring schedule.

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CHAPTER 3

STUDY METHODOLOGY

The ESMP study was conducted following a mixed-method approach that was anchored on the use of both qualitative and quantitative methodologies. The use of mixed methods was deliberately adopted to ensure data completeness and provide for data triangulation. The Approach to the study is summarized below:

i) Overview of the Approach

The subprojects adopted an inclusive approach in the development of the Environmental and Social Management Plan (ESMP). The approach focused on involving all the relevant stakeholders at various stages of the preparation of the ESMP to ensure that views, concerns, and inputs are captured. The consultations for this work were done between 1 January and 31 July 2026. The ESMP has been prepared following the requirements stipulated by the Government of South Sudan (GoSS) as enshrined in the Transitional Constitution of the Republic of South Sudan, 2011, and the ECRP II environmental and social instruments including the ESMF, ESCP, and SEP.

The approach used enabled the team to meet the requirements of the ECRP II ESMF, ESCP, and SEP together with the Environmental and Social laws of the Government of South Sudan. Focus was put on understanding the subprojects background, technology and processes, implementation modalities, and operations given proactively identifying potential significant environmental and social risks. Furthermore, environmental, and social baseline information was obtained using mixed methods which included a review of available literature, detailed physical and biological investigation of the proposed project and its surrounding areas, stakeholder consultations, and the use of advanced scientific information gathering techniques such as remote sensing and the use of geo-spatial tools for data analysis and gathering. The key activities undertaken during the various stages of the ESMP development process are summarized in the process below:

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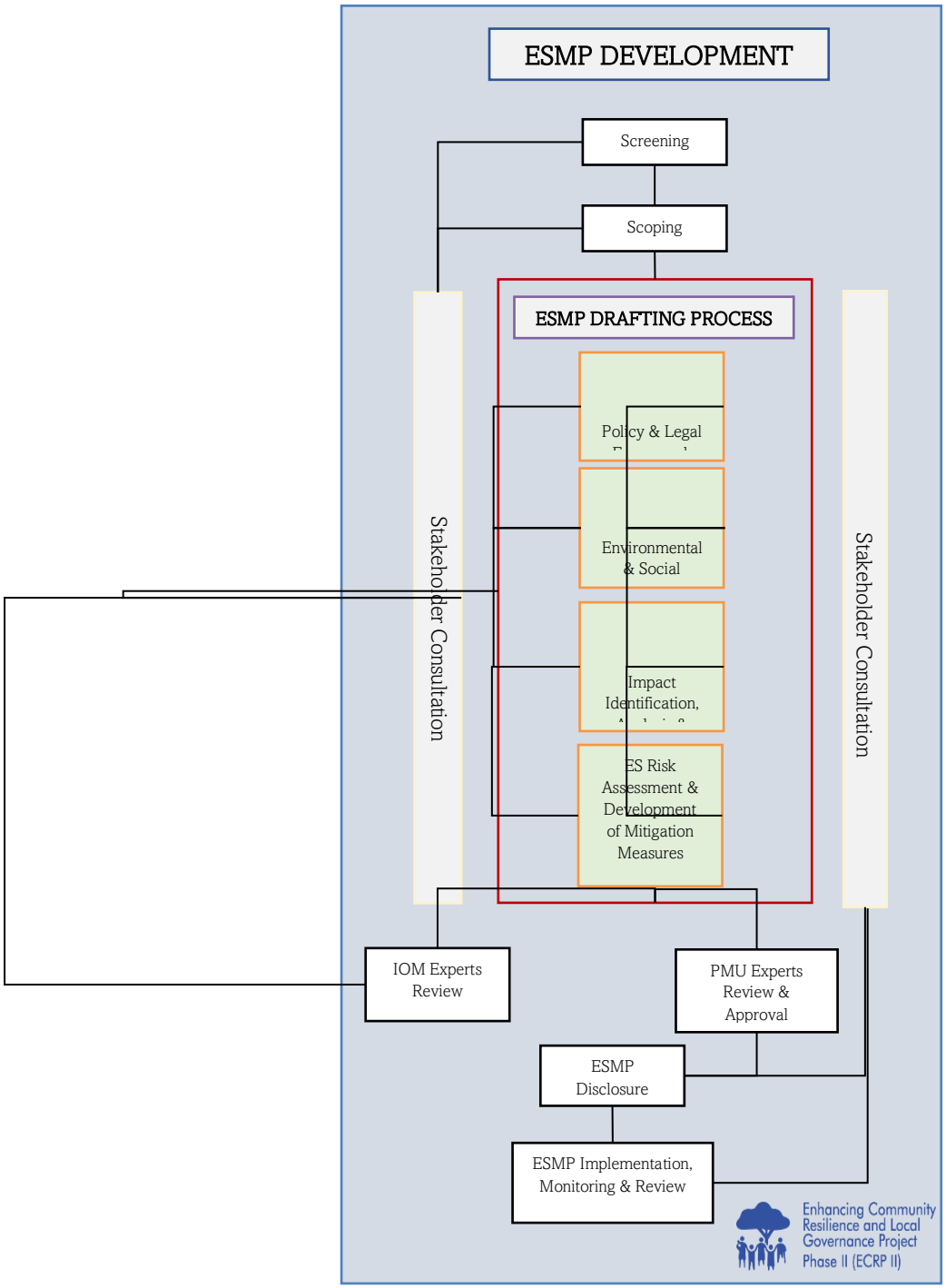

Figure 7 Overview of the ESMP Development process

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A summary of the methods employed is presented below:

ii) Document review.

Document review gave the team a detailed description of the project regarding spatial coverage, preliminary design layout, magnitude, implementation schedules, and anticipated costs. Relevant documents were reviewed to obtain information on the baseline information. A review of project documents was undertaken prior to specialist site visits. Documents reviewed included but were not limited to the review of:

- ECRP I Environmental and Social Reports for similar subprojects
- South Sudan's Environmental and Social Laws, Guidelines, and associated government documents
- ECRP II Environmental and Social Commitment Plan
- ECRP II Environmental and Social Management Framework
- World Bank (WB) Environmental and Social Framework
- World Bank Environmental, Health and Safety guidelines
-
- Stakeholder Engagement Plan
- Multilateral Environmental agreements
-
- ECRP II Project documents
- Engineering designs for proposed infrastructure
- Academic and general literature

iii) Field Visit

The IOM ESMP team undertook site visits to several project sites located in Fashoda County, Kodok Town between 1 January and July 2026. The purpose was to gain an appreciation of the subproject's sites, undertake public consultations with key stakeholders and to gain an understanding of potential environmental and social impacts. The field visits focused on assessing and verifying environmental and social baseline information which included landform trends, land use patterns, biodiversity, natural resources, hydrology, climatic variations, socio-economic activities, social setup and social infrastructure. The field visits were planned to enable determination of the actual physical environmental and social features that could potentially be affected by the subprojects. Furthermore, the visits enabled the identification of potential positive and negative impacts. Overall, the assessments contributed to the in-depth understanding of the proposed works. Various methods were used during field work which included: (1) Field observations, (2) Checklists and Matrices, (3) Consultations and public participation and (4) Use of geo-spatial and temporal analysis techniques.

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Desktop biodiversity screening using the Integrated Biodiversity Assessment Tool (IBAT) was conducted on 27 May 2026 as part of the baseline methodology. The IBAT outputs (Proximity Report and World Bank Group Biodiversity Risk Screen) are presented at Annex 17.

(vi) Impact identification, assessment, and mitigation

Following the site visits and data collection, the project team members identified and assessed the potential project related impacts according to:

- Nature of impact (Positive or Negative)
- Magnitude of impact (short, medium, or long term)
    - short-term – the impact is temporary and lasts for up to 12 months.
    - medium-term – the impact occurs for up to 5 years.
    - long-term – the impact remains for a substantial time, perhaps permanent.
- Likelihood of impact (likely or unlikely)
- Extent of impact (local, widespread)
- Timing and Duration (during which project phase)
- Reversibility (is the impact reversible without mitigation)
- Significance - Impact significance was rated as significant, moderately significant or of low significance.

(vii) Socio-Economic and Stakeholder Engagement

The project followed a structured manner in the engagement of relevant stakeholders. The engagement was characterized by stakeholder mapping, coupled with the development and implementation of a detailed stakeholder engagement plan. The stakeholder engagement processes sought to define a technically and culturally appropriate approach to consultation and disclosure of relevant project information. The focus of the process was to improve and facilitate decision making and create an atmosphere of understanding that actively involves relevant stakeholders in a timely manner with special focus on vulnerable groups making sure that these groups are provided sufficient opportunity to voice their opinions and concerns that may influence Project decisions.

(viii) Geo-Spatial and Temporal Analysis and Remote Sensing Techniques

The maps of soil types, settlements and other land uses were undertaken using a combination of Google Earth Pro (version 7.3.1.4507) and QGIS (version 2.12.3-Lyon), aided by MS Paints (version 6.1). Coordinates noted during the site investigations were recorded using the Global Positioning System (GPS) (Model: Garmin, Extex 10) set to the ARC1950 Coordinate Reference System (CRS). The coordinates and the Keyhole Markup Language (KML) files for the project area were loaded onto Google Earth Pro after converting the CRS from ARC 1950 to WGS84 using the Franson Coord Trans software Version

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2.30 (Franson Technology AB, Sweden). Coordinate transformation in QGIS was done automatically using the 'on the fly' CRS transformation. The other datasets for mapping were the topography maps and satellite images from Google Earth Pro. The images were useful in locating the boundaries and areas under cultivation, settlements, civil structures, and other features.

Spatial reference uses the WGS84 horizontal coordinate system and EGM2008 vertical coordinate system per the design engineer drawing convention. The KMZ alignments for the Kodok dike provide the working baseline for the 14.6 km single Kodok loop, consistent with the engineering design. Google Earth imagery dated 12 July 2023 (referenced in the design engineer drawings) supports the visual baseline.

(ix) UNMASS Coordination

The field presence and project activities will be coordinated with UNMAS and the National Mine Action Authority on Explosive Ordnance clearance status along the dike and drainage works footprints before any ground disturbance commences.

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CHAPTER 4

STAKEHOLDER CONSULTATION

Stakeholder consultations serve as a platform for engaging people in the decision-making process by sharing information, addressing concerns, and fostering ownership and participation. During the preparation of this ESMP, stakeholder consultation was carried out between April and August 2025. Follow-up consultations were conducted by IOM in February 2026 for the Kodok Town upgrading scope at two locations: Kodok Town on 4 February 2026 and Malakal on 24 February 2026. The community land tenure consultation for the Lemo and Debor borrow areas was conducted in October 2024 under the ECRP II Environmental and Social Safeguards System. These consultations were a build-up to a series of other consultations that had been conducted in the past during the subproject's preparation phase and engagement with communities under Capacity Building activities, particularly the training of PDCs. The focus of the consultations was to ensure the broad group of stakeholders was consulted at the planning and early stages of the project, and their concerns, feedback, and input were documented following the requirements of ESS10. The following sections provide information on stakeholder mapping, a summary of stakeholder feedback, and present the Stakeholder Engagement Plan (SEP).

The consultation of stakeholders is fundamental to the development of the ESMP. The activity provided a platform for enhancing public understanding of the proposed subprojects identified needs. Consultations provide a platform for the different stakeholders to be involved and to promote ownership throughout the subprojects cycle. This process aids in identifying issues related to subprojects and understanding the needs of affected populations, enabling local participation in decision-making.

The World Bank Environmental and Social Framework, ESS 10 emphasizes engagement in meaningful consultations with all stakeholders. The stakeholders with timely, relevant, understandable, and accessible information, and consult with them in a culturally appropriate manner, which is free of manipulation, interference, coercion, discrimination, and intimidation. A documented record of stakeholder engagement, including a description of the stakeholders consulted, a summary of the feedback received, and a brief explanation of how the feedback was considered is presented in this ESMP.

The project engaged a total of **119** (63 Males, 56 Females) stakeholders to gather the views, inputs, concerns form stakeholders, table below refers. The engagements included 6 meetings with Government stakeholders at County level. Payam and Boma leaders were engaged during 6 community meetings that were conducted.

Objectives

Stakeholder engagement for the subprojects was undertaken to:

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- ☒ Inform key stakeholders of the proposed subprojects and create public awareness of environmental and social risks associated with the subprojects.
- ☒ Identifying opportunities and risks that are likely to be encountered when implementing the proposed subprojects.
- ☒ Address stakeholders' comments and concerns, that are related to the proposed subprojects.
- ☒ Achieve a transparent decision-making process with greater input from stakeholders and their support of the decisions that are taken.
- ☒ To enhance the project to support the aspirations and needs of the local communities, including the vulnerable and marginalized groups living within the project area

Stakeholder mapping

The stakeholder mapping exercise was aided by a series of processes that involved engagement with IOM personnel both at Juba Level and at the field level. Brainstorming sessions, coupled with the review of secondary data information and anchored on the in-depth knowledge about the targeted areas community set up in the project area were used to identify major stakeholder groupings. The major stakeholder groups that were identified are presented in Table 4: Table: Stakeholder Mapping

Under ECRP II, stakeholder engagement and consultation was conducted at all administrative tiers starting at (i) National level (ii) State level, (iii) County level, (iv) Payam level, (v) Boma level and (vi) Community level Following the approval of the Community engagement and revalidation methodology by the PMU and the Bank, the ECRP II project was officially introduced to the targeted State government officials State entry meetings which were later followed by County project inception workshop introducing the ECRP II project to its selected Counties, Participatory Payam and Boma entry meetings and finally community meetings and consultations were held at the subprojects locations. The community engagement and consultation meetings which were mainly group discussion were important since it allowed people to own the projects and enhanced project survival and trust between government, project implementers, donors and beneficiary community.

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i. Summary of stakeholder Consultation

Table 3:Stakeholder Mapping

ENGAGEMENT LEVEL	PROJECT ACTIVITY	PROJECT STAKEHOLDERS INVOLVED
State Level	-Project introduction	- State Governor - State Minister, State Ministry of Local Government (SMoLG) - Director General (DG) SMoLG & Law Enforcement(LE) - State Minister of Physical Infrastructure - DG, State Ministry of Physical Infrastructure - State Minister of Health - DG State Ministry of Health - Minister of Education - DG State Ministry of Education - County Commissioner - Executive Director - MoFP and/ LGB
County	-Project introduction -Formation of County Coordination Team -Environment and social standards screening approach awareness raising	- County Commissioner - Executive Director - Departmental Heads - PDC -CDRMC - Paramount Chief - RRC Representative at county level
Payam	-Project Introduction -Confirmation of Subprojects Payams and Bomas	-Payam Chief - PDC -PDRMC
Boma	-Project Introduction -Identification and reactivation of BDC	-Boma chief -Village chiefs -BDC Members
Community Level (Sub project site)	-Community engagement and consultation. -Environment and Social screening	-Community members comprising of women and men, youth and elderly, People with disability and local community leaders -BDC Members

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ii. Summary Responses from Stakeholder Consultation

Table 4: Summary of findings from the engagement of various stakeholders

S/N	ENGAGEMENT LEVEL AND ACTIVITY	ISSUE RAISED/FEEDBACK RECEIVED	FEEDBACK PROVIDED/RESOLUTION
1	**State Level** -Project introduction	State officials emphasized the need for dike construction and to ensure that the people are protected. Training of local people on the maintenance of the s including provision of simple handheld equipment was also raised. High expectations on the project since it's a government project. The county also anticipates benefiting directly from it. In February 2026, State officials from the Ministry of Land, Housing and Public Utility, Ministry of Agriculture and Forestry, Ministry of Local Government and Law Enforcement, and State RRC accepted the proposed Kodok Town upgrading scope. Issues raised were flood protection of settlements, agriculture and livestock, food security, inter-agency coordination during implementation, construction-phase nuisance, erosion and pollution control, land use planning, and protection of the Kodok River and White Nile ecosystems.	The project team took note of the issues raised by the stakeholders and explained the project and the kind of infrastructure that will be eligible under the project to manage expectations. The government officials emphasised the need for communities to be protected from the flood.
3	**County Level** -Project introduction	i. County government officials demanded enhanced involvement of officials in the implementation. For instance, ensuring their participation on the site assessments and handovers. ii. The PDRMC requested training and capacity building to capacitate them to execute their function. In February 2026, County officials from the Executive Director's office, the Education, Health, Environment, and Land and Housing departments, and the County RRC accepted the	The project is already ensuring this. Participation of government officials is ensured in all the processes This has been addressed in the design harmonization workshops conducted in Juba. The project team explained that the training of the PDRMCs will be covered under ECRP II and there is an O&M component that will

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S/N	ENGAGEMENT LEVEL AND ACTIVITY	ISSUE RAISED/FEEDBACK RECEIVED	FEEDBACK PROVIDED/RESOLUTION
		Kodok subprojects. Issues raised were flood control, reduction of seasonal displacement, all-season access and service continuity, participation of County officials in site assessments and handover, drainage and erosion control, protection of the Kodok River and White Nile ecosystems, and orderly land acquisition management.	provide the benefiting communities with some level of capacity and equipment to maintain infrastructure that will be established by the project.
4	**Payam and Boma Level** -Payam entry and Boma Entry meetings -Identification and reactivation of BDC	The PDCs/BDCs requested the subprojects to be prioritized before the coming of the flood expressing fears that they may lose their families since it is expected that the flood will be worse. In February 2026, the PDC, PDRMC, Boma Chiefs and BDC members from Kodok Town Payam requested that the works be completed before the next flooding period to avoid further losses and displacement. Issues raised were local employment, continued community participation, safe livestock movement, and operation and maintenance arrangements for the upgraded infrastructure.	- The project team explained that the focus is to ensure that the works are completed before the flooding period.

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iii. Summary of Feedback obtained during consultations (County/Payam/Boma Level)

A follow-up engagement was conducted by IOM in February 2026 for the Kodok Town upgrading scope, engaging an additional 66 stakeholders (55 males, 11 females) across 14 sessions in Kodok Town and Malakal: 5 formal meetings, 3 community meetings, 4 Focus Group Discussions and 2 Key Informant Interviews. The October 2024 community land tenure consultation for the Lemo and Debor borrow areas under ECRP/ESS-F007 was endorsed by Teresa Akij Bol (BDC Chairperson Lemo), Denyguang Ajyang (Boma Chief Lemo), John Othow Pedeit (BDC Chairperson Debor), Chul Ayul Along (Boma Chief Debor), with line ministry validation on 14 October 2024 and State Ministry endorsement on 16 October 2024. The following sections present the views and feedback collected during the stakeholder engagement exercise.

Reconciliation across all engagement rounds: as of February 2026, the cumulative engagement reached 190 stakeholders (122 Males, 68 Females) across 24 sessions, comprising 119 stakeholders from Round, 66 stakeholders from Round 2 (Kodok Town and Malakal, February 2026, including individual consultations with the Kodok Port Union on 14 February 2026 and the Kodok Trade Union on 20 February 2026, both recorded on form ECRP/ESS-F005), and 5 endorsers for the October 2024 land tenure consultation at the Lemo and Debor borrow areas under form ECRP/ESS-F007.

Date	County	Payam	Boma	Engagement Method	Number of Males	Number of Females
14 April	Fashoda	Kodok Town Payam	Kodok Town	KII	0	3
15 April	Fashoda	Kodok Town Payam	Kodok Town	Community meeting	0	12
14 May	Fashoda	Kodok Town Payam	Kodok Town	Community meeting	13	11
27 May	Fashoda	Kodok Town Payam	Kodok Town	Community meeting	20	8
30 May	Fashoda	Kodok Town Payam	Kodok Town	Community meeting	17	13
3 June	Fashoda	Kodok Town Payam	Kodok Town	Community meeting	13	9

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Date	County	Payam	Boma	Engagement Method	Number of Males	Number of Females
4 February 2026	Fashoda	Kodok Town Payam	Kodok Town	Community meetings, KIIs and FGDs (12 sessions)	45	11
24 February 2026	Upper Nile (Malakal)	State level	RRC Office and DG Land and Housing	Formal meetings (2 sessions)	10	0
October 2024	Fashoda	Lemo and Debor	Lemo and Debor	Land tenure consultation (ECRP/ESS-F007)	4	1
Totals					**122**	**68**

Need for the project: Communities in Kodok town emphasised that the proposed subprojects are much needed in their communities, and they envisage the proposed subprojects as key investments that will help in the protection of the community from the flood. Government officials and local leadership who were engaged alluded that they were in full support of the subprojects that have been prioritised in their area. They emphasised that the dike construction works align with the focus by the government to ensure that people are protected from the flood. The Kodok Town community, consulted in February 2026, expressed the same position: the proposed subprojects are urgently needed to protect the community from anticipated floods, and the community is in full support of the prioritised works.

Training and capacity building: The government indicated the need for the training of CDRMCs and the PDRMCs. The same need was reiterated for the Kodok Town PDRMC during the February 2026 consultations, with training and capacity building for the CDRMCs and PDRMC of Kodok Town and the surrounding payams identified as a priority.

Proposed designs: The communities highlighted that the dikes to be constructed should be strong and be constructed in a manner that will protect them from the anticipated bigger flood.

Table 5: Feedback from stakeholders

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REF.	STAKEHOLDER FEEDBACK/COMMENT	COMMENT
1.	Waste management	Waste management will be guided by national laws. The proponent shall ensure that all the laws are adhered to including raising awareness on sound waste management with the focus of reducing waste generation. The 3R approach shall be adopted in this project as a way of managing waste.
2.	There might be noise pollution from the movement of dike construction vehicles and equipment	Noise levels shall be maintained within the required limits. Efforts to select equipment that is equipped with noise control devices shall be done by the contractor to ensure little or no changes in the ambient noise levels.
3.	Risk of road accidents may increase due to proximity to communities	The contractor shall establish a traffic management system to ensure safety of the community. Road traffic control signs should be used appropriately coupled with the use of traffic controllers when necessary.
4.	Injuries of community employees	Training, capacity building and awareness raising including specific induction of employees shall be conducted. Employees shall be provided with adequate PPE
5.	Employment creation for local community members	Priority will be given to local community members for non-skilled jobs.
6.	Likelihood of spread of sexually transmitted diseases	Awareness outreaches to communities, equipping the hospital with relevant protective materials like condoms. These shall be made available to all employees. Education of employees on sexually transmitted diseases and other communicable diseases will be carried out.
7.	Need for continuous engagement of stakeholders	Engagement will be done constantly with the requirements of the SEP. Stakeholders are encouraged to use the available project GRM platforms to share feedback and concerns at any stage of the project.
8.	Soil erosion and blockage of waterways during works (raised in February 2026 consultations)	Works shall be sequenced to maintain flow paths during construction. Excavated material and stockpiles shall be kept away from channel edges. Open trenches shall be backfilled immediately. Exposed surfaces shall be stabilised on completion of each section.
9.	Loss of farm and grazing land at borrow areas and conflict over land use (raised in	Borrow operations shall be confined to the authorised plots at Lemo and Debor under the October 2024 Land Use Form (ECRP/ESS-F007). Any economic displacement or land-use restriction shall be

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REF.	STAKEHOLDER FEEDBACK/COMMENT	COMMENT
	February 2026 consultations and October 2024 land tenure consultation)	addressed under the ECRP II Resettlement Policy Framework. Affected landowners shall be sensitised and included in implementation.
10.	WASH services, night lighting and local labour at Kodok River Port (raised by Boats Union of Fashoda County in February 2026)	Issues raised by the Boats Union of Fashoda County (Port Union) on the F005 consultation form dated 14 February 2026, signed 3 March 2026 by Obunying Aluthpiny. WASH facilities shall be provided at the port. Security lighting shall be installed for night-time operations. Local labour shall be prioritised in line with the ECRP II Labour Management Procedures.
11.	Dike vandalism, drainage misuse and machinery disturbance to wetlands (raised by Chamber of Commerce in February 2026)	Issues raised by the Chamber of Commerce, Industry and Agriculture (Fashoda County) on the F005 consultation form dated 20 February 2026, signed 3 March 2026 by Odol Omay Ayoker. Community sensitisation shall be carried out against dike vandalism. Drainage channel sanitation shall be coordinated with the Kodok Town Payam authorities. Machinery movement plans shall avoid wetland areas along the works footprints.

POSITIVE	NEGATIVE
Positive Impacts on Flood Control	**Concerns about Environmental Impact**
- Reduced flood risk for the people in the county - Improved floodwater control through drainage network - Increased capacity of existing culverts - Comprehensive drainage network development - Enhanced floodwater diversion capabilities	- Alteration of natural water flow patterns - Potential disruption to aquatic ecosystems -Loss of natural vegetation
Community Safety and Well-being	**Social and Economic Concerns**
- Increased safety from flood-related hazards	- Disruption to local businesses and economy during subproject implementation especially for boats

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- Protection of infrastructure and property - Long-term resilience and security	- Economic costs of project implementation
Economic Opportunities	**Infrastructure and Planning Issues**
- Job creation during construction phase - Boost to local economy through project implementation - Investment attraction and growth potential - Improved property values and market stability	- Potential conflicts - Compatibility with urban planning schemes - Land acquisition and rights-of-way issues - Infrastructure maintenance and sustainability
Environmental Conservation	**Operational and Maintenance Challenges**
- Mitigation of environmental degradation through flood control measures - Restoration of natural habitats and ecosystems - Compliance with environmental regulations - Potential for habitat enhancement projects - Mitigation of environmental degradation	- Long-term maintenance costs especially the pumping stations drainage channels over time - Potential for system failures and breakdowns - Environmental and social monitoring
Stakeholder Engagement and Participation:	**Project Management and Governance:**
- Opportunities for community input and feedback - Collaborative decision-making processes - Building trust and partnerships with stakeholders	- Transparency and accountability of project implementation - Governance and oversight of project funds - Project timeline and delivery

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iv. Stakeholder Engagement Plan (SEP)

Table 6:Stakeholder engagement plan

PROJECT STAGE	LIST OF STAKEHOLDERS	TOPICS OF ENGAGEMENT	METHODS OF ENGAGEMENT	RESPONSIBILITY AND FREQUENCY
PREPARATION	- Ministry of Finance & Planning (MoFP) - Local Government Board (LGB) - Ministry of Gender, Child, and Social Welfare (MoGCSW) - Relief and Commission (RRC - State Governor - State Minister, State Ministry of Local Government (SMoLG) - Director General (DG) SMoLG & Law Enforcement (LE) - State Minister of Physical Infrastructure - DG, State Ministry of Physical Infrastructure - State Minister of Health - DG State Ministry of Health - Minister of Education - DG State Ministry of Education - County Commissioner - Executive Director - MoFP and/ LGB - County Commissioner - Executive Director - Departmental Heads - PDRMC - PDC - Paramount Chief	- Need of the project - Planned activities. - E&S principles, Environment and social risk and impact management/ESMP - Grievance mechanisms (GM) - Health and safety impacts	- Coordinated meetings, - Disclosure of written project related information - Grievance mechanism - Emails	- IOM - PMU Weekly, monthly Quarterly or semi-annual

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PROJECT STAGE	LIST OF STAKEHOLDERS	TOPICS OF ENGAGEMENT	METHODS OF ENGAGEMENT	RESPONSIBILITY AND FREQUENCY
	- RRC Representative at the county level			
	- Local community leadership (Payam/Boma Chief, Headman, Councillor) - Vulnerable Groups - Local community people - Organised community groups - Surrounding communities - Health Facility Staff	- Need of the project - Planned activities. - E&S principles, Environment and social risk and impact management/ESMP - Grievance mechanisms (GM) - Health and safety impacts	- Coordinated public meetings, - FGDs - separate meetings specifically for women and the vulnerable. - Disclosure of written information - Grievance mechanism	- Weekly and Monthly - Quarterly or semi-annual -
	- NGOs - Pressure groups. - Religious groups - Other Civic Organizations	- Need of the project - E&S principles, Environment and social risk and impact management/ESMP - Grievance mechanisms (GM) - Health and safety impacts	- Coordinated public meetings, - separate meetings specifically for women and vulnerable - Disclosure of written information - Grievance mechanism	- Weekly and Monthly - Quarterly or semi-annual IOM and PMU
DIKE CONSTRUCTION PHASE	- Ministry of Finance & Planning (MoFP) - Local Government Board (LGB) - Ministry of Gender, Child, and Social Welfare (MoGCSW) - Relief and Commission (RRC - State Governor - State Minister, State Ministry of Local Government (SMoLG) - Director General (DG) SMoLG & Law Enforcement (LE) - State Minister of Physical Infrastructure	- Permits and associated conditions. - Required set standards. - Project progress update - Any challenges faced during construction. - Overview of the status of ES issues (Reports to be submitted to the Ministry of Environment & Forestry)	- Coordinated meetings, - Email communication. - Documented Telephonic engagement	- IOM - PMU Weekly, monthly Quarterly or semi-annual

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PROJECT STAGE	LIST OF STAKEHOLDERS	TOPICS OF ENGAGEMENT	METHODS OF ENGAGEMENT	RESPONSIBILITY AND FREQUENCY
	- DG, State Ministry of Physical Infrastructure - State Minister of Health - DG State Ministry of Health - Minister of Education - DG State Ministry of Education - County Commissioner - Executive Director - MoFP and/ LGB - County Commissioner - Executive Director - Departmental Heads - PDRMC - PDC - Paramount Chief - RRC Representative at the county level			
	- Local community leadership (Payam/Boma Chief, Headman, Councillor) - Vulnerable Groups - Local community people - Organised community groups - Surrounding communities - Health Facility Staff	- Progress of project implementation - Challenges faced on implementation. - Overview of the status of ES issues (Reports)	- Coordinated Meetings - Focus group discussions - Documented Telephonic engagement	- Weekly, - Monthly IOM and PMU
	PROJECT AFFECTED PARTIES. - Affected households. - Health Care facility Staff - Residents at the Hospital	- Progress of project implementation - Planned activities. - Anticipated Hazards, Impacts, Risks and Aspects of oncoming activities - Recommended mitigation	- Face to face meetings - Direct telephonic	- Weekly and Monthly - Quarterly or semi-annual - *(Weekly; more frequently as and when necessary)*

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PROJECT STAGE	LIST OF STAKEHOLDERS	TOPICS OF ENGAGEMENT	METHODS OF ENGAGEMENT	RESPONSIBILITY AND FREQUENCY
		and preparedness required for PAPs to do. - Challenges faced on implementation. - Overview of the status of ES issues (Reports)		*IOM, Contractors and PMU*
	- Religious and other Civic groups	- Progress of project implementation - Challenges faced on implementation. - Overview of the status of ES issues (Reports)	- Meetings - Email communication. - Documented Telephonic engagement	- IOM - PMU *(Monthly; more frequently as and when necessary)*
	- Interested Parties	- Progress of project implementation - Challenges faced on implementation. - Overview of the status of ES issues (Reports) - Feedback from PAPs and other stakeholders	- Meetings - Email communication. - Documented Telephonic engagement	- IOM - PMU *(Monthly; more frequently as and when necessary)*
OPERATIONAL PHASE	- Ministry of Finance & Planning (MoFP) - Local Government Board (LGB) - Ministry of Gender, Child, and Social Welfare (MoGCSW) - Relief and Commission (RRC - State Governor - State Minister, State Ministry of Local Government (SMoLG) - Director General (DG) SMoLG & Law Enforcement (LE)	- Permits and associated conditions. - Required set standards. - Overview of the status of ES issues (Reports to be submitted to Ministry of Environment & Forestry)	- Coordinated Meetings - Reports	- Beneficiary/Health Care Facility Administrator *Monthly/Quarterly/as and more frequently as and when necessary*

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PROJECT STAGE	LIST OF STAKEHOLDERS	TOPICS OF ENGAGEMENT	METHODS OF ENGAGEMENT	RESPONSIBILITY AND FREQUENCY
	- State Minister of Physical Infrastructure - DG, State Ministry of Physical Infrastructure - State Minister of Health - DG State Ministry of Health - Minister of Education - DG State Ministry of Education - County Commissioner - Executive Director - MoFP and/ LGB - County Commissioner - Executive Director - Departmental Heads - PDRMC - PDC - Paramount Chief - RRC Representative at county level			
	- Local community leadership (Payam/Boma Chief, Headman, Councillor) - Vulnerable Groups - Local community people - Organised community groups - Surrounding communities - Health Facility Staff	- Challenges faced. - Future Plans	- Meetings - Reports - Telephonic engagement	- Beneficiary/Health Care Facility Administrator *Monthly/Quarterly/as and more frequently as and when necessary*
	PROJECT AFFECTED PARTIES. - Affected households. - Health Care Facility Staff - Residents at the Hospital	- Operational schedule and challenges - Planned activities. - Anticipated Hazards, Impacts, Risks and Aspects	- Meetings - Reports - Telephonic engagement	- Beneficiary/Health Care Facility Administrator

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PROJECT STAGE	LIST OF STAKEHOLDERS	TOPICS OF ENGAGEMENT	METHODS OF ENGAGEMENT	RESPONSIBILITY AND FREQUENCY
		of oncoming activities - Recommended mitigation and preparedness required for PAPs to do. - Overview of the status of ES issues (Reports)		*Monthly/Quarterly/as and more frequently as and when necessary*
	- Religious and other Civic groups	- Challenges faced on implementation. - Overview of the status of ES issues (Reports)	- Meetings - Reports - Telephonic engagement	- Beneficiary/Health Care Facility Administrator *Monthly/Quarterly/as and more frequently as and when necessary*
	- Interested Parties	- Operational issues - Required set standards. - Overview of the status of ES issues (Reports to be submitted to EMA as part of Quarterly reporting requirements) - Feedback from PAPs and other stakeholders	- Meetings - Reports - Telephonic engagement	- Beneficiary/Health Care Facility Administrator - *Monthly/Quarterly/as and more frequently as and when necessary*
DECOMMISSIONING PHASE	- Ministry of Finance & Planning (MoFP) - Local Government Board (LGB) - Ministry of Gender, Child, and Social Welfare (MoGCSW) - Relief and Commission (RRC - State Governor - State Minister, State Ministry of Local Government (SMoLG) - Director General (DG) SMoLG & Law	- Site management Plans - Detailed ESMP - Permits and associated conditions. - Required set standards. - Overview of the status of ES issues Reports to be submitted to the Ministry of Environment &	- Meetings - Reports - Telephonic engagement	- Beneficiary/Health Care Facility Administrator *Monthly/Quarterly/as and more frequently as and when necessary*

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PROJECT STAGE	LIST OF STAKEHOLDERS	TOPICS OF ENGAGEMENT	METHODS OF ENGAGEMENT	RESPONSIBILITY AND FREQUENCY
	Enforcement (LE) - State Minister of Physical Infrastructure - DG, State Ministry of Physical Infrastructure - State Minister of Health - DG State Ministry of Health - Minister of Education - DG State Ministry of Education - County Commissioner - Executive Director - MoFP and/ LGB - County Commissioner - Executive Director - Departmental Heads - PDRMC - PDC - Paramount Chief - RRC Representative at county level	Forestry.		
	- Local community leadership (Payam/Boma Chief, Headman, Councillor) - Vulnerable Groups - Local community people - Organised community groups - Surrounding communities - Health Facility Staff	- Planned activities. - E&S principles, - Environment and social risk and impact management - Grievance mechanisms (GM) - Health and safety impacts	- Coordinated meetings. - Reports	- Beneficiary/Health Care Facility Administrator *Monthly/Quarterly/as and more frequently as and when necessary*
	PROJECT AFFECTED PARTIES. - Affected households. - Health Care facility Staff	- Site management Plans - Planned activities. - E&S principles, - Environment and social	- Coordinated meetings.	- Beneficiary/Health Care Facility Administrator

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PROJECT STAGE	LIST OF STAKEHOLDERS	TOPICS OF ENGAGEMENT	METHODS OF ENGAGEMENT	RESPONSIBILITY AND FREQUENCY
	- Residents at the Hospital	risk and impact management Grievance mechanisms (GM) - Community Health and safety	- Reports	*Monthly/Quarterly/as and more frequently as and when necessary*
	- Religious and other Civic groups	- Planned activities. - Grievance mechanisms (GM) - Community Health and safety impacts	- Coordinated meetings. - Reports	- Beneficiary/Health Care Facility Administrator *Monthly/Quarterly/as and more frequently as and when necessary*
	- Interested Parties	- Site management Plans - Planned activities. - Environment and social risk and impact management - Grievance mechanisms (GM) - Community Health and safety impacts	- Coordinated meetings. - Reports	- Beneficiary/Health Care Facility Administrator - *Monthly/Quarterly/as and more frequently as and when necessary*

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CHAPTER 5

ENVIRONMENTAL AND SOCIAL BASELINE

Flora and Fauna

Kodok Town and the surrounding payams are located in Fashoda County, in the Upper Nile State. The area is largely covered by different forms of vegetation with most parts being covered by herbaceous vegetation. This is mainly influenced by the fact that most of the county is usually exposed to flooding. There are areas that are covered by open forests in the northern eastern parts of the county. Some relatively small herbaceous wetlands are also available along the river Nile. The low-lying areas consist of savannah grassland, bush and patches of open forest. Even though the area is dominated by herbaceous vegetation, open forests, Typha grass, reeds, and numerous other grasses, the earmarked subprojects do not transverse any sensitive ecosystem and protected ecosystem. The land cover map below provides the spatial distribution of landcover types covering Kodok Town and the surrounding payams as part of Fashoda County.

Kodok-specific flora includes flooded grassland along the seasonal inundation zone and tree cover along the Kodok Riverbanks. The White Nile and Kodok River systems support fish populations that contribute to local livelihoods.

Biodiversity screening using the Integrated Biodiversity Assessment Tool (IBAT) was conducted on 27 May 2026 for the project area of interest, comprising the R28 Kodok IFMM Dike Upgrading footprint and a 5 km buffer envelope encompassing R29, and the Lemo and Debor borrow areas. The screening recorded no overlap with Protected Areas, Key Biodiversity Areas, Alliance for Zero Extinction sites, or World Heritage sites within 50 km of the AOI. The Sudd Ramsar site (WDPA 1622) does not extend within 50 km of Kodok per current WDPA polygons. Forty IUCN Red List threatened species were recorded within the 5 km buffer or the 50 km precautionary buffer. The full reports are presented at Annex 17.

Species of relevance to the project impact pathways include the Nubian Flapshell Turtle (Cyclanorbis elegans, CR), the Wachone (Distichodus nefasch, VU), the African Softshell Turtle (Trionyx triunguis, VU), six restricted-range fish species of the Nile system, and waterbirds associated with the floodplain and dike interface including the Shoebill (Balaeniceps rex, VU), the Black Crowned Crane (Balearica pavonina, VU), the Egyptian Vulture (Neophron percnopterus, EN), and several other Critically Endangered and Endangered vultures of the Sudano-Sahelian scavenger guild. The Nile Lechwe (Kobus megaceros, EN) appears in the 50 km landscape buffer.

Range polygons for two species, the Northern White Rhinoceros (Ceratotherium simum ssp. cottoni) and the Northeastern Africa Cheetah (Acinonyx jubatus ssp. soemmeringii), include the AOI but reflect

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historical distributions; both subspecies are considered locally extirpated and their listing in the IBAT output does not indicate contemporary presence.

The biodiversity baseline supports the impact identification in Chapter 6 and informs the mitigation measures applied under ESS6.

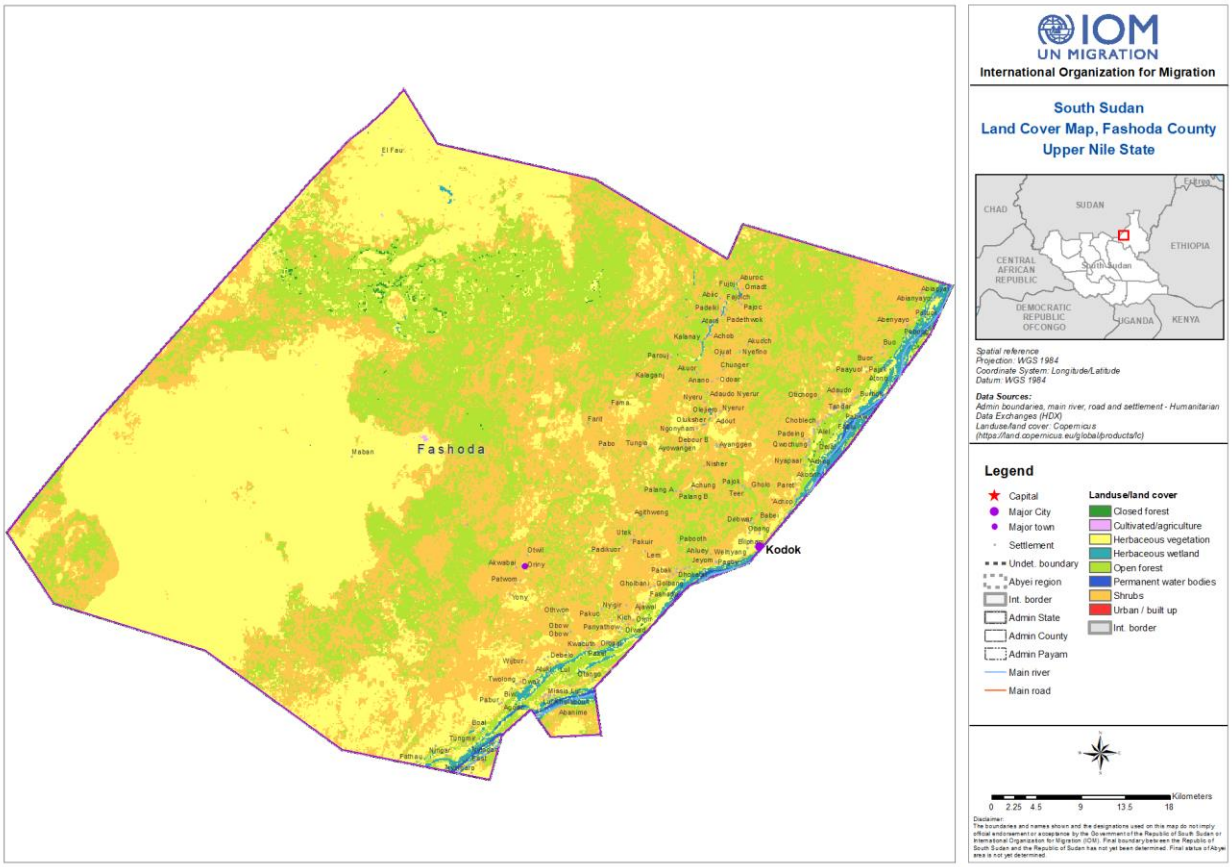

Figure 8 Land Cover map.

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Geology

Fashoda County has a uniform geology that is mainly composed of the Umm Ruw aba Geziria, El Atshan, Butana, Nawa and Undifferentiated paleoz oic rock formations. These are sedimentary rocks which are known for the abundance of macroscopic animal fossils when compared with underlying rocks.

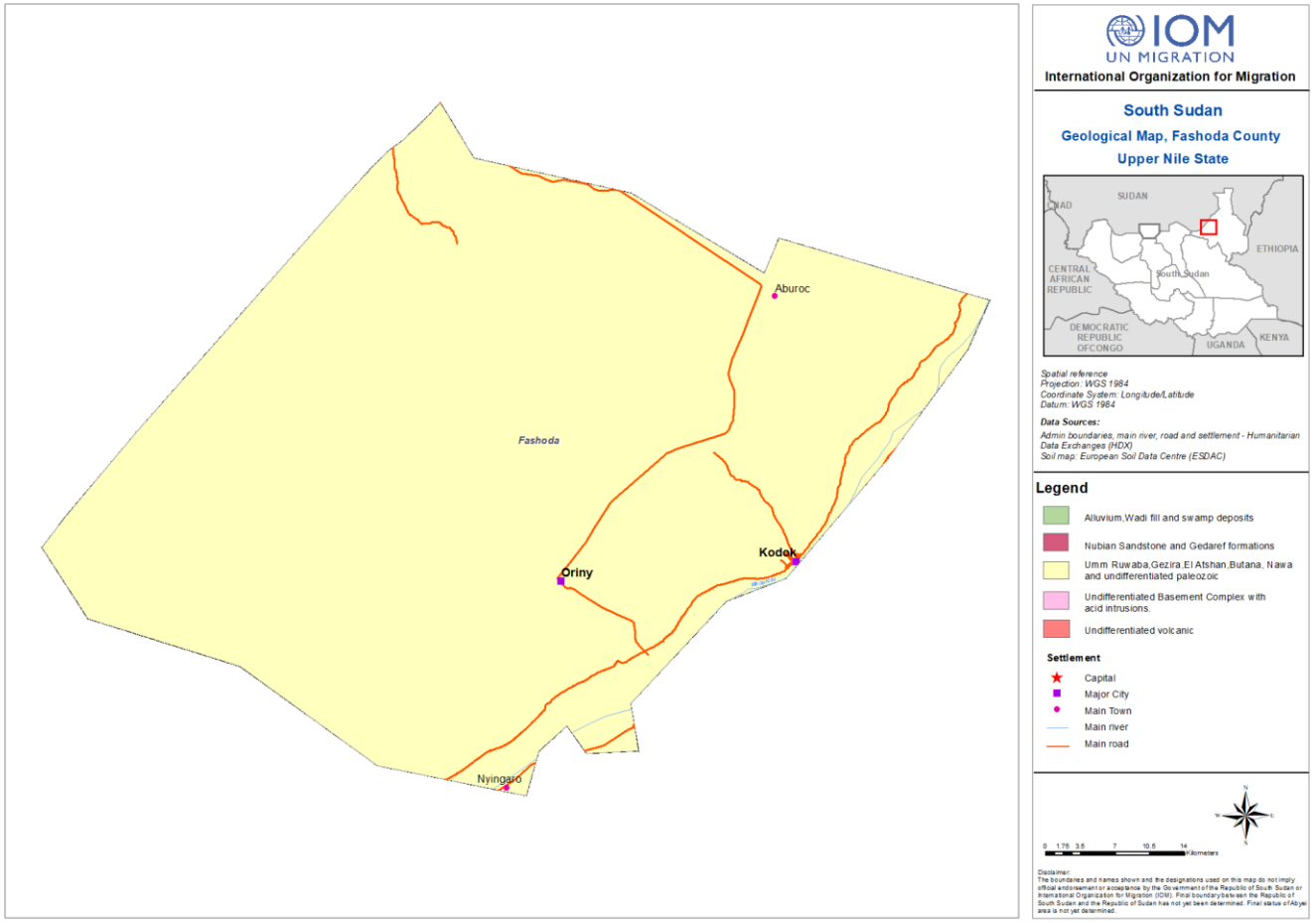

Figure 9 Geological Map of Fashoda County

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Topography and Soils

The targeted area has an average elevation of about Average elevation: 1,286 ft with a minimum elevation of 1,270 ft and a maximum of 1,302 ft. The predominant soil type is typical heavy clay. The major soil types are the Vertisols and the Fluviosols. Figure 11: Soil Map Shows the distribution of soil types across Fashoda County. Vertisols are blending heavy clay soils that contain high proportions of expansive clay minerals such as smectites. They exhibit high swell-shrink potential, leading to the formation of deep cracks that open and close periodically with soil moisture variations, and wedge-shaped aggregates and/or slickensides at depth. Vertisols are a group of heavy clayey soils, with a massive blocky structure due to the presence of cracks when dry and a dark colour. They usually contain 30–95% clay fraction.

Kodok Town sits on flat low-lying terrain along the White Nile, surrounded by water bodies on three sides (south, north and west), which has historically isolated the town from neighbouring villages during flood seasons.

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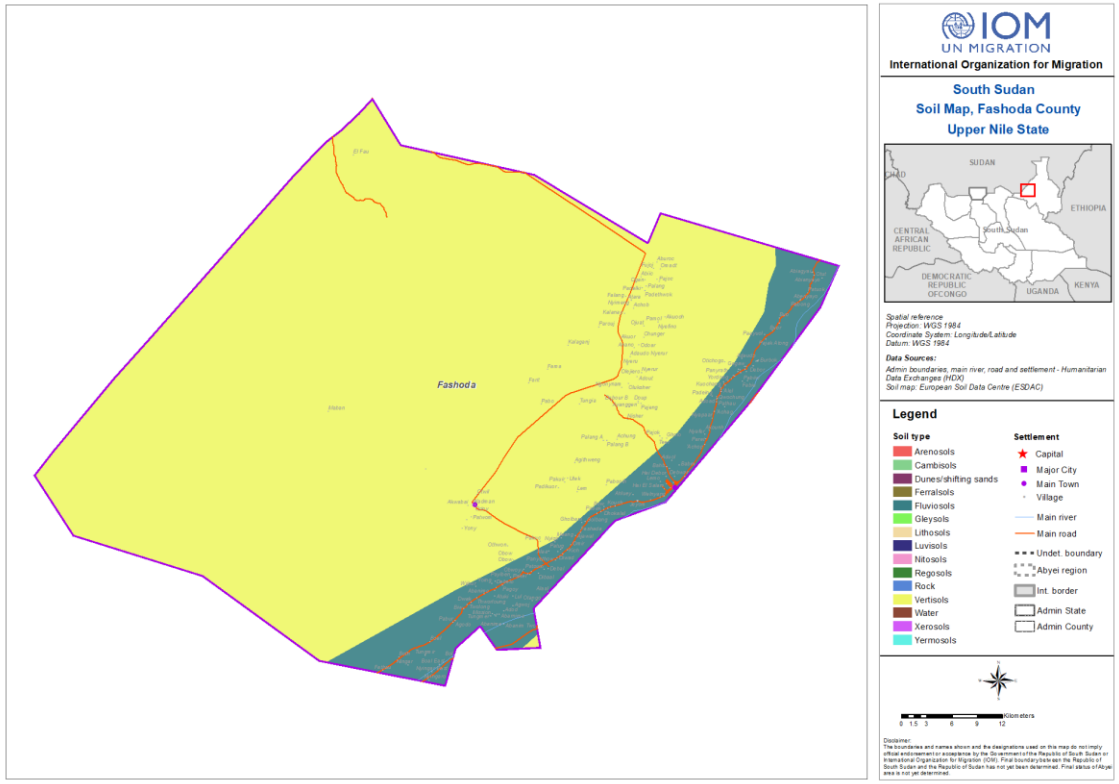

Figure 10 Soil Map

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Hydrology

The Proposed subproject areas at Kodok Town has one major river that passes through the county, the river Nile. The river is adjacent to Kodok Town and serves as a major contributor to the economic activities in the county. The Nile River swells in the summer causing significant flooding in the county. Wetlands are formed along the riverbank with mashes and associated vegetative plants growing along the river. Figure 12 shows the major rivers in Kodok Town and the surrounding area in Fashoda County.

Location maps and flood model outputs prepared by IOM and Ground Water Relief for the Kodok scope are filed in Annex 4 of this ESMP and referenced in Chapter 2 of the Subproject Description.

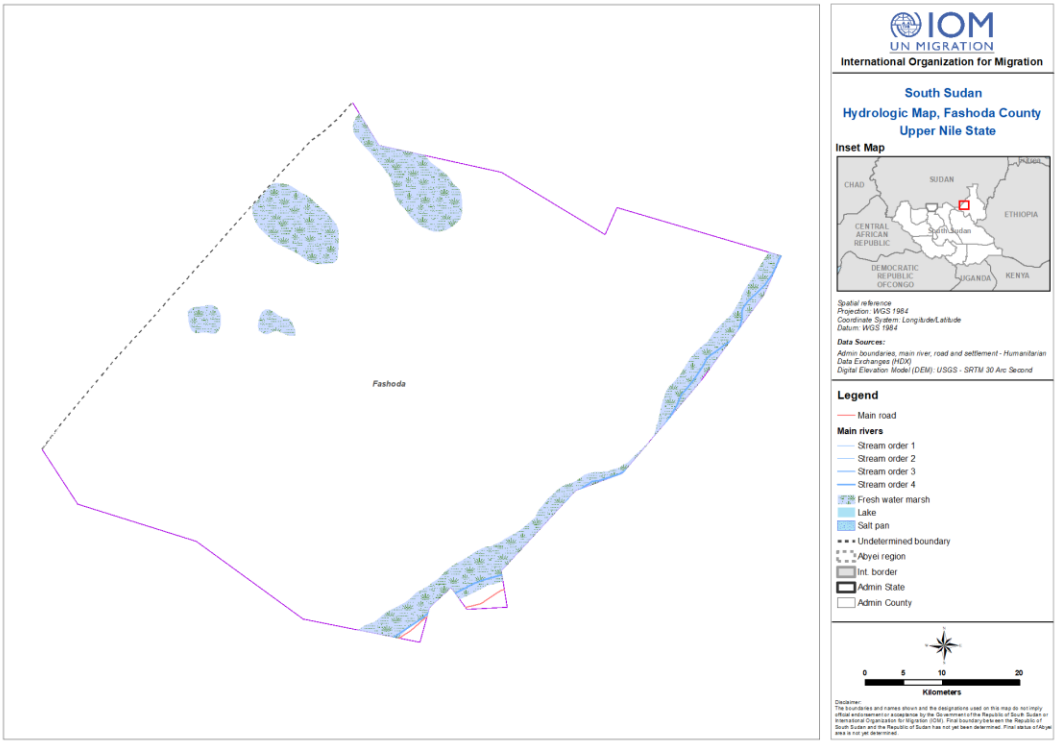

Figure 11 The riverine system in South Sudan

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Socio-Economic Environment

The targeted areas are part of Fashoda county which is situated in Upper Nile State and is bordered by Manyo County to the north, Melut County to the northeast, Baliet County to the east, Sudan to the west, and Makal County to the southwest. The County boasts significant agricultural potential, including livestock, fishing, and cross-border trade with neighbouring areas like White Nile, Blue Nile, and South Kordofan in Sudan. The region's extensive fertile land supports considerable food production for both local consumption and commercial sale, including Gum Arabic. During the dry season, Arab nomads migrate to Fashoda seeking lush pastures and paying taxes to local authorities. Kodok Town houses a river port where commercial barges and boats dock, contributing fees to the county's revenue. The area is accessible by road to Sudan during the dry season, while merchants use tractors to transport consumer goods in the rainy season, ensuring a consistent supply of necessities.

The landscape of Fashoda County is predominantly flat, with an average height of 425 meters above sea level and minimal variation in elevation. The lowest points are situated in the eastern and northeastern areas around the Nile Basin, while a slightly elevated strip runs through the centre of the county. The highest points, peaking at 407 meters, are near the Sudanese border.

Fashoda County has long been a hotspot for intercommunal violence, experiencing frequent conflicts on both sides of the White Nile. The primary sources of insecurity include land and border disputes, competition for water and grazing areas, and high youth unemployment, which leads to cattle raids. Infrastructure, markets, and community services are sparse, forcing much of the population to travel significant distances to access essential services.

General Socio-Economic setting

Kodok Town is the historical seat of the Shilluk Kingdom (the Reth resides in Fashoda County), with the area carrying particular historical significance from the 1898 Fashoda Incident. The current population of Kodok includes long-term residents from the Shilluk Collo community and a returnee population from Sudan present since March 2023 (the start of the Sudan war), per the Fashoda County Commissioner's statement to the November 2025 World Bank supervision mission. The Commissioner confirmed that returnee plots in Kodok have been allocated with full documentation in the names of the returnee owners. Local livelihoods centre on farming, fishing, and river transport through Kodok Port. The post-2025 security context in Upper Nile State remains dynamic and is monitored continuously by IOM and UNDSS.

Fashoda County is identified either as part of the Northern sorghum and saddle or Eastern flood plains livelihood regions. Its low-lying areas feature savannah grassland, shrubbery, and small forest patches. The local communities primarily practice agro pastoralism. Their livelihoods from rain-fed farming are complemented by livestock rearing, fishing, and foraging for wild foods. The main crops cultivated include sorghum, maize, cowpeas, pumpkins, and okra. Goats are the predominant livestock, with fewer numbers of sheep and cattle.

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The most recent Water, Sanitation, and Hygiene (WASH) Severity Classification analysis (May 2021) classified Fashoda County included in Phase 4 (Critical). 26 KIs in 73% of assessed settlements reported most people took over 30 minutes to fetch water according to the REACH in April 2022.

Current and proposed Land Use[2]

South Sudan is still impacted by land laws formulated before its secession from Sudan, including the 'unregistered land law of 1970'. This law declares all unregistered land as belonging to the state or government, much of the rural land in South Sudan is unregistered so large swathes of arable land come under government control. Under the 2011 transitional constitution, it is the 'people' of South Sudan who own all the land, and the government regulates how it is used. The Land Act 2009 prescribes a three-category land tenure system;

- Public land: where all land is owned and administered by any level of government inclusive of land owned by Bomas, Counties, States and federal administrations and all land not owned under the other categories.

- Community land; this includes all land traditionally or historically held and used by local communities and their members, includes communal grazing lands, hunting grounds, and locations for traditional practice and worship.

- Private land; referring to land registered and held by any person under lease tenure, investment land (land for businesses) which is all acquired under lease from the government and any other land designated as private by law.

Housing, land, and property issues also impact internally displaced persons (IDPs) who fled the White Army assaults between October and December 2022, seeking safety at the Hai Salam IDP Site in Kodok town. In addition, returnees from Sudan are temporarily residing in this location. Although the site is allocated for residential plots, county authorities have arranged with the plot owners to temporarily accommodate the IDPs and returnees, enforcing strict conditions that prevent the building of permanent structures. An ongoing uncertainty remains about their length of stay, as potential conflicts might occur if they extend their stay or breach the agreements.

The Land Act capitulates that the 'people' own all land in South Sudan and its usage is regulated by the Government. Land may be acquired, held, and transacted through three tenure forms: customary, freehold, and leasehold. The Act protects land rights; every person shall have the right to acquire or own property as regulated by law and land cannot be expropriated or confiscated except by law in the public interest and in consideration for prompt and fair compensation. The Act provides regulations for the registration of land rights and declares that the land belongs to the 'people', however, in this regard the 'people' denotes the public or the government, this terminology has been the source of much contestation. The debate around land use is underpinned by the communal historical rights to land, it is the widespread

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view that the land belongs to the communities themselves that has fuelled fierce and emotive land contestation.

The proposed subprojects in Kodok Town will be implemented in areas that are owned by the government and designated as government reserves. Voluntary land donation forms shall be signed prior to the implementation of the subprojects. The proposed subprojects will not be implemented in contested areas or the disputed areas in the eastern banks of the Nile. A field verification of the project alignments and sites was carried out on 7 June 2026 by the E&S Safeguards Consultant, the IOM National E&S Safeguards Assistant (Moses Obale Nicholas) and the IOM Kodok Field Engineer (ISMAIL Nyikay Guwd). The walkover covered the full 14.6 km dike alignment, the 8 km internal drainage corridor, the catchments and water-retaining areas, the culvert and wing wall locations, the Lemo and Debor borrow areas and the Lemo haffir site, together with the cemetery, the Kodok Port and docks, all sensitive receptors and the surrounding environment. It confirmed that the works are located on existing public dike, drainage and road reserves and on the borrow plots authorised under the October 2024 Land Use Form, with no permanent structures and no standing crops on the works footprint, and that no physical or economic displacement of any household arises. The cut-off date for identification of land and assets is 7 June 2026. The site-by-site verification findings are set out in Annex 11.

Land tenure along the proposed works footprints is documented as follows: returnee plots have been allocated within the dike-protected area with documentation in returnee names per the Commissioner’s statement. The October 2024 Land Use Form (ECRP/ESS-F007) authorised the use of two 200 m by 200 m plots at Lemo and Debor villages for the original IFMM dike works and associated borrow operations, with signatures from the BDC Chairpersons (Teresa Akij Bol and John Othow Pedeit), Boma Chiefs (Denyguang Ajyang and Chul Ayul Along), line ministry signatory (John Mijiwok Aywal, 14 October 2024), and validation by the State Ministry for Physical Infrastructure (Alessio Akamy Bauo, 16 October 2024, Malakal).

Any land voluntarily ceded for the works is handled as voluntary land donation under the ECRP II Resettlement Policy Framework (Section 7.5 and Annex 6). For each donation the voluntariness tests are applied and documented: the donor is appropriately informed, the donor is able to refuse and gives the land free of coercion, the donation does not reduce the donor's remaining holding below the threshold needed to maintain livelihood, no person is physically displaced, and the donation does not affect any third party. A donor who declines is not penalised and the works are realigned where practicable. Donations are recorded on the Land Use Form (ECRP/ESS-F007), and any grievance on a donation is handled through the project Grievance Redress Mechanism with review by persons not affiliated to the implementing agency. Should any economic displacement be identified during implementation, it is addressed under the Resettlement Policy Framework before the affected works proceed.

The fifth signatory recorded in the October 2024 attendance count is the line-ministry signatory whose full name shall be confirmed and inserted prior to ESMP submission to the World Bank.

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VI. Demographic profile

The proposed subprojects will be implemented in Kodok Town, Kodok Town Payam, Fashoda County, in Upper Nile State. Nestled along the western banks of the White Nile River, Fashoda County is one of the 13 counties in Upper Nile State. It is predominantly inhabited by the Shilluk (Chollo) Community and has its administrative centre in Kodok Town. The county also serves as the heart of the Shilluk Kingdom.

In addition to Shilluk, there are other South Sudanese ethnicities living in Fashoda, Kodok Town as traders or government employees, including Jieng and Nuer. There is also a significant population of foreign nationals including Ethiopians and Sudanese, mainly from Darfur and the Nuba Mountains, who came either as refugees in 2012 or as traders in the area. Most of these foreign nations are in Kodok Town where they control and run most of the shops and some in villages across Fashoda County.

The Shilluk (Chollo) are a sub-group of Nilotes who share similar ethno-linguistic ancestry with the Jieng (Dinka), Nuer, and Anyuak sub-groups. The population of Fashoda varies based on the source and the time of data collection, mainly due to displacement and migration influenced by conflict. The population of Fashoda was recorded in 2010 as 36,518[7], and the recent population according to the County RRC office, is 39,779 in 2024. The population in Fashoda county is concentrated in the east of the county, predominantly around the White Nile. The most densely populated areas lie around the towns of Kodok and Aburoc. The below table shows that, according to a 2022 IOM-DTM Baseline Survey[8], the majority of internally displaced persons (IDPs) are concentrated in Dethwok payam, whilst the highest number of returnees is found in Kodok Town.

Table 7:Overview of the population distribution

PAYAM	IDPS	RETURNEES	RELOCATED	TOTAL
Dethwok	**9,446**	**2,974**	**240**	**12,660**
Kodok	2,024	3,474	214	5,712
Kodok Town	1,830	14,005	192	16,027
Lul	**5,076**	**7,166**	**325**	**12,567**
County totals	**18,376**	**27,619**	**971**	**46,966**

The Shilluk practice subsistence farming, with crops such as sorghum, maize, and millet being commonly cultivated. Livestock rearing, fishing, and small-scale trade also contribute to the local economy. The Fashoda County dike investments under ECRP II are estimated to benefit approximately 46,713 people per the November 2025 World Bank Aide Memoire Component 1.2 progress table. Within Kodok Town

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specifically, the resident population includes the long-term Shilluk Collo community and the returnee community from Sudan present since March 2023.

VII. Social Services

As mentioned in section V (b) above, there are 17 health centres and 24 schools (21 primary and 3 secondary), all functional, spread throughout Fashoda county. A big share of these schools, including all the three secondary schools, are located in Kodok Town.

Like in the rest of the country, essential services to citizens are delivered by humanitarian organizations as the county government faces constraints in resources and capacity to deliver. Numerous national and international partners, including IOM, UNICEF, UNHCR, WFP, World Vision, DRC, and MSF, have been offering humanitarian and development aid to vulnerable communities. This support spans various sectors such as education, food security, protection, health, WASH, among others.

Most of these services are centralized and easily accessible in Kodok Town. For instance, there are two water treatment facilities in Kodok Town with 18 collection points.

There is a UNMISS sub-base in Kodok Town, widely regarded as a safe haven, alongside a Humanitarian Hub constructed by IOM adjacent to the base. In October 2022, when the White Army launched an assault on southern Fashoda, a significant portion of the population sought refuge at the base.

Given that the majority of the residents are Christian, churches are prevalent both in Kodok and throughout all the Payams.

Within and around Kodok Town, key social infrastructure visited and confirmed by the November 2025 World Bank supervision mission includes the ABudhok PHCU, the Obang Maternity ward, the Debwor Water Tank piped water distribution facility, and the 5.5 km section of the IFMM dike from Diebour to Alel Boma. The Kodok Port serves local river transport and is engaged through the Port Union consultation record.

Cultural Heritage

Kodok Town holds particular cultural and historical significance as the seat of the Reth (King) of the Shilluk Kingdom, the ceremonial and administrative centre of the Collo community whose presence in the region predates colonial administration and is associated with the 1898 Fashoda Incident. The works under this ESMP are located within and adjacent to Kodok Town, and the Contractor and IOM shall coordinate site activities to avoid interference with the Reth's office, traditional ceremonial sites and any community burial grounds identified during pre-works inspection. The Chance Finds Procedure at Annex 5 applies to any unanticipated discovery of cultural heritage during works.

The Shilluk Kingdom was established more than 500 years ago in 1490 A.D. Other sources trace its establishment to the sixteenth century. The Headquarters of the Kingdom are in Fashoda County. All Shilluk people have absolute allegiance to the Kingdom. There are two main social groups in the Kingdom:

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The Kwer Reth and the Chollo. The Kwer Reth are the royal family who trace their ancestry to Nyikang, the founder and spiritual pioneer of the Kingdom. The Chollo are the common people of the Kingdom that do not trace their ancestry to Nyikang.

A key factor that sets the Shilluk apart from other communities in South Sudan is their firmly rooted and well-established religious and political system, the Shilluk Kingdom. This political structure is centered around the belief that Nyikang, the ancestor of the Shilluk Reths, acts as the intermediary between God (Jwok) and humanity. The Reths, who are Nyikang's descendants, serve as the high priests of the community's religion. These beliefs are vividly expressed during the rituals and ceremonies for the coronation of a new Reth (King), which are meticulously performed and reach their peak when the Reth is believed to be possessed by the spirit of Nyikang.

Fashoda can be regarded as a significant cultural space due to the extensive cultural activities conducted within its boundaries. These traditional cultural practices are deeply intertwined with the Shilluk belief system, particularly the veneration of ancestors who are seen as intermediaries between God and humanity. This is evident in the coronation ceremonies, beginning with the selection of the Reth and culminating in the final act of placing two silver bracelets on his wrists, signifying his authorization by the people to assume his role.

According to Shilluk traditions, every stage of the coronation must be performed in a specific manner, by designated individuals, and on predetermined dates. Some of the key cultural activities related to the coronation of the Reth in Fashoda include:

As the capital of the Shilluk kingdom, Fashoda serves as the gathering place for all senior chiefs of the Shilluk administrative units to participate in the election of the new Reth.

ii. Customarily, Fashoda is deemed the most appropriate place for the Reth to reside in seclusion before the mourning dance of the previous Reth is conducted.

iii. Selected according to divine will, Fashoda is the site where most rituals and ceremonies for the new Reth's coronation are meticulously organized to reach their pinnacle.

iv. Recognized as a sacred site, Fashoda encompasses numerous features symbolizing the divine kingdom of the Shilluk tribe. Notable among these are the sacred building (Athrwic) and the shrine of Niykango. Fashoda is also the repository for the traditional documents and artifacts of the Shilluk kingdom, attracting many visitors from the Shilluk community.

During the assessment, no artifacts of cultural significance, shrines or archaeological remains were identified in the targeted subprojects areas. However, should there be any chance found during the implementation, IOM and the Contractors are obliged to comply with the requirements of the Bank and the Ministry of Culture, Museums and National Heritage in South Sudan. The provisions of the ECRP II ESMF and the Chance Finds procedure should guide such cases.

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CHAPTER 6

IMPACT IDENTIFICATION AND EVALUATION

Impact Analysis and Management/Mitigation Measures

6.1 Positive impact of the subprojects

6.1.1 Positive impact during the construction/ phase of the project

Employment Creation

Likely, Positive, Short-term, localized, moderate significance.
The dike construction and phase will result in workers being needed for casual labour and semi-skilled labour. It is expected that the Contractor and project workers will buy local materials, and services which represent indirect employment opportunities to others during the dike construction period.

Enhancement and Management Measures

- Preference for casual labour should be given to locals irrespective of gender, or physical characteristics such as disability as guided by the Labor Management Plan (LMP).
- Gender equity to be accepted in all communities.
- Applicants must provide identification as proof of origin and avoid child labour.
- Where possible employ the disadvantaged and disabled.

6.1.2. Positive impact during the operation phase of the subprojects

Human life

The proposed subprojects are earmarked for the protection of current existing infrastructures that will protect the communities and save lives. The existing dikes will have a net positive impact in Fashoda. Protecting the population in Fashoda county will reduce the likely incidents of displacement which will further worsen protection issues that are already in a bad state compared to other locations. Over 76,000 people are expected to benefit from the proposed subprojects in the county.

Mitigation/enhancement Measures

Subproject tagging impacts and mitigation measures presented in this register apply across R28 (Kodok IFMM Dike Upgrading) and R29 (Internal Drainage Rehabilitation and Gated Culverts). Where an impact pathway is specific to one or two subprojects, the relevant subproject code is noted inline.

- Ensure the community structures are organized to foster orderly allocation of the reclaimed land.

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Domestic livestock health

It is likely that the dikes will reduce disease transmission/incidence in cattle causing a moderate positive effect.

Mitigation/enhancement Measures

- Ensure structures are in place to maintain the integrity of the dikes

Economic Welfare and Food Security

The anticipated implementation of the proposed subprojects is expected to improve the food security and nutritional status of households. This improvement is likely to stem from greater availability of animal protein and the opportunity to grow food crops. Additionally, the land recovered through the efforts is projected to offer new areas for farming and livestock grazing.

Mitigation/enhancement Measures

Communities should ensure continued maintenance of the dikes.

Access to safe drinking water

The access to safe drinking water within the county has been flagged as a critical aspect that needs attention. The proposed subprojects are expected to protect the only existing water treatment plant in Fashoda County, and this will ensure that more than 13,000 people will continue to have access to safe drinking water.

Mitigation/enhancement Measures

Ensure structures are in place to maintain the integrity of the dikes.

Human habitation and flood disaster reduction

The proposed subprojects will bring many benefits to the communities returning to the reclaimed areas, most of high significance, through making more habitable land available for settlement and cultivation of crops, providing protection against the adversities of floods, reducing the need for maintaining two areas of residence and associated socioeconomic disruptions caused by the need to migrate for some members of family, among other benefits.

Mitigation/enhancement Measures

Ensure structures are in place to maintain the integrity of the dikes.

Training of PDRMCs to respond to disasters/crises.

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Formation of O&M committees.

6.1.3 Overview of the Impacts of footpaths, crossing points & Docking points

The subprojects will involve undertaking works that will include the rehabilitation of existing crossing points and docking points. During subproject implementation specific impacts may be experienced and this section provides some guidance in the management of the identified impacts. Impacts that are generic as a result of similarity of activities with dike construction activities, such impact have been discussed under section 6.2 with adequate mitigation to be implemented as described.

Disruption of normal movement

Likely, Negative, Short-term, reversible, localized, insignificant

During the construction, normal routes may be closed to allow the machines to work in a safe environment. This may affect the normal day to day activities of the communities.

Mitigation measures

Engagement of communities prior to the closure of certain routes to allow for proper planning.

Community members use alternative routes since there are numerous routes currently in existence.

Ensure the areas are barricaded when working

Noise and Vibrations

Likely, Negative, Short-term, reversible, localized, insignificant

Limited temporary impact of noise pollution expected from moving heavy equipment

Mitigation measures

Prior notice/community awareness will be undertaken for the local community members to keep them informed of what will take place/schedules of the project activities so that they are able to plan accordingly.

Movement will be limited to only daytime hours.

Noise monitoring will be undertaken within the area and at nearby sensitive receptor sites during construction.

Using noise control devices, such as temporary noise barriers and deflectors for impact and blasting activities, exhaust muffling devices for combustion engines.

Avoiding or minimizing project transportation through community areas.

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Use of well-maintained and serviced equipment that generates low noise levels will be emphasized.

Workers involved in dike construction activities will be provided with requisite Personal Protective Equipment.

Idling of machinery including vehicles will be prohibited unless necessary.

Air pollution: - Dust, & Particulate matter

Likely, Negative, Short-term, reversible, localized, insignificant

The operation of machines and their movement will result in generation of air pollutants like dust and particulate matter.

Mitigation Measures

Machinery must be serviced regularly to reduce emissions.

Engines must be turned off when vehicles are not in use or when waiting for loading or off-loading. Idling must be prohibited.

Workers must have dust masks and goggles where necessary.

Dike construction vehicles to travel at low speeds and caution to be taken during windy periods.

Water can be sprinkled to reduce dust emission and wind erosion during windy periods.

Minimizing dust from material handling sources, such as conveyors and bins, by using covers and/or control equipment (water suppression, bag house, or cyclone).

Minimizing dust from open area sources, including storage piles, by using control measures such as installing enclosures and covers, and increasing the moisture content.

Dust suppression techniques should be implemented, such as applying water to minimize dust from vehicle movements

Community safety

Likely, Negative, Short-term, reversible, localized, insignificant

The safety of communities may be compromised during establishment of the crossing points and docking points. Tripping hazards may also be an issue post establishment since there is going to be an increase in the height of the dikes.

Mitigation Measures

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Dissemination of project information must be done to make the communities aware of project and associated risks.

Implementation of the recommended public safety actions should be always done

Warning signs must be erected in places where pits have been dug and in dike construction sites to keep the public out.

A concerns/complaints register must be made and follow ups done on each complaint.

Land degradation

Likely, Negative, Short-term, reversible, localized, insignificant

The extraction of materials e.g. soil form embarkments, excavation works may result in land degradation.

Mitigation Measures

The extraction of natural resources shall be done sustainably only in legally allowed designated areas.

Rehabilitation of all areas disturbed during dike construction shall be done by the Contractor.

Excavation shall be controlled and only restricted to areas that will be worked on only.

6.2 Adverse Impact of the subprojects

6.2.1 Pre-construction/ phase

Planning/ Designing Ensure compliance with the dike construction legislation of South Sudan

Likely, Negative, Short-term, reversible, localized, insignificant

Mitigation measures

Acquire construction/ permit. Provide Water management guidelines if subprojects are executed near surface watercourses.

Planning/ Designing Potential damages to the existing infrastructure and facilities

Likely, Negative, Short-term, reversible, localized, insignificant

Mitigation measures

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Preserving existing local infrastructure and working in cooperation with relevant institutions at all levels of authority.

Poor drainage system and dike /dike construction planning.

Likely, Negative, Short-term, reversible, localized, insignificant

Mitigation measures

Careful selection of engineering options at the planning stage.

Limitation of degree of channel modification on maintenance.

For the Kodok scope, pre-construction-phase activities include site clearance along the 14.6 km dike alignment, survey and setting-out along the three engineering footprints, mobilisation of materials and equipment, and identification and authorisation of contractor borrow areas. Borrow pit identification is the contractor #x2019;s responsibility under coordination with the local administration and technical approval from IOM Engineers, per the Subproject 5 Description. The standard borrow pit siting requirement (preferably within 5 to 7 km of site, with strict compliance to ECRP safeguarding requirements per Annex 13 Borrow Pit Management Plan) applies.

6.2.2. Construction/ Phase

Possible impacts associated with the construction/ phase are presented in the sections that follow.

6.2.2.1 Environmental impact and risk of the subprojects

Air Pollution –Dust and emissions

Likely, Negative, Short to medium term, localised, insignificant to moderately significant (within the project context) dike construction and material extraction, and machinery movement will result in air pollution from emissions and dust particulates which can be harmful to human health or become a nascence during the dike construction and phase.

Mitigation Measures

Machinery must be serviced regularly to reduce emissions.

Engines must be turned off when vehicles are not in use or when waiting for loading or off-loading. Idling must be prohibited.

Workers must have dust masks and goggles where necessary.

Use human labor in favour of machinery to reduce carbon emissions that result from the use of machinery.

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Dike construction vehicles to travel at low speeds and caution to be taken during windy periods.

Water can be sprinkled to reduce dust emission and wind erosion during windy periods.

Different air analysis methods must be employed daily to keep track of ambient air quality.

Minimizing dust from material handling sources, such as conveyors and bins, by using covers and/or control equipment (water suppression, bag house, or cyclone).

Minimizing dust from open area sources, including storage piles, by using control measures such as installing enclosures and covers, and increasing the moisture content.

Dust suppression techniques should be implemented, such as applying water or non-toxic chemicals to minimize dust from vehicle movements.

Air Quality - Greenhouse gases

Likely, Negative, Short to medium term, localised, moderately significant

Emissions from dike construction vehicles carrying dike construction material contribute to the emissions of carbon dioxide, methane, nitrous oxide and greenhouse gas precursors such as non-methane volatile organic compounds and oxides of nitrogen.

Mitigation Measures

As much as is reasonably practical, use local manual labour and well serviced vehicles.

Re-vegetation of disturbed areas should be with indigenous species.

Accelerated Soil Erosion and Siltation/sedimentation

Likely, Negative, Short to medium term, localized, reversible, and significant.

Soil disturbance, particularly during the rainy season results in accelerated soil erosion. slopes and shoulders are prone to soil erosion. These areas have a steep gradient that can cause significant soil loss and siltation of the rivers.

Mitigation Measures

Implement soil conservation measures.

Scheduling to avoid heavy rainfall periods (i.e., during the dry season) to the extent practical.

Contouring and minimizing length and steepness of slopes

Mulching to stabilize exposed areas.

Re-vegetating areas by replanting grass and or reforestation promptly.

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Reducing or preventing off-site sediment transport through use of settlement ponds, silt fences, and modifying or suspending activities during extreme rainfall and high winds to the extent practical.

Vetiver grass planting on embankment slopes per The design engineer drawing SSDRR-ARP-FA-XX-DR-IN-10202 reduces erosion risk on the upgraded dike.

Impact on Vegetation distribution (flora) and fauna

The vegetation type that will be most affected in some sections is the flooded grassland that will be in areas that dike construction and will take place. The prevention of flooding will change the previously river-flooded land behind the rain flooded grassland systems with expected natural succession and encroachment of woody components. Post subprojects implementation, grass lands will appear in sections of the reclaimed land, and this will support livestock keeping in the area. The implementation of the subprojects may also affect the fauna/wildlife of the subproject areas.

Mitigation/enhancement Measures

A detailed layout plan to be developed which focuses on avoiding vegetation loss

Dike construction and works should only be confined to planned areas to avoid disturbance of vegetation in other areas.

Designate selected areas as grazing land and ensure controlled grazing.

Flora -Land clearance should be restricted to that which is required for the project components to minimize the loss of vegetation;

-Restrict vehicle movements to and from the project site(s) to the project access road – offroad driving should be prohibited;

-Site restoration should be undertaken for areas where temporary project infrastructure will be established during the dike construction phase. The affected areas should be restored, and only indigenous vegetation replant or re-seed vegetation e.g. grasses, trees -Intentional restoration using exotic plant species should be avoided;

-Sensitize workers against unnecessary destruction, trampling and clearance of flora/crops and fauna;

Site warning and safety signs at the works perimeter, including the dike crest access points and the R29 culvert installation sites, shall be presented in Arabic, English and Shilluk (Dhok Collo) to ensure intelligibility to the resident community.

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-In an event that the project activities may have potential adverse impacts on biodiversity, a biodiversity management plan should be developed, if the potential risk of project activities is insignificant, the appropriate mitigation measures should be implemented.

For wildlife, including hippos, reptiles and wetland dependent birds, which are dependent on natural flooding regime, minimize disruption of flow in the sub-project areas to the extent possible.

In case of any potential adverse impact on the Sudd region during the implementation of this subproject, the following activities need to be done.

Avoid any significant conversion or significant degradation of critical habitats of the Sudd region.

Worker induction shall include a brief on protected species, with explicit prohibition on hunting, capture, harassment, or consumption of wild fauna by the workforce or contractor personnel. The prohibition shall be included in the contractor code of conduct.

Sediment and turbidity control shall be applied at R29 culvert outfalls, including limiting works to one watercourse half-section at a time and avoiding stockpiling of fill material on the immediate riverbank.

Site lighting at night within 200 m of the Kodok River channel and the White Nile floodplain interface shall be downward-facing and limited to the minimum required for worker safety.

Vehicle speed on the dike crest and access roads shall not exceed 30 km/h to reduce risk of wildlife collision.

Domestic and food waste at worker accommodation shall be collected daily and disposed of off-site to avoid attraction of scavenging species.

Any encounter with a Critically Endangered or Endangered species shall be reported to the IOM Safeguarding Officer within 24 hours, with species, location, time, and circumstances recorded.

These measures address residual risk to species identified in the IBAT screening (Annex 17) and are proportionate to the project scope and operational context.

The PMU/IOM/contractor ensures that any activities undertaken are consistent with the area's legal protection status and management objectives.

Conduct consultation and involve protected area sponsors and managers, project-affected parties including Indigenous Peoples, and other interested parties on planning, designing, and implementing.

Vetiver grass establishment provides progressive re-vegetation along the dike alignment.

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The R28 dike crest has historically functioned as a pedestrian and livestock corridor for the Kodok Town community. During construction, the Contractor shall maintain at least one designated safe passage point along the dike alignment with controlled crossing arrangements during active works hours and shall communicate the daily works programme to the Kodok Town Payam Administrator and to community liaison officers at least 24 hours in advance.

Fisheries potential

The project would have adverse effects on fisheries and other aquatic resources by disruption of migratory routes, deterioration of habitat and changes in water quality (e-g sediment load) leading to reduction to productivity of riverine. However, considering the impacts of the proposed s on local fish the negative impacts of the proposed dike on local fish harvesting are assessed to be of low significance.

The IBAT screening (Annex 17) identifies six restricted-range Nile-system fish species within the 1 km buffer (Mormyrus caschive, M. niloticus, Nannocharax niloticus, Pollimyrus petherici, Synodontis khartoumensis, Labeo horie), and the Wachone (Distichodus nefasch, VU). Mitigation under ESS6 applies the in-channel works timing, sediment control, and species encounter reporting measures set out in the preceding sub-section.

Mitigation/enhancement Measures

Ensure the footprint of the subprojects is maintained in the targeted area only.

Aquatic biodiversity

Several fish species within South Sudan waters, are known to migrate into the river-flooded grasslands in response to the seasonal flood cycles mainly for breeding and feeding purposes. The free movement of the fish will be restricted by the constructed dike. This will result in a reduction in the population of floodplain fish mainly to local communities.

The IBAT screening (Annex 17) records the Nubian Flapshell Turtle (Cyclanorbis elegans, CR) and the African Softshell Turtle (Trionyx triunguis, VU) within the 5 km buffer, both with freshwater habitat affinity. The R29 gated culvert discharges, and the R28 dike alignment along the floodplain interface are the principal interaction pathways. The mitigation measures applied under the preceding sub-section address these pathways, with the species encounter reporting protocol providing for any observation during works.

Mitigation/enhancement Measures

Minimize working outside the targeted areas to ensure the impact is localised.

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Noise pollution

Limited temporary impact of noise pollution expected during excavation and embankments work and drainage system.

Mitigation measures

Prior notice/community awareness will be undertaken for the local community members to keep them informed of what will take place/schedules of the project activities so that they are able to plan accordingly;

Dike construction activities will be limited to only daytime hours;

Noise monitoring will be undertaken within the area and at nearby sensitive receptor sites during construction;

Using noise control devices, such as temporary noise barriers and deflectors for impact and blasting activities, exhaust muffling devices for combustion engines.

Avoiding or minimizing project transportation through community areas.

Use of well-maintained and serviced equipment that generates low noise levels will be emphasized.

Workers involved in dike construction activities will be provided with requisite Personal Protective Equipment; and

Idling of machinery including vehicles will be prohibited unless necessary.

Solid waste

Solid waste, like, wood, stones, plastic materials, and fuels spill might be generated during project implementation activities.

Mitigation measures

Implement waste management hierarchy.

Non-hazardous wastes can be managed by reusing, recycling, or can be sold to authorized collectors and recyclers and should be disposed of using the South Sudan solid waste disposal facilities.

As there are no known facilities to dispose of hazardous waste in the country.

The Contractor should consider designing a temporary hazardous waste storage facility in consideration of the generated amounts and timing before final disposal by licensed hazardous waste handlers in accordance with the national legislative requirements and world Bank ESF requirements and GIIP practices;

Maximize the re-use of all excavated materials in the dike construction works.

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Disposal of surplus material (spoil) only at designated sites approved by the responsible local authority and only by approved methods.

No spoil should be disposed of in wetlands, near watercourses and other important habits.

No spoil should be disposed of in wetlands, near watercourses and other important habits

Contract a licensed hazardous waste handler to safely transport and dispose of hazardous waste;

Capacitate and support licensed personnel who are involved in hazardous waste disposal and management in all aspects including financial and technical support.

Identify the potential waste streams to be generated by the project activities, and how best they can be managed;

All wastes shall be properly disposed of in accordance with the national legislative requirements and in accordance with ESF requirements and GIIP practices.

Risk of vibration

Increased levels of vibration from moving of dike construction vehicles and machinery.

Mitigation measures

Restrict vehicle movement to defined routes.

Notification communities through awareness exercises.

Avoiding or minimizing project transportation through community areas.

Potential surface and ground water impacts

Surface and ground water sources can be polluted because of soil erosion and sedimentation

Mitigation measures

Establish appropriate erosion and sediment control measures (e.g. silt fences) to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers. Monitoring target: turbidity in the receiving watercourse shall not exceed 50 NTU above background during active in-channel works, consistent with the World Bank EHS General Guidelines as referenced in the ECRP II ESMF. Where this is exceeded, works shall pause and sediment controls shall be reinforced.

Drainage depth will be less than 2m. A properly organized waste disposal is a mandatory requirement for the Project.

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Potential water and soil pollution

Water and soil can be polluted due to improper material storage, management, and usage, waste disposal, and drainage of wastewater from dike construction sites.

All wastes generated during dike construction activities should be collected and disposed of appropriately at designated sites;

Undertake monitoring of the soil and water quality and devise corrective action when changes attributed to project implementation have been observed;

The waste management hierarchy should be followed during the dike construction phase. According to this hierarchy, source reduction of waste will be the first option and disposal of unavoidable waste as the option of the last resort;

Dispose waste material at authorised locations protected from washing out, should be marked in the site plan.

Undertake routine preventive maintenance of motorized equipment to avoid any fuel leakage and spills;

Storage of fuels and oils should be undertaken in a manner that does not allow leakage to the soil as the fuel can readily infiltrate the soils polluting the soils, ground and surface water.

Preparing plans and procedures to respond to the discovery of contaminated media to minimize or reduce the risk to health, safety, and the environment.

Managing contaminated media with the objective of protecting the safety and health of occupants of the site, the surrounding community, and the environment.

Organize and cover material storage areas;

Select areas for washing that are not free draining directly into watercourse; and

Installation of ecological toilettes for workers to avoid direct discharge of wastewater to the water body.

Land degradation.

Likely, Negative, Short-term, reversible, localized

The extraction of materials e.g. soil form embarkments, excavation works may result in land degradation.

Mitigation Measures

The extraction of natural resources shall be done sustainably only in legally allowed designated areas.

Rehabilitation of all areas disturbed during dike construction shall be done by the Contractor.

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Excavation shall be controlled and only restricted to areas that will be worked on only.

Borrow pit closure managed under Annex 13 BPMP, including the Lemo borrow pit conversion to community haffir per the IOM design (addressed in Chapter 6.2.4).

Disturbance to the cultural, religious, and archaeological sites

Possibility of encountering an archaeological site, archaeological materials, cultural significance, shrines

Mitigation measures

-Avoid any cultural or religious sites. If cultural or archaeological items are found during soil excavation and dike embankment works or drainage system, the contractor shall immediately suspend the Works. and barricade the area and follow the chance finds procedure.

Water born disease (vector)

Likely, Negative, Short-term, reversible, localised, insignificant

Related to Pools of water act as breeding grounds for disease and illness(mosquitoes)

Mitigation measures

- Prevention of larval and adult propagation through sanitary improvements and elimination of breeding habitats close to human settlements
- Elimination of unusable impounded water.
- Increase in water velocity in natural and artificial channels.
- Considering the application of residual insecticide to dormitory walls.
- Implementation of integrated vector control programs.
- Promoting use of repellents, clothing, netting, and other barriers to prevent insect bites.
- Use of chemoprophylaxis drugs by non-immune workers and collaborating with public health officials to help eradicate disease reservoirs.
- Monitoring and treatment of circulating and migrating populations to prevent disease reservoir spread.
- Collaboration and exchange of in-kind services with other control programs in the project area to maximize beneficial effects.
- Educating project personnel and area residents on risks, prevention, and available treatment.
- Monitoring communities during high-risk seasons to detect and treat cases.
- De-vegetation in the area of the burrow pit, work ways along the dike section.

6.2.2.3 Occupational Safety/Health and employment of dike construction workers

Likely Negative, Short to Medium-term, localised, significant
Dike construction, drainage system and docking point construction activities involve working with tools, machinery and materials that pose significant risk of injury and fatalities if not managed well.

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Mitigation Measures

- The Contractor must make sure that there is a site Safety, Health & Environmental Officer or appointed focal person.
- A Safety, Health and Environment awareness induction training should be conducted for both contractual and casual employees before dike construction commences.
- Dike and docking point construction should be carried out in accordance with relevant occupational health and safety (OHS) standards of the World Bank and the national OHS requirement if any.
- Integrity testing must be done before work begins on heights.
- Workers must be trained on climbing techniques and fall protection measures.
- Adequate PPE and tool bags must be used by workers.
- Minimum standards of provision of segregated lockable sanitary facilities for males and females where necessary.

For the Kodok scope, the Construction-phase OHS profile includes heavy machinery operation along the 14.6 km dike alignment, confined-space risks at culvert excavation, and traffic-on-works-area risks along the existing dike road. The contractor's C-ESMP will include site-specific OHS plans per the Rubkona ESMP Annex 1 contractor requirements adapted to Kodok.

6.2.2.4 Social impact and risks

Increased Pressure on existing social infrastructure

Negative, Likely, short term, localised, moderately significant
The proposed subproject will result in project workers relying on existing social infrastructure particularly for water and sanitation. This may exert pressure on existing communities and may be a source of conflict and possibly may affect the health of workers. Since the work will be mechanised, the number of employees onsite will be few and are likely not to cause a significant impact in the county.

Mitigation measures

- Were possible contractors to use mobile ablution facilities for their teams.
- Stakeholder engagement and dialogue to ensure harmonious relations and access to available resources

Conflicts, fights

Negative, Likely, short term, localised, moderately significant
Interaction of the contractor workers with the community may result in misunderstanding and conflicts

Mitigation measures

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- Induction and training of contractor staff
- Stakeholder engagement and dialogue to ensure constant updates and harmonious relations with communities
- Enforcement of the employee Code of Conduct

Grievances

Likely, Negative, Short to medium term, localized, reversible, and significant

The implementation of subprojects may result in grievances emanating from the interaction of the project Contractor, employees, communities and other stakeholders. These grievances can occur at any stage of project implementation and have the potential to affect and cause delays in project implementation.

Mitigation Measures

- Establishment of a platform to receive and manage grievances as provided for under the ECRP II.
- Education and awareness raising on the GRM to be extended to all relevant stakeholders.
- Disclosure of the GRM including information of cases received and how they have been managed within the project area.
- Multiple channels will be made available for aggrieved parties to file their complaint, grievance, or feedback which include the suggestion boxes, BDC community volunteer, social mobilisers and the help desk as means upon which the aggrieved party may approach to lodge a complaint.

Suggestion boxes are not yet installed at Kodok. The Project commits to installing four grievance suggestion boxes before the commencement of works, at the Kodok Payam Administration office, the Kodok Town market, the Kodok Primary Health Care Unit, and the contractor site office. A community help desk will operate at the contractor site office on working days during site working hours, and the box locations and help-desk schedule will be disclosed to the community at mobilisation.

Risk of accidental damage cultural heritage objects *Likely, Negative, Short to medium term, localized.*

The implementation of the subprojects may result in the exposure of archaeological remains. Such happenings may not be predicted but once observed the relevant necessary procedures and protocols should be followed.

Mitigation Measures

- If there are any chance finds during the implementation of the sub projects, IOM and the Contractor s are obliged to comply with the requirements of the Bank, national laws, and guidance from the traditional leaders. The provisions of the ECRP II ESMF and the Chance Finds procedure (Annex 5) should guide such cases, in line with ESS8 Cultural Heritage requirements.
- Discrimination in employment and occupation with respect to gender and disability may also occur as well as possible child labor.

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Gender Based Violence (GBV)

Likely, Negative

Floods and food insecurity are affecting several parts of Fashoda which increases women's/ girls' vulnerability to GBV. The population is concentrated in an area increasing more risks for GBV. Increased cases of child/forced marriage and teenage pregnancies due to prolonged school closure and Hunger. Schools have been submerged by water; Farms are carried off by floods forcing families to send girls for marriages to get living. Cultural and Social norms which perpetuate and reinforce multiple forms of violence against women and girls. Girls are seen as bride price and liabilities. Worst with the ongoing floods and the 2021 conflict and crisis. Gender discrimination and social stigma prevent GBV survivors from seeking help and accessing services. Both men and women fear reporting GBV cases. Men are seen as superior, not allowing them to report. Women face even more violence when they attempt to report. The assessment noted that there are limited reporting opportunities and support services to child survivors of GBV.

Mitigation Measures

- Training and creating more awareness on GBV/SEA
- Continues GBV safety Audits of every subproject. Safety Audits sessions also act as a space for creating more awareness and educating the communities on General protection and GBV in specific.
- Service mapping of protection and GBV related services. This helps to identify the updated referral pathways to the communities.
- Women Leadership Trainings and confidence Building to empower women to speak and raise concerns related to them.
- Promotion of reporting systems that are anonymous and that protect the victim

Risks and impact of road safety and poor traffic management for worker and communities

Mitigation measures

- Implementation of a traffic management system i.e. speed limits, traffic controllers, installation of signage.
- Ensure adequate warning signs, protective fencing etc.
- Observe and respect traffic rules.
- Clean dike construction waste from the dike construction site when closing the dike construction site.
- Journey-specific risk assessments which will include the identification of potentially sensitive receptors along the traffic routes should be conducted. For significant traffic movements, including transport of dike construction materials to site, any affected communities/residents along the route should be

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sensitized, and wherever possible, attempts made to undertake the traffic movements at the least busy times of day;

- Only approved drivers should be allowed to operate vehicles; and
- Dike construction materials should, wherever possible, be preferentially sourced locally in a manner that reduces environmental and social impacts (e.g., transport distances) and maximizes local economic development opportunities.
- All roads should have clear and visible signage especially in community areas, around schools and hospitals to minimize the risk of-All staff should undergo an Environment, Health and Safety induction process which includes rules for safe driving, including speed limits in community areas; and
- Dike construction equipment should be maintained on site until the dike construction is complete to reduce on vehicle movement (Taking into consideration, their security

Risk to community health and safety e.g. UXOs, and mines

Given the documented presence of Unexploded Ordnance (UXO) in the broader Fashoda County area arising from past conflict, the Contractor shall conduct a pre-works UXO risk briefing for all workforce members before any ground-breaking activity at R28 borrow operations, or R29 drainage excavation. Suspected items shall not be touched, moved or approached; works in the immediate vicinity shall be suspended and the United Nations Mine Action Service (UNMAS) shall be notified via the IOM Safeguarding Officer for clearance before resumption.

South Sudan has areas that may be contaminated with UXOs. The targeted subprojects are in areas with no non-information about contamination.

Mitigation measures

- Education, awareness raising on UXOs will be done in Kodok Town and the surrounding bomas
- In the event that any UXO is identified during dike construction. Competent authorities will be involved to assess and clear the area to pave the way for dike construction.

Public Health and Safety Risk

Likely, Negative, Short-term, reversible, localised, insignificant

This assessment identifies potential impacts of the Project on Community, Health, and Safety. Impacts will primarily occur in the dike construction and phase and result in increased safety risks for communities in the Project area. These include increase in ambient noise levels, elevated dust levels and risk of accidents or injuries if equipment is left lying around and accidents.

Mitigation Measures

- Dissemination of project information must be done to make the public aware of project and associated risks.
- Implementation of the recommended public safety actions (refer to the Environmental Management & Monitoring Plan)

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- Warning signs must be erected in places where pits have been dug and in dike construction sites to keep the public out.
- A concerns/complaints register must be made and follow ups done on each complaint.
  Workers must take tools to proper storage or leave it safely stored after work.

Communicable diseases

Likely, Negative, Short-term, reversible, localised, insignificant

The interaction of contractor workers and the communities may lead to the spread of communicable diseases

Mitigation measures

- Providing surveillance and active screening and treatment of workers.
- Preventing illness among workers in local communities by:
- Undertaking health awareness and education initiatives, for example, by implementing an information strategy to reinforce person-to-person counselling addressing systemic factors that can influence individual behaviour as well as promoting individual protection, and protecting others from infection, by encouraging condom use.
- Training health workers in disease treatment.
- Conducting immunization programs for workers in local communities to improve health and guard against infection.
- Providing health services.
- Providing treatment through standard case management in on-site or community health care facilities.
- Ensuring ready access to medical treatment, confidentiality and appropriate care, particularly with respect to migrant workers.
- Promoting collaboration with local authorities to enhance access of workers' families and the community to public health services and promote immunization.

Labour influx risk at Kodok Town is contained by limited workforce size and short construction window (six-month workplan), with workers accommodated under contractor responsibility at an approved camp location to be confirmed. SEA/SH provisions per the ECRP II ESCP commitments apply, with grievance channels accessible at both site level and via the IOM Malakal sub-office. The Shilluk traditional authorities under the Reth's office will be engaged through ESS7 protocols during the in-country deployment.

Conflict Sensitivity and Do No Harm

Fashoda County has a documented history of inter-communal tension, including the displacement events of 2022 described in Chapter 5. In line with Project Design Principle 3, the works are assessed here against a Do No Harm frame to ensure the subprojects do not exacerbate tension between the Shilluk (Collo)

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community and neighbouring Padang Dinka groups, or between host, returnee and displaced populations present in Kodok Town.

Three interaction pathways are considered. First, dike and drainage placement: the alignment follows the existing IFMM dike around Kodok Town and the established internal drainage corridor, so no new land is opened, and no community boundary is redrawn by the works. Second, labour recruitment: casual and semi-skilled labour shall be recruited transparently through local leadership, with selection criteria announced in advance during community consultations, so that hiring does not become a source of grievance between groups or a perception of favouring one community. Third, borrow and material access: borrow operations shall be confined to the authorised Lemo and Debor plots under the October 2024 Land Use Form, avoiding contested land on the eastern bank of the Nile.

Mitigation shall include continued conflict-sensitive stakeholder engagement through the Stakeholder Engagement Plan, transparent and locality-based recruitment, the grievance channels set out in Chapter 8 including a confidential channel, and engagement with the Shilluk traditional authorities under the Reth's office through ESS7 protocols. The IOM Safeguarding Officer shall monitor for any emerging tension linked to the works and adjust the engagement approach as needed throughout implementation.

6.2.3. Operation Phase

The subprojects assessed include brown field and greenfield subprojects. The magnitude of the proposed subprojects is small to medium, and their environmental and social footprint is not big. Thus, it is anticipated that the implementation of the subprojects will pose moderate environmental and social risk. Possible impacts associated with the operation phase are presented in the sections that follow.

6.2.3.1 Environmental Impacts and Risks

Reduction of floodplain grazing, both through ecological changes on the floodplain and intensified development (Irrigated agriculture).

Likely, Negative, long term, localized, reversible, significant.

Mitigation measures

-Production of fodder crops and usage of byproducts of irrigated food crops and development of alternative water sources.
-Integration of existing rangeland use (e.g., is-nomadic herding) with planned developments, to ensure substantial ground watering possibilities in the valley during dry season.

Flooding problems created downstream should be incorporated.

Likely, Negative, Short term, localized, reversible, significant.

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Mitigation measures

-Protection of natural overflow areas downstream.
-Creation of overflow basins.

-Implement emergency preparedness measures (see section 8).

The downstream effect of the works has been assessed using the project flood modelling. The subproject is a perimeter (ring) dike enclosing the Kodok flood-protected area, not a barrier placed across a flowing watercourse, so it does not divert a river channel onto downstream land. The hydraulic modelling by Ground Water Relief for IOM-ECRP, using a high-resolution Digital Terrain Model and the CHIRPS 2022 wet-season dataset, sets a design peak flood level of about 389.0 m (EGM2008) based on the 2019 peak flood, with the modelled flood shown to recede within twelve to twenty-four hours and the protected area dry for several months of each year. The flood within the protected area is therefore a seasonal rainfall and Nile backwater pond rather than a redirected river flow. Drainage from the protected area is returned to the Kodok River and the White Nile through the gated culverts and internal drainage rehabilitated under this project (Sub-projects R29), so that impounded water is released in a controlled manner and is not displaced onto neighbouring or downstream communities. Natural overflow areas downstream are retained, and the post-development modelling is used to confirm that the works do not raise flood levels on land outside the protected area. The detailed modelling approach and outputs are held in the Arup Integrated Surface Water Management Basis of Design Report (SSDRR-ARP-ZZ-XX-RP-IN-10002) and the associated flood hazard mapping (SSDRR-ARP-FA-XX-DR-IN-10301 and 10302).

Potential for structural failure and floodwaters higher than capacity of control structures /measures

Likely, Negative, Short term, localized, reversible, significant.
Potential for structural failure and floodwaters higher than capacity of control structures /measures, leading to increased risk to life and property because local project adaptations are relaxed or abandoned or increased development on the floodplain has occurred post-project.

Mitigation measures

-Implementation of non-structural measures, such as watershed management activities (e.g., increasing vegetative cover, particularly on slopes, improving agricultural practices, implementing gully erosion control measures, etc.), planting of vegetation along riverbanks to help contain and reduce flooding, and protection of, or restriction of, use of wetlands which have a natural flood control effect to prevent increased flood risk, and

-Implement flood warning system using the emergency preparedness measures (See Chapter 8).

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6.2.3.2 Social Impact and Risks

Conflicts, fights

Negative, Likely, short term, localised, moderately significant
Interaction of the community groups relating to the use and management of the subprojects

Mitigation measures

- Encourage community dialogue and peaceful engagement
- Clear communication from the community PDRMCs on activities
- Enforcement of laws by local community leadership

Grievances
Likely, Negative, Short to medium term, localized, reversible, and significant
The use and maintenance of subprojects may result in grievances emanating from the interaction of the community groups

Mitigation Measures

- Maintain the platform to receive and manage grievances as established under ECRP II.

Gender Based Violence (GBV)

Likely, Negative
Floods and food insecurity are affecting several parts of Fashoda which increases women's/ girls' vulnerability to GBV. The population is concentrated in an area increasing more risks for GBV. Increased cases of child/forced marriage and teenage pregnancies due to prolonged school closure and Hunger. Schools have been submerged by water; Farms are carried off by floods forcing families to send girls for marriages to get living. Cultural and Social norms which perpetuate and reinforce multiple forms of violence against women and girls. Girls are seen as bride price and liabilities. Worst with the ongoing floods and the 2021 conflict and crisis. Gender discrimination and social stigma prevent GBV survivors from seeking help and accessing services. Both men and women fear reporting GBV cases. Men are seen as superior, not allowing them to report. Women face even more violence when they attempt to report. The assessment noted that there are limited reporting opportunities and support services to child survivors of GBV.

Mitigation Measures

- Training and creating more awareness on GBV/SEA

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- Continues GBV safety Audits of every subproject. Safety Audits sessions also act as a space for creating more awareness and educating the communities on General protection and GBV in specific.
- Service mapping of protection and GBV related services. This helps to identify the updated referral pathways to the communities.
- Women Leadership Trainings and confidence Building to empower women to speak and raise concerns related to them.
- Promotion of reporting systems that are anonymous and that protect the victim

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Public Health and Safety Risk

Likely, Negative, Short-term, reversible, localised, insignificant

This assessment identifies potential impacts of the Project on Community, Health, and Safety. Impacts will primarily occur in the operation and maintenance phase and result in increased safety risks for communities and their livestock. These include elevated dust levels and risk of accidents or injuries if equipment is left lying around and accidents.

Mitigation Measures

- Dissemination of ES risks must be done to O&M committees and the public.
- Implementation of the recommended public safety actions (refer to the Environmental Management & Monitoring Plan)
- Warning signs must be erected in places where pits have been dug and in dike construction sites to keep the public out.
- A concerns/complaints register must be made and follow ups done on each complaint.
- Workers must take tools to proper storage or leave it safely stored after work.

Access issues

Due to limited road transport and accessibility issues during the rainy season, most transportation is conducted via waterways and air.

Mitigation Measures

- Proper planning and route assessments
- Use of barges and riverine vessels transit the White Nile through the county, linking Malakal and Renk.

For the Kodok scope during the operation phase, the primary impacts are positive: flood protection benefiting approximately 46,713 people in Fashoda County per the Aide Memoire 2025; safer livestock movement; and improved water management through the rehabilitated drainage and gated culverts. Maintenance responsibility transfers to the Payam Disaster Risk Management Committee (PDRMC) with handover protocols and OMC training in line with the ECRP II sustainability framework. Operation-phase residual risks include drainage channel siltation if maintenance lapses (mitigation: PDRMC scheduled maintenance), vector breeding at culvert inlet sumps (mitigation: vegetation management), and continued borrow pit pond safety at the Lemo haffir (mitigation: perimeter fencing, signage, gentle access ramps per Annex 13).

6.2.4. Decommission Phase

6.2.4.1 Environmental impact and risk

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Environmental pollution

Likely, Negative, Short to Medium-term, localized, significant.

The key environmental pollution anticipated from the decommissioning phase includes the following:

(a) Deposition of emitted particulate matter and dust on land affects the soil quality and the effect could compromise the integrity of nearby water sources.

Mitigation measures

- Environmental monitoring of the ambient air and water quality of the surrounding environment
- Adherence to the pollution management guidelines stipulated in the decommissioning plan.
- Education, Training and Capacity building of operators.

Waste generation.

Negative, Likely, medium to long term, localised, reversible moderately significant

During the decommissioning phase, dike construction materials and waste oil can be discarded, forgotten, or left on site.

Mitigation measures

- Soil waste materials can be used in the backfilling of waste disposal cells.
- Hazardous waste like oils should be disposed of in an environmentally sound manner at designated sites under the authority of the Ministry of Environment and Forestry.

Borrow Pit Conversion to Community Haffir at Lemo

The decommissioning phase for the Kodok scope includes a planned alternative end-use conversion of the Lemo borrow pit into a community haffir. As it is planned conversion of the borrow pit into a haffir as part of decommissioning of the open pit into another asset that the community can use.

- The 200 m by 200 m Lemo borrow pit was authorised under the October 2024 Land Use Form (ECRP/ESS-F007), signed by Teresa Akij Bol (BDC Chairperson Lemo), Denyguang Ajyang (Boma Chief Lemo), John Othow Pedeit (BDC Chairperson Debor), Chul Ayul Along (Boma Chief Debor), with line ministry signature by John Mijiwok Aywal on 14 October 2024 and validation by Alessio Akamy Bauo (State Ministry for Physical Infrastructure) on 16 October 2024 in Malakal. The conversion follows the alternative end-use pathway described in the Borrow Pit Management Plan at Annex 13, producing a 50 m by 50 m community haffir per the IOM design drawing (filed at Annex 4).

- Decommissioning-phase risks specific to the borrow pit conversion include water quality and contamination control during and after impoundment; vector breeding (mosquito larvae) in standing

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water; slope stability at the haffir perimeter; child and livestock safety at the open water feature; and sustained community ownership and maintenance after IOM handover.

- Mitigation measures (adapted from the Rubkona ESMP Annex 13 Borrow Pit Management Plan, Alternative End Uses section): regrading internal slopes to a maximum of 1:3 to prevent collapse and allow safe access; compacting the pit floor to reduce seepage and improve water retention; perimeter berms to prevent inflow of contaminated runoff; controlled inlet channels to capture rainwater or floodwater without causing erosion; separation of livestock watering points from human-use zones using fencing or designated access ramps; vegetation management around the pond margins to remove small water-filled depressions that support mosquito larvae; encouragement of water movement where feasible; optional biological vector control using larvae-eating fish such as Tilapia, documented to reduce mosquito larvae by over 90 percent in comparable applications; perimeter fencing using natural materials or posts and rails; warning signage in local Shilluk languages around the pond perimeter; gentle access ramps for supervised water collection.

6.2.4.2 Occupational, Health and Safety

Likely, Negative, Short to Medium-term, localised, significant
Decommissioning activities involve working with tools, machinery and materials that pose significant risk of injury and fatalities if not managed well. Work will also be carried out on heights during demolition and thus increasing risk of injury or death by falling. Discrimination in employment and occupation with respect to gender and disability may also occur as well as possible child labour.

Mitigation Measures

- The Contractor must make sure that there is a site Safety, Health & Environmental Officer.
- Safety, Health, and Environment awareness training should be conducted for both contractual and casual employees before dike decommissioning.
- Dike decommissioning should be carried out in accordance with relevant occupational health and safety standards.
- Integrity testing must be done before work begins on heights.
- Workers must be trained on climbing techniques and fall protection measures.
- Workers must use adequate PPE and tool bags.
- Minimum standards of provision of segregated lockable sanitary facilities for males and females where necessary?

Noise Pollution

The decommissioning operations are likely to generate noise from the demolition activities. This situation is likely to have occupational health and safety implications as well as effects to the workers. Those within the site and in the neighbourhoods of the project site may be affected.

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Mitigation measures

- Avoiding selection of equipment that emits noise beyond prescribed levels.
- Deliberate selection of equipment with noise control devices and mufflers
- Use of documented SOPs
- Development of Noise management Plans
- Use of PPE

6.2.4.2 Social impact and risks

Increased Pressure on existing social infrastructure

Negative, Likely, short term, localised, moderately significant
The proposed subproject will result in project workers relying on existing social infrastructure particularly for water and sanitation. This may exert pressure on existing communities and may be a source of conflict and possibly may affect the health of workers. Since the work will be mechanised, the number of employees onsite will be few and are likely not to cause a significant impact in the county.

Mitigation measures

- Contractor to use mobile ablution facilities for their teams.
- Stakeholder engagement and dialogue to ensure harmonious relations and access to available resources

Conflicts, fights

Negative, Likely, short term, localised, moderately significant
Interaction of the contractor workers with the community may result in misunderstanding and conflicts

Mitigation measures

- Induction and training of contractor staff
- Stakeholder engagement and dialogue to ensure constant updates and harmonious relations with communities
- Enforcement of the employee Code of Conduct

Grievances
Likely, Negative, Short to medium term, localized, reversible, and significant

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The implementation of subprojects may result in grievances emanating from the interaction of the project Contractor, employees, communities and other stakeholders. These grievances can occur at any stage of project implementation and have the potential to affect and cause delays in project implementation.

Mitigation Measures

- Establishment of a platform to receive and manage grievances as provided for under the ECRP II.
- Education and awareness raising on the GRM to be extended to all relevant stakeholders.
- Disclosure of the GRM including information of cases received and how they have been managed within the project area.
- Multiple channels will be made available for aggrieved parties to file their complaint, grievance, or feedback which include the suggestion boxes, BDC community volunteer, social mobilisers and the help desk as means upon which the aggrieved party may approach to lodge a complaint.

Suggestion boxes are not yet installed at Kodok. The Project commits to installing four grievance suggestion boxes before the commencement of works, at the Kodok Payam Administration office, the Kodok Town market, the Kodok Primary Health Care Unit, and the contractor site office. A community help desk will operate at the contractor site office on working days during site working hours, and the box locations and help-desk schedule will be disclosed to the community at mobilisation.

Chance Finds

Likely, Negative, Short to medium term, localized.

The implementation of the subprojects may result in the exposure of archaeological remains. Such happenings may not be predicted but once observed the relevant necessary procedures and protocols should be followed.

Mitigation Measures

- If there are any chance finds during the implementation of the sub projects, IOM and the Contractor s are obliged to comply with the requirements of the Bank, national laws, and guidance from the traditional leaders. The provisions of the ECRP II ESMF and the Chance Finds procedure should guide such cases, in line with ESS8 Cultural Heritage requirements.
- Discrimination in employment and occupation with respect to gender and disability may also occur as well as possible child labor.

Gender Based Violence (GBV)

Likely, Negative

Floods and food insecurity are affecting several parts of Fashoda which increases women's/ girls' vulnerability to GBV. The population is concentrated in an area increasing more risks for GBV. Increased cases of child/forced marriage and teenage pregnancies due to prolonged school closure and Hunger. Schools have been submerged by water; Farms are carried off by floods forcing families to send girls for

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marriages to get living. Cultural and Social norms which perpetuate and reinforce multiple forms of violence against women and girls. Girls are seen as bride price and liabilities. Worst with the ongoing floods and the 2021 conflict and crisis. Gender discrimination and social stigma prevent GBV survivors from seeking help and accessing services. Both men and women fear reporting GBV cases. Men are seen as superior, not allowing them to report. Women face even more violence when they attempt to report. The assessment noted that there are limited reporting opportunities and support services to child survivors of GBV.

Mitigation Measures

- Training and creating more awareness on GBV/SEA
- Continues GBV safety Audits of every subproject. Safety Audits sessions also act as a space for creating more awareness and educating the communities on General protection and GBV in specific.
- Service mapping of protection and GBV related services. This helps to identify the updated referral pathways to the communities.
- Women Leadership Trainings and confidence Building to empower women to speak and raise concerns related to them.
- Promotion of reporting systems that are anonymous and that protect the victim

Risks and impact of road safety and poor traffic management for worker and communities

Mitigation measures

- Implementation of a traffic management system i.e. speed limits, traffic controllers, installation of signage.
- Ensure adequate warning signs, protective fencing etc.
- Observe and respect traffic rules.
- Clean dike construction waste from the dike construction site when closing the dike construction site.
- Journey-specific risk assessments which will include the identification of potentially sensitive receptors along the traffic routes should be conducted. For significant traffic movements, including transport of dike construction materials to site, any affected communities/residents along the route should be sensitized, and wherever possible, attempts made to undertake the traffic movements at the least busy times of day;
- Only approved drivers should be allowed to operate vehicles; and
- Dike construction materials should, wherever possible, be preferentially sourced locally in a manner that reduces environmental and social impacts (e.g., transport distances) and maximizes local economic development opportunities.

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- All roads should have clear and visible signage especially in community areas, around schools and hospitals to minimize the risk of-All staff should undergo an Environment, Health and Safety induction process which includes rules for safe driving, including speed limits in community areas; and
- Dike construction equipment should be maintained on site until the dike construction is complete to reduce on vehicle movement (Taking into consideration, their security

Public Health and Safety Risk

Likely, Negative, Short-term, reversible, localised, insignificant

This assessment identifies potential impacts of the Project on Community, Health, and Safety. Impacts will primarily occur in the dike construction and phase and result in increased safety risks for communities in the Project area. These include increase in ambient noise levels, elevated dust levels and risk of accidents or injuries if equipment is left lying around and accidents.

Mitigation Measures

- Dissemination of project information must be done to make the public aware of project and associated risks.
- Implementation of the recommended public safety actions (refer to the Environmental Management & Monitoring Plan)
- Warning signs must be erected in places where pits have been dug and in dike construction sites to keep the public out.
- A concerns/complaints register must be made and follow ups done on each complaint.
  Workers must take tools to proper storage or leave it safely stored after work.

Communicable diseases

Likely, Negative, Short-term, reversible, localised, insignificant

The interaction of contractor workers and the communities may lead to the spread of communicable diseases

Mitigation measures

- Providing surveillance and active screening and treatment of workers.
- Preventing illness among workers in local communities by:
- Undertaking health awareness and education initiatives, for example, by implementing an information strategy to reinforce person-to-person counselling addressing systemic factors that can influence individual behaviour as well as promoting individual protection, and protecting others from infection, by encouraging condom use.
- Training health workers in disease treatment.
- Conducting immunization programs for workers in local communities to improve health and guard against infection.

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- Providing health services.
- Providing treatment through standard case management in on-site or community health care facilities.
- Ensuring ready access to medical treatment, confidentiality and appropriate care, particularly with respect to migrant workers.
- Promoting collaboration with local authorities to enhance access of workers' families and the community to public health services and promote immunization.

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CHAPTER 7

ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN (ESMMP)

Table 8: ESMMP Summary Table

Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
PRE-CONSTRUCTION/ STAGE									
Tender documents prepared with access to or use of the this ESMP	Tender documents will include a copy of the mitigation and monitoring plan ESMP, which shall be included in the safeguard clauses of the Technical Specifications in the contracts and commitment to comply with Lender Requirements	IOM (ECRP II), & another partners	Before recruiting of contractor	Document review, Audits, and inspections	Number of tender documents (which included ESMP requirements) provided to contractors	Ongoing, any time when tenders are prepared.	IOM-ECRP II, County Dike Management Committee PMU	Monthly	1000
Planning/ Designing Ensure compliance with dike construction legislation of South Sudan	Acquire dike construction permit Provide Water management guidelines if subprojects are executed near surface watercourses.	ECRP II, & another Contractor	Before starting work	Document review, Audits and inspections	Number of permits acquired, and awareness meetings held on dike construction	Monthly	ECRP II, , County Dike Management Committee, PMU	At the start of the subprojects	5000

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
Planning/ Designing Potential damages to the existing infrastructure and facilities.	Preserving existing local infrastructure and working in cooperation with relevant institutions at all levels of authority.	ECRP II,& Contractors	Continuously during planning phase	Inspections	Number of site inspections	Weekly	Contractor and County Dike Management Committee, PMU,	Continuous throughout project implementation	Included in the consolidated ESMP budget (Table 22).
Poor drainage system and dike /dike construction planning	-Careful selection of engineering options at planning stage. -Limitation of degree of channel modification on maintenance.	ECRP II,& Contractors	Continuously during planning phase	Inspections	Number of site inspections	Weekly	Contractor and County Dike Management Committee, PMU,	At planning stage	Included in the consolidated ESMP budget (Table 22).

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
Occupational Health and Safety	-Pre-Task Risk assessment Adequate PPE supply, Worker Induction, -Close monitoring through inspections, and audits	ECRP II,& Contractors	Continuously during planning phase	Document review, Audits and inspections	Documented OHS Management plan Adequate PPE supply Clear Work Procedures Induction register Pre-Task Risk assessment	Weekly by Field teams /Monthly by Juba Teams	ECRP II, CDRMC, PMU,	Continuous throughout project implementation	Contractor cost, included in the works contract.
Identification and authorisation of contractor borrow areas	Contractor selects borrow pits per Subproject 5 Description (within 5 to 7 km of site, IOM Engineer technical approval). Borrow Pit Management Plan at Annex 13.	Contractor / IOM Engineering	Once per borrow pit, prior to extraction	Document review and site inspection	BPMP signed off per borrow pit; coordinates and authorisation document filed	Once per borrow pit, prior to extraction	IOM Safeguarding / PMU	Pre-construction phase	Contractor cost
Ongoing engagement with Shilluk traditional authorities	Free, prior and informed consultation; documented engagement at boma, payam and county levels; cultural heritage protocols applied	IOM Safeguarding / Consultant	Pre-mobilisation; continuous through all phases	Engagement records review	Engagement records per phase; no unresolved	Quarterly minimum; ad-hoc as needed	IOM Safeguarding / PMU	All phases	Procedural

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
under the Reth's office	throughout works programme.				Shilluk concerns				
ESMP implementation budget consolidation	The costs of the measures in this plan are met from the consolidated ESMP budget set out in Table 22 (USD 170,000), the training and stakeholder-engagement costs in Table 19, and the contractor works contract. The cost column above identifies the funding source for each row.	IOM	Once at finalisation	Budget table review		Once at finalisation	IOM PMU	Pre-construction phase	Consolidated in Table 22.

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
Material transportation e.g. soils, sand	-Cover truck load	ECRP II,& other Contractors	daily	Inspection reports	Number of site inspections	daily	Contractor and County Dike Management Committee, PMU	Weekly	Part of the works contracts
Soil erosion and Loss of topsoil due to access roads, quarry sites work areas and drainage system and dike construction/ activities	-Scheduling to avoid heavy rainfall periods (i.e., during the dry season) to the extent practical. -Contouring and minimizing length and steepness of slopes -Mulching to stabilize exposed areas. -Re-vegetating areas by replanting grass and or reforestation promptly. -Reducing or preventing off-site sediment transport through use of settlement ponds, silt fences, and modifying or suspending activities during extreme	ECRP II, & other Contractors	daily	Inspection reports	Number of site inspections	daily	Contractor and County Dike Management Committee, PMU	Monthly	2000

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	rainfall and high winds to the extent practical. - Vetiver grass planting on embankment slopes per The design engineer drawing SSDRR-ARP-FA-XX-DR-IN-10202								
Potential surface and ground water impacts due to soil erosion and sedimentation	-Establish appropriate erosion and sediment control measures (e.g. silt fences) to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers. - - Drainage depth will be less than 2m. A properly organized waste disposal is a mandatory requirement for the Project.	ECRP II,& other Contractors	daily	Site inspections	Number of site inspections	weekly	ECRP II, , , & other Contractors County Dike Management Committee, PMU	Monthly	5000
Potential water and soil pollution due to improper material storage,	-All wastes generated during dike construction activities should be collected and disposed of	ECRP II,& other Contractors	daily	Site inspection reports	Number of site inspections	weekly	Contractor and County Dike Management	Monthly	2000

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
management, and usage, waste disposal, and drainage of wastewater to the dike construction site.	appropriately at designated sites; -Undertake monitoring of the soil and water quality and devise corrective action when changes attributed to project implementation have been observed; -The waste management hierarchy should be followed during the dike construction phase. According to this hierarchy, source reduction of waste will be the first option and disposal of unavoidable waste as the option of the last resort; -Dispose waste material at authorised locations protected from washing out, should be marked in the site plan. -Undertake routine preventive maintenance of motorized equipment to						Committee, PMU		

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	avoid any fuel leakage and spills; -Storage of fuels and oils should be undertaken in a manner that does not allow leakage to the soil as the fuel can readily infiltrate the soils polluting the soils, ground and surface water. -Preparing plans and procedures to respond to the discovery of contaminated media to minimize or reduce the risk to health, safety, and the environment. -Managing contaminated media with the objective of protecting the safety and health of occupants of the site, the surrounding community, and the environment. -Organize and cover material storage areas; -Select areas for washing that are not free draining								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	directly into the watercourse. Installation of ecological toilettes for workers to avoid direct discharge of wastewater to the water body.								
Poor maintenance and repairs and refuelling at the dike construction site.	-Avoid servicing and refuelling at the site. -Use protective foils during possible vehicle refuelling and maintenance at the dike construction site. - Provide absorbing material in case of fuel spills. Any fuel or oil spill shall be reported to the IOM Safeguarding Officer regardless of volume, contained at source, and the contaminated material removed and disposed of in line with the waste management requirements. -Used oiled materials and agents should be managed	ECRP II, & other Contractors	Weekly	Site inspection reports	Number of site inspections	Weekly	ECRP II, , , & other Contractors County Dike Management Committee, PMU	Monthly	2000

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	in line with the waste management report.								
Road safety and poor traffic management risks and impact for worker and communities	-Implementation of a traffic management system i.e. speed limits, traffic controllers, installation of signage. -Ensure adequate warning signs, protective fencing etc. -Observe and respect traffic rules. -Clean dike construction waste from the dike construction site when closing the dike construction site. -Journey-specific risk assessments which will include the identification of potentially sensitive receptors along the traffic routes should be conducted. For significant traffic movements,	ECRP II, & other Contractors	Daily	Implement the Dike constructio n Site Organizatio n Plan.	Number of site inspections	Monthly	ECRP II, , , & other Contractors County Dike Management Committee, PMU	Monthly	5000

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	including transport of dike construction materials to site, any affected communities/residents along the route should be sensitized, and wherever possible, attempts made to undertake the traffic movements at the least busy times of day; -Only approved drivers should be allowed to operate vehicles; -Dike construction materials should, wherever possible, be preferentially sourced locally in a manner that reduces environmental and social impacts (e.g., transport distances) and maximizes local economic development opportunities. -All roads should have clear and visible signage especially in community								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	areas, around schools and hospitals to minimize the risk. accidents;-All staff should undergo an Environment, Health and Safety induction process which includes rules for safe driving, including speed limits in community areas; and -Dike construction equipment should be maintained on site until the dike construction is complete to reduce vehicle movement (taking into consideration their security).								
Disturbance to the cultural and religious sites.	-Avoid any cultural or religious sites. If cultural or archaeological items are found during soil excavation and dike embankment works or drainage system, the	ECRP II,& other Contractors	daily	Site inspection reports	Weekly	Number of site inspections	ECRP II, , , & other Contractors County Dike Management Committee, PMU	Monthly	3000

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	contractor shall stop work and trigger the Chance Find Procedure (Annex 5) under ESS8 Cultural Heritage requirements.								
Possibility of encountering an archaeological site, archaeological materials, cultural significance, shrines	If an archaeological site is encountered such as a graveyard, the Contractor will immediately suspend the Works. Barricade the area and follow the chance finds procedure. and inform the project, county authorities (trigger chance find procedure). The unregistered cemetery identified is a known sensitive feature triggering this procedure.	ECRP II, & other Contractors	Daily	Chance Find Procedures in place	Weekly	Number of cultural items found	ECRP II, , , & other Contractors County Dike Management Committee, PMU	Monthly	2000
Equipment maintenance and fuelling	Ensure proper handling of lubricants, fuels and solvents while maintaining the equipment and work vehicles. Put in place gravity	ECRP II,& other Contractors	Weekly	Camp and dike constructio n site inspections	Number of site inspections	Weekly	ECRP II, , , & other Contractors County Dike Management	Monthly	Part of motor vehicle maintena nce

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	oil separator, absorbent mat/ fabric						Committee, PMU		
Impacts on land use/ settlements expansion	The dikes will be constructed on public land reserves. There will be no physical displacement of any household, per the October 2024 Land Use Form (ECRP/ESS-F007) and the February 2026 Land use form signed by the Kodok Town Payam Administrator. The county administration pledged to control encroachment as a result of settlement expansion towards the dikes.	ECRP II,& other Contractors	daily	Site inspection reports	Number of site inspections	weekly	ECRP II, , , & other Contractors County Dike Management Committee, PMU	Monthly	
Air quality due to dust from transportation of dike construction materials and truck traffic and	-Minimizing dust from material handling sources, such as conveyors and bins, by using covers and/or control equipment (water	ECRP II,& other Contractors	Daily	Monitoring speed limit within town	Speed and dust observations Monitoring target:	Weekly	ECRP II, , , & other Contractors County Dike Management	Monthly	2000

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
elevated levels of nitrogen oxide (NOx) and sulphur oxide (SOx) from dike construction equipment exhausts	suppression, bag house, or cyclone). - Minimizing dust from open area sources, including storage piles, by using control measures such as installing enclosures and covers, and increasing the moisture content. -Dust suppression techniques should be implemented, such as applying water or non-toxic chemicals to minimize dust from vehicle movements. -Avoiding open burning of solid.				visible dust shall be suppressed at sensitive receptors, with dust monitoring at the Seven Days School, the Kodok hospital, the World Vision hospital, the World Vision compound, and the households nearest the dike alignment. Dust suppression by watering shall be		Committee, PMU		

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
					applied whenever visible dust reaches these receptors.				
Minimal loss of flora and fauna can occur during material excavation at quarries and embankments (work ways along the dike)	Flora and fauna in the surrounding towns and wetlands might be affected. -Flora -Land clearance should be restricted to that which is required for the project components to minimize the loss of vegetation; -Restrict vehicle movements to and from the project site(s) to the project access road – offroad driving should be prohibited; -Site restoration should be undertaken for areas where temporary project infrastructure will be established during the dike	ECRP II,& other Contractors	Weekly	Site inspection reports	Number of site inspections	Weekly	ECRP II, , , & other Contractors County Dike Management Committee, PMU	Monthly	5000

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	construction phase. The affected areas should be restored, and only indigenous vegetation replant or re-seed vegetation e.g. grasses, trees -Intentional restoration using exotic plant species should be avoided; -Sensitize workers against unnecessary destruction, trampling and clearance of flora/crops and fauna; -In an event that the project activities may have potential adverse impacts on biodiversity, a biodiversity management plan should be developed, if the potential risk of project activities is insignificant, the appropriate mitigation measures should be implemented. The mitigation list shall additionally include the								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	IBAT-informed measures set out in Chapter 6: worker induction brief on protected species and prohibition on hunting/capture/consumption; sediment and turbidity control at R29 outfalls; downward-facing night lighting within 200 m of watercourses; 30 km/h vehicle speed limit on dike and access roads; daily off-site disposal of food waste; species encounter reporting to the IOM Safeguarding Officer within 24 hours. Refer Annex 17 IBAT Biodiversity Assessment.								
Noise pollution	Only limited temporary impact during excavation and embankments work. Impact can be mitigated by - Prior notice/community awareness will be	ECRP II,& other Contractors	Weekly	Site inspection reports	Number of site inspections	Weekly	ECRP II, , , & other Contractors County Dike Management	Monthly	2500

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	undertaken for the local community members to keep them informed of what will take place/schedules of the subproject activities so that they are able to plan accordingly; -Construction/ activities will be limited to only daytime hours; -Noise monitoring will be undertaken within the area and at nearby sensitive receptor sites during construction/; -Using noise control devices, such as temporary noise barriers and deflectors for impact and blasting activities, exhaust muffling devices for combustion engines. -Avoiding or minimizing project transportation through community areas.						Committee, PMU		

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	-Use of well-maintained and serviced equipment that generates low noise levels will be emphasized. -Workers involved in construction/ activities will be provided with requisite Personal Protective Equipment; and -Idling of machinery including vehicles will be prohibited unless necessary.								
Solid waste, like, wood, stones, plastic materials, and fuels spill from the machine.	- Implement waste management hierarchy -Non-hazardous wastes can be managed by reusing, recycling, or can be sold to authorized collectors and recyclers and should be disposed of using the South Sudan solid waste disposal facilities. -As there are no known facilities to dispose of	ECRP II,& other Contractors	Weekly	Site inspection reports	Number of site inspections	weekly	ECRP II, , , & other Contractors County Dike Management Committee, PMU	Monthly	4000

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	hazardous waste in the country. The Contractor should consider designing a temporary hazardous waste storage facility in consideration of the generated amounts and timing before final disposal by licensed hazardous waste handlers in accordance with the national legislative requirements and world Bank ESF requirements and GIIP practices; -Maximize the re-use of all excavated materials in the dike construction works. -Disposal of surplus material (spoil) only at designated sites approved by the responsible local authority and only by approved methods. -No spoil should be disposed of in wetlands,								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	near watercourses and other important habits -Contract a licensed hazardous waste handler to safely transport and dispose of hazardous waste; -Capacitate and support licensed personnel who are involved in hazardous waste disposal and management in all aspects including financial and technical support. -Identify the potential waste streams to be generated by the project activities, and how best they can be managed; -All wastes shall be properly disposed of in accordance with the national legislative requirements and in accordance with ESF								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	requirements and GIIP practices.								
Impact on natural hydrology. Disruption of hydrology of natural waterways	Develop layout plan to limit haphazard disruption of water channels	ECRP II,& other Contractors	Weekly	Inspection	Inspection reports	Weekly	ECRP II, , , & other Contractors County Dike Management Committee, PMU	Monthly	2000
Vibration risk from moving of dike construction vehicles and machinery.	-Restrict vehicle movement to defined routes.-Notification communities through awareness exercises. -Avoiding or minimizing project transportation through community areas.	ECRP II, & other Contractors	Daily/Weekly	Inspections, Documents review	Reports, meeting minutes	Weekly	ECRP II, , , & other Contractors County Dike Management Committee, PMU	Monthly	2000
Risk to community health and safety (ESS4) e.g. accidents at burrow pits,	-Fence the quarry site to prevent people and livestock trespass. -Installation of hazard warning signs. -Awareness raising initiatives.-Rehabilitate the	ECRP II,& other Contractors	Prior to the commencement of material abstraction	Inspections, Document review, Observations	Number of Incidents	Weekly	ECRP II, , , & other Contractors County Dike Management Committee, PMU	Monthly	2000

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
UXOs, and mines	burrow pit to the extent possible. Lemo borrow pit conversion to community haffir under the IOM design and Annex 13 Borrow Pit Management Plan, with perimeter fencing, signage in Shilluk languages, and gentle access ramps for safe community use - Lemo borrows pit perimeter measures and conversion to community haffir per Annex 13 Borrow Pit Management Plan.								
Health and safety risks posed by the influx of workers or people providing support services into an area	Awareness campaigns Education and awareness raising targeting employees	ECRP II,& other Contractors	weekly	Document review, Inspections	Number of Incidents	Weekly	ECRP II, , , & other Contractors County Dike Management Committee, PMU	Monthly	2500
Gender-Based Violence (GBV) and Sexual	All employees to be inducted	ECRP II,& other Contractors	Daily	Site inspection reports	Number of site inspections	Weekly	ECRP II, , , & other	Monthly	5000

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
Exploitation and Abuse (SEA)	Education training and capacity building. Signing and adherence with an employee CoC mandatory Demand from all workers to abide by the Protection at work measures. Daily Safety talks SEA/SH grievance channels accessible at site level and via the IOM Malakal sub-office per ECRP II ESCP commitments						Contractors County Dike Management Committee, PMU		
Communicable diseases	-Providing surveillance and active screening and treatment of workers. -Preventing illness among workers in local communities by: - Undertaking health awareness and education initiatives, for example, by implementing an information strategy to	ECRP II,& other Contractors	Weekly	Site inspection reports	Number of site inspections	Monthly	ECRP II, , , & other Contractors County Dike Management Committee, PMU	Monthly	5000

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	reinforce person-to-person counselling addressing systemic factors that can influence individual behaviour as well as promoting individual protection, and protecting others from infection, by encouraging condom use. -Training health workers in disease treatment. -Conducting immunization programs for workers in local communities to improve health and guard against infection. -Providing health services. -Providing treatment through standard case management in on-site or community health care facilities. -Ensuring ready access to medical treatment, confidentiality and appropriate care,								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	particularly with respect to migrant workers. -Promoting collaboration with local authorities to enhance access of workers' families and the community to public health services and promote immunization. -Community awareness campaigns. -Education and awareness raising workshops for staff on spread and management of communicable disease.								
Community health and safety risk related to Pools of water act as breeding grounds for disease and illness(mosquitoes)	-Prevention of larval and adult propagation through sanitary improvements and elimination of breeding habitats close to human settlements -Elimination of unusable impounded water.	ECRP II,& other Contractors	Weekly	Dike construction Health and Safety Management Plan	Number of site inspections	Monthly	County ECRP II, , , & other Contractors County Dike Management Committee, PMU	Monthly	2000

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	- Increase in water velocity in natural and artificial channels. - Considering the application of residual insecticide to dormitory walls. - Implementation of integrated vector control programs. - Promoting use of repellents, clothing, netting, and other barriers to prevent insect bites. - Use of chemoprophylaxis drugs by non-immune workers and collaborating with public health officials to help eradicate disease reservoirs. -Monitoring and treatment of circulating and migrating populations to prevent disease reservoir spread. - Collaboration and exchange of in-kind services with other control								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	programs in the project area to maximize beneficial effects. - Educating project personnel and area residents on risks, prevention, and available treatment. -Monitoring communities during high-risk seasons to detect and treat cases. -Awareness raising campaigns.								
Risk and impacts of occupational health and safety	-The Contractor must make sure that there is a Site Safety, Health & Environmental Officer or appointed focal person. A Safety, Health and Environment awareness induction training should be conducted for both contractual and casual employees before dike construction commences.	ECRP II,& other Contractors	Daily	Site inspection reports, Dike construction Health and Safety Management Plan	Number of site inspections	Monthly	ECRP II, , , & other Contractors County Dike Management Committee, PMU	Weekly	5000

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	-Dike construction should be carried out in accordance with relevant occupational health and safety standards. -Integrity testing must be done before work begins on heights. -Workers must be trained on climbing techniques and fall protection measures. -Adequate PPE and tool bags must be delivered for workers and ensure workers are using PPE properly. -Minimum standards of provision of segregated lockable sanitary facilities for males and females where necessary. -Machines and Equipment must be operated only by qualified staff.								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	-Fire risks are possible due to improper storage facilities and lack of fire drill, and this requires provision of regular training and awareness creation to the workers; -The entire workforce should be trained in the use of protective gear, handling of chemical products, procedures for entering enclosed areas, fire protection and prevention, emergency response and care procedures; -The contractor must develop workers' Health and Safety Plan for managing risk and impact associated with OHS gaps in case of accidents.								
Labor risks of injuries. Workers may raise their	-Provide PPEs; Install warning signs at the dike construction site; adopt a	ECRP II,& other Contractors	Weekly	Site inspection report	Number of site inspections	Monthly	ECRP II, , , & other Contractors County Dike	Monthly	4000

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
concerns (safety, discontent, maltreatment or else) through the Grievance Mechanism.	dike construction management plan. -Establishment of a worker specific grievance redress mechanism for project workers. -The project worker is entitled to give suggestions, remarks and information regarding health and safety at work. The project workers should be informed on available grievance redress mechanisms upon their employment or engagement.						Management Committee, PMU		
Reduced access through the area where the works are executed.	-Plan the relocation of equipment at times when daily traffic is not jammed; -Provide alternative passage for pedestrians and vehicles in cooperation with local authorities Avoid roads through inhabited	ECRP II,& other Contractors	Weekly	Site inspection report	Number of site inspections	Monthly	ECRP II, , , & other Contractors County Dike Management Committee, PMU	Monthly	2500

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
	areas especially near schools and hospitals; -Prepare and implement the dike construction Site Management Plan that incorporates good dike construction practice measures.								
Dike construction material leftovers after the completion of dike construction.	-Reuse/recycle leftovers. -Dispose unwanted remnants in approved sites.	ECRP II,& other Contractors	Weekly	Site inspection report	Amount of materials leftover after completion of work	Monthly	ECRP II, , , & other Contractors County Dike Management Committee, PMU	Monthly	2000
Embankment slope erosion control along the 14.6 km Kodok IFMM dike alignment	Vetiver grass planting per The design engineer drawing SSDRR-ARP-FA-XX-DR-IN-10202; aftercare during defects liability period.	Contractor (construction); PDRMC (operation)	Construction phase; aftercare through defects liability period	Visual inspection and ground-cover survey	80% slope cover within 90 days of planting; survival rate above 70% at end of defects period	Establishment: monthly inspections; long-term: seasonal monitoring	IOM Safeguarding / PMU	Construction and Operation phases	Included in contractor rates

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Potential risk and Impacts	Mitigation measures	Responsible body for implementing	Time frame for implementing	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
CONSTRUCTION/ PHASE									
Erosion protection at culvert inlet and outlet	Gabion walls and reno mattresses per The design engineer drawing SSDRR-ARP-FA-XX-DR-IN-10211; visual inspection schedule applied during defects liability and operation.	Contractor / PDRMC	Construction phase; ongoing during operation	As-built inspection and post-flood walkover	As-built inspection sign-off; absence of scour during first wet season	As-built; post-flood inspections	IOM Safeguarding / PMU	Construction and Operation phases	Included in contractor rates
Ground disturbance near the unofficial cemetery south of dike alignment	ESS8 chance finds procedure (Annex 5); alignment walk-down during the in-country deployment to set the works exclusion buffer; ESS7 engagement with Shilluk traditional authorities; halt-work-and-report protocol applied to any disturbance.	Contractor / IOM Safeguarding / Reth's office liaison	Continuous throughout ground disturbance	Site inspection and chance-find register review	Zero unreported chance finds; works exclusion buffer respected	Continuous throughout ground disturbance	IOM Safeguarding / PMU	Construction phase	Procedural
Construction-phase labour influx to Kodok Town and associated GBV / SEA / SH risk	PSEA Code of Conduct signed by all workers; SEA/SH-confidential GRM channel established; survivor-centred referral pathway mapped per ECRP II SEP.	Contractor / IOM Safeguarding	Pre-mobilisation; continuous through construction	Code of Conduct register review; GRM case audit	Code of Conduct register; GRM SEA/SH cases closed within SLA	Pre-mobilisation; continuous	IOM Safeguarding / PMU	Construction phase	Included in contractor rates

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
OPERATION AND MAINTENANCE PHASE									
Handover the dikes County authorities	Handover to the Payam Disaster Risk Management Committee (PDRMC) per the ECRP II sustainability framework. Provide detail product design and lecture on repair and maintenance of subprojects/dikes	ECRP II,& other Contractors	Once off	Dike Operation and Repair Manual	Handover report	Once off	ECRP II & other Contractors County Dike Management Committee, PMU	Once off	75000
Water logging along the dikes may become a breeding ground for vectors	Provide for drainage from runoff from the dike edges Vegetation management at culvert inlet sumps and around culvert outlets per Annex 13 to suppress mosquito larvae habitat.	ECRP II,& other Contractors	Monthly	Site inspection	Report of site condition	Monthly	ECRP II & other Contractors County Dike Management Committee, PMU,	Monthly	2500
Risk of vandalizing the subprojects	Erect crossing points for people and livestock Monitor the subprojects during O&M inspections	ECRP II,& other Contractors	Monthly	Site inspection	Completion report	Monthly	ECRP II & other Contractors County Dike Management	Monthly	1000

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
							Committee, PMU		
Adverse effects on fisheries and other aquatic resources by disruption of migratory routes, deterioration of habitat and changes in water quality (e-g sediment load) leading to reduce to productivity of riverine.	Protection of reproductive sites for fish. -Incorporation of fishery management. The IBAT screening at Annex 17 identifies six restricted-range Nile fish species and the Wachone (Distichodus nefasch, VU); mitigation per Chapter 6 (in-channel works timing, sediment control, species encounter reporting) applies	ECRP II,& other Contractors	Monthly	Site inspection	Report of site condition	Monthly	ECRP II & other Contractors County Dike Management Committee, PMU,	Monthly	5000
Reduction of floodplain grazing, both through ecological changes on	-Production of fodder crops and usage of byproducts of irrigated food crops and development of alternative water sources.	ECRP II,& other Contractors	Monthly	Site inspection	Report of site condition	Monthly	ECRP II & other Contractors County Dike Management	Twice a year	2500

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
the floodplain and intensified development (Irrigated agriculture).	-Integration of existing rangeland use (e.g., is-nomadic herding) with planned developments, to ensure substantial ground watering possibilities in the valley during the dry season.						Committee, PMU,		
Loss of wildland and wildlife habitat.	-Identification of critical habitats and planning of flood control measures to minimize effects; -Whose habitats or species are dependent on natural flooding regime, minimize disruption of flow in that area to the extent possible. -Establishment of settlements free zones, settlements with migration corridors and hunting protection areas and seasons (dry season). - The IBAT screening at Annex 17 confirms no overlap with formally designated Protected Areas, Key Biodiversity Areas, or	ECRP II,& other Contractors	Monthly	Site inspection	Report of site condition	Monthly	ECRP II & other Contractors County Dike Management Committee, PMU,	Twice a year	2500

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	Alliance for Zero Extinction sites within 50 km of the AOI. Mitigation under ESS6 is species-based and follows the measures set out in Chapter 6.								
Flooding problems created downstream should be incorporated.	-Protection of natural overflow areas downstream. -Creation of overflow basins. Monitoring: during operation, water levels downstream of the protected area and at the gated culvert outfalls are monitored through each wet season by the PDRMC with IOM support, to confirm that the works do not raise flood levels on land outside the protected area. Any observed increase downstream is reported to the IOM Safeguarding Officer and the County RRC and addressed through the emergency preparedness measures in Chapter 8.	ECRP II,& other Contractors	Monthly	Site inspection	Report of site condition	Monthly	ECRP II & other Contractors County Dike Management Committee, PMU,	Twice a year	1000

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	-Implement emergency preparedness measures (see section 8)								
Potential for structural failure and floodwaters higher than capacity of control structures /measures	-Implementation of non-structural measures, such as watershed management activities (e.g., increasing vegetative cover, particularly on slopes, improving agricultural practices, implementing gully erosion control measures, etc.), planting of vegetation along riverbanks to help contain and reduce flooding, and protection of, or restriction of, use of wetlands which have a natural flood control effect to prevent increased flood risk, and -Implement flood warning system using the emergency preparedness measures (See Chapter 8).	ECRP II,& other Contractors	Weekly	Site inspection	Report of site condition	Monthly	ECRP II & other Contractors County Dike Management Committee, PMU,	Monthly	5000

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The decommissioning of the Kodok subprojects is limited to the closure of construction-related works and the orderly handover of the assets to the responsible authority. The decommissioning-specific impacts and mitigation measures are the demobilisation of contractor equipment and the restoration of the site to its original state; the closure of the Lemo borrow pit and its conversion to a community haffir, with regrading to stable slopes, perimeter fencing and signage, and a signed handover to the PDRMC; the removal of all remaining construction debris with a strict prohibition on disposal in watercourses; occupational health and safety and community safety during closure activities, including induction and training for closure workers, personal protective equipment, and traffic management during equipment removal; and the handover to the PDRMC with training on operation and maintenance for ongoing maintenance support. These measures, and their monitoring, are set out in the decommissioning-phase ESMMP below.

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
DECOMMISSION PHASE									
Demobilization of contractor equipment, campsite, and restoration to original state.	Demobilize contractor equipment and remove temporary camps, stores, and sanitation units, and restore the site to its original state.	Contractor, IOM	Decommissioning phase	Site inspection and decommissioning report	Site restored; camps, stores and sanitation units removed	At closure	IOM, PDRMC	At closure	Contractor cost, to be included in the works contract.
Borrow pit closure (Lemo Haffir conversion for animal and other human use).	Complete regrading to stable internal slopes to a maximum of 1:3, install perimeter fencing, signage in local Shilluk languages and gentle access ramps, and transfer ownership to PDRMC with a signed handover (Annex 13 Alternative End Uses).	Contractor, IOM, PDRMC	Decommissioning phase / handover	Site inspection and signed handover record	Slopes regraded; fencing and signage in place; signed handover to PDRMC	At closure	IOM, PDRMC	At closure	Contractor cost, to be included in the works contract.

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
Waste management, handover, and monitoring transition.	Remove all remaining construction debris; strictly prohibit disposal in watercourses.	Contractor, IOM	Site inspection and waste records	Induction records and site inspection	No construction debris remaining; no disposal in watercourses	At closure	IOM	At closure	Contractor cost, to be included in the works contract
Occupational health and safety and community safety during closure activities.	Provide induction and training for closure workers, PPE, and traffic management during equipment removal.	Contractor	Decommissioning phase / handover	Induction records and site inspection	Closure workers inducted; PPE used; traffic management in place; zero incidents	At closure	IOM	At closure	Contractor cost, to be included in the works contract
Handover to PDRMC and sustainability measures.	Provide training for PDRMC on operation and maintenance for ongoing maintenance support.	IOM, PDRMC	Decommissioning phase / handover	Training records and handover report	PDRMC trained on O&M; handover completed	At handover	IOM	During closure	Contractor cost, to be included in the works contract

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
Material transportation e.g. soils, sand	-Cover truck load	Government of South Sudan, Contractors and other Partners	daily	Inspection reports	Number of site inspections	daily	Government of South Sudan, Contractors and other Partners	Weekly	Contractor cost, to be included in the works contract
Soil erosion and Loss of topsoil due to access roads, quarry sites work areas and drainage system and dike construction/ activities	-Scheduling to avoid heavy rainfall periods (i.e., during the dry season) to the extent practical. -Contouring and minimizing length and steepness of slopes -Mulching to stabilize exposed areas. -Re-vegetating areas by replanting grass and or reforestation promptly. -Reducing or preventing off-site sediment transport through use of settlement ponds, silt fences, and modifying or suspending activities during extreme rainfall and high winds to the extent practical.	Government of South Sudan, Contractors and other Partners	daily	Inspection reports	Number of site inspections	daily	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
Potential surface and ground water impacts due to soil erosion and sedimentation	-Establish appropriate erosion and sediment control measures (e.g. silt fences) to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers. -Minimum drainage work for excessive flood waters only within the embankment site, causing temporary turbidity. - Drainage depth will be less than 2m. A properly organized waste disposal is a mandatory requirement for the Project.	Government of South Sudan, Contractors and other Partners	Daily	Site inspections	Number of site inspections	weekly	Government of South Sudan, Contractors and other Partners	Monthly	
Potential water and soil pollution due to improper material storage, management, and usage, waste disposal, and drainage of wastewater to the dike construction site.	-All wastes generated during dike construction activities should be collected and disposed of appropriately at designated sites; -Undertake monitoring of the soil and water quality and devise corrective action when changes attributed to project implementation have been observed;	Government of South Sudan, Contractors and other Partners	Daily	Site inspection reports	Number of site inspections	weekly	Government of South Sudan, Contractors and other Partners	Monthly	

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	-The waste management hierarchy should be followed during the dike construction phase. According to this hierarchy, source reduction of waste will be the first option and disposal of unavoidable waste as the option of the last resort; -Dispose waste material at authorised locations protected from washing out, should be marked in the site plan. -Undertake routine preventive maintenance of motorized equipment to avoid any fuel leakage and spills; -Storage of fuels and oils should be undertaken in a manner that does not allow leakage to the soil as the fuel can readily infiltrate the soils polluting the soils, ground and surface water.								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	-Preparing plans and procedures to respond to the discovery of contaminated media to minimize or reduce the risk to health, safety, and the environment. -Managing contaminated media with the objective of protecting the safety and health of occupants of the site, the surrounding community, and the environment. -Organize and cover material storage areas; -Select areas for washing that are not free draining directly into the watercourse. Installation of ecological toilettes for workers to avoid direct discharge of wastewater to the water body.								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
Poor maintenance and repairs and refuelling at the dike construction site.	-Avoid servicing and refuelling at the site. .-Use protective foils during possible vehicle refuelling and maintenance at the dike construction site. - Provide absorbing material in case of fuel spills. -Used oiled materials and agents should be managed in line with the waste management report.	Government of South Sudan, Contractors and other Partners	Weekly	Site inspection reports	Number of site inspections	Weekly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract
Road safety and poor traffic management risks and impact for worker and communities	-Implementation of a traffic management system i.e. speed limits, traffic controllers, installation of signage. -Ensure adequate warning signs, protective fencing etc. -Observe and respect traffic rules. -Clean dike construction waste from the dike construction site when closing the dike construction site.	Government of South Sudan, Contractors and other Partners	Daily	Implement the Dike constructi on Site Organizati on Plan.	Number of site inspections	Monthly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	-Journey-specific risk assessments which will include the identification of potentially sensitive receptors along the traffic routes should be conducted. For significant traffic movements, including transport of dike construction materials to site, any affected communities/residents along the route should be sensitized, and wherever possible, attempts made to undertake the traffic movements at the least busy times of day; -Only approved drivers should be allowed to operate vehicles; -Dike construction materials should, wherever possible, be preferentially sourced								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	locally in a manner that reduces environmental and social impacts (e.g., transport distances) and maximizes local economic development opportunities. -All roads should have clear and visible signage especially in community areas, around schools and hospitals to minimize the risk. accidents;- -All staff should undergo an Environment, Health and Safety induction process which includes rules for safe driving, including speed limits in community areas; and -Dike construction equipment should be maintained on site until the dike construction is complete to reduce vehicle movement (taking into consideration their security).								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
Disturbance to the cultural and religious sites.	-Avoid any cultural or religious sites. If cultural or archaeological items are found during soil excavation and dike embankment works or drainage system, the contractor shall stop work and trigger the Chance Find Procedure (Annex 5) under ESS8 Cultural Heritage requirements.	Government of South Sudan, Contractors and other Partners	daily	Site inspection reports	Weekly	Number of site inspections	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract
Possibility of encountering an archaeological site, archaeological materials, cultural significance, shrines	If an archaeological site is encountered such as a graveyard, the Contractor will immediately suspend the Works. Barricade the area and follow the chance finds procedure. and inform the project, county authorities (trigger chance find procedure).	Government of South Sudan, Contractors and other Partners	Daily	Chance Find Procedures in place	Weekly	Number of cultural items found	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract
Equipment maintenance and fuelling	Ensure proper handling of lubricants, fuels and solvents while maintaining the equipment and work vehicles. Put in place gravity oil separator, absorbent mat/ fabric	Government of South Sudan, Contractors and other Partners	Weekly	Camp and dike construction site inspections	Number of site inspections	Weekly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
Impacts on land use/ settlements expansion	The dikes will be constructed on public land reserves. There will be no physical displacement of any household per the October 2024 Land Use Form (ECRP/ESS-F007) and the February 2026 Land use forms signed by the Kodok Town Payam Administrator. The county administration pledged to control encroachment as a result of settlement expansion towards the dikes.	Government of South Sudan, Contractors and other Partners	daily	Site inspection reports	Number of site inspections	weekly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract
Air quality due to dust from transportation of dike construction materials and truck traffic and elevated levels of nitrogen oxide (NOx) and sulphur	-Minimizing dust from material handling sources, such as conveyors and bins, by using covers and/or control equipment (water suppression, bag house, or cyclone). - Minimizing dust from open area sources, including storage piles, by using control measures such as	Government of South Sudan, Contractors and other Partners	Daily	Monitoring speed limit within town	Speed and dust observations	Weekly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
oxide (SOx) from dike construction equipment exhausts	installing enclosures and covers, and increasing the moisture content. -Dust suppression techniques should be implemented, such as applying water or non-toxic chemicals to minimize dust from vehicle movements. -Avoiding open burning of solid.								
Minimal loss of flora and fauna can occur during material excavation at quarries and embankments (work ways along the dike)	Flora and fauna in the surrounding towns and wetlands might be affected. -Flora -Land clearance should be restricted to that which is required for the project components to minimize the loss of vegetation; -Restrict vehicle movements to and from the project site(s) to the project access road – offroad driving should be prohibited;	Government of South Sudan, Contractors and other Partners	Weekly	Site inspection reports	Number of site inspections	Weekly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	-Site restoration should be undertaken for areas where temporary project infrastructure will be established during the dike construction phase. The affected areas should be restored, and only indigenous vegetation replant or re-seed vegetation e.g. grasses, trees -Intentional restoration using exotic plant species should be avoided; -Sensitize workers against unnecessary destruction, trampling and clearance of flora/crops and fauna; -In an event that the project activities may have potential adverse impacts on biodiversity, a biodiversity management plan should be developed, if the potential risk of project activities is insignificant, the appropriate mitigation measures should be implemented.								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	- The mitigation list shall additionally include the IBAT-informed measures set out in Chapter 6: worker induction brief on protected species and prohibition on hunting/capture/consumption; in-channel works timing to avoid principal fish migration period; sediment and turbidity control at R29 outfalls; downward-facing night lighting within 200 m of watercourses; 30 km/h vehicle speed limit on dike and access roads; daily off-site disposal of food waste; species encounter reporting to the IOM Safeguarding Officer within 24 hours. Refer Annex 17 IBAT Biodiversity Assessment.								
Noise pollution	Only limited temporary impact during excavation and embankments work. Impact can be mitigated by - Prior notice/community awareness will be	Government of South Sudan, Contractors and other Partners	Weekly	Site inspection reports	Number of site inspections	Weekly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	undertaken for the local community members to keep them informed of what will take place/schedules of the subproject activities so that they are able to plan accordingly; -Construction/ activities will be limited to only daytime hours; -Noise monitoring will be undertaken within the area and at nearby sensitive receptor sites during construction/; -Using noise control devices, such as temporary noise barriers and deflectors for impact and blasting activities, exhaust muffling devices for combustion engines. -Avoiding or minimizing project transportation through community areas. -Use of well-maintained and serviced equipment that								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	generates low noise levels will be emphasized. -Workers involved in construction/ activities will be provided with requisite Personal Protective Equipment; and -Idling of machinery including vehicles will be prohibited unless necessary.								
Solid waste like, wood, stones, plastic materials, and fuels spill from the machine.	- Implement waste management hierarchy. -Non-hazardous wastes can be managed by reusing, recycling, or can be sold to authorized collectors and recyclers and should be disposed of using the South Sudan solid waste disposal facilities. -As there are no known facilities to dispose of hazardous waste in the country. The Contractor should consider designing a	Government of South Sudan, Contractors and other Partners	Weekly	Site inspection reports	Number of site inspections	weekly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	temporary hazardous waste storage facility in consideration of the generated amounts and timing before final disposal by licensed hazardous waste handlers in accordance with the national legislative requirements and world Bank ESF requirements and GIIP practices; -Maximize the re-use of all excavated materials in the dike construction works. -Disposal of surplus material (spoil) only at designated sites approved by the responsible local authority and only by approved methods. -No spoil should be disposed of in wetlands, near watercourses and other important habits								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	-Contract a licensed hazardous waste handler to safely transport and dispose of hazardous waste; -Capacitate and support licensed personnel who are involved in hazardous waste disposal and management in all aspects including financial and technical support. -Identify the potential waste streams to be generated by the project activities, and how best they can be managed; -All wastes shall be properly disposed of in accordance with the national legislative requirements and in accordance with ESF requirements and GIIP practices.								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
Impact on natural hydrology. Disruption of hydrology of natural waterways	Develop layout plan to limit hazard disruption of water channels	Government of South Sudan, Contractors and other Partners	Weekly	Inspection	Inspection reports	Weekly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract
Vibration risk from moving of dike construction vehicles and machinery.	-Restrict vehicle movement to defined routes.- Notification communities through awareness exercises. -Avoiding or minimizing project transportation through community areas.	Government of South Sudan, Contractors and other Partners	Daily/Weekly	Inspections , Documents review	Reports, meeting minutes	Weekly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract
Risk to community health and safety (ESS4) e.g. accidents at burrow pits, UXOs, and mines	-Fence the quarry site to prevent people and livestock trespass. -Installation of hazard warning signs. -Awareness raising initiatives. -Rehabilitate the burrow pit to the extent possible.	Government of South Sudan, Contractors and other Partners	Prior to the commencement of material abstraction	Inspections, Document review, Observations	Number of Incidents	Weekly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
Health and safety risks posed by the influx of workers or people providing support services into an area	Awareness campaigns Education and awareness raising targeting employees	Government of South Sudan, Contractors and other Partners	weekly	Document review, Inspections	Number of Incidents	Weekly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract
Gender-Based Violence (GBV) and Sexual Exploitation and Abuse (SEA)	All employees to be inducted Education training and capacity building. Signing and adherence with an employee CoC mandatory Demand from all workers to abide by the Protection at work measures. Daily Safety talks	Government of South Sudan, Contractors and other Partners	Daily	Site inspection reports	Number of site inspections	Weekly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract
Communicable diseases	-Providing surveillance and active screening and treatment of workers. -Preventing illness among workers in local communities by: - Undertaking health awareness and education	Government of South Sudan, Contractors and other Partners	Weekly	Site inspection reports	Number of site inspections	Monthly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	initiatives, for example, by implementing an information strategy to reinforce person-to-person counselling addressing systemic factors that can influence individual behaviour as well as promoting individual protection, and protecting others from infection, by encouraging condom use. -Training health workers in disease treatment. -Conducting immunization programs for workers in local communities to improve health and guard against infection. -Providing health services. -Providing treatment through standard case management in on-site or community health care facilities. -Ensuring ready access to medical treatment, confidentiality and appropriate care, particularly								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	with respect to migrant workers. -Promoting collaboration with local authorities to enhance access of workers' families and the community to public health services and promote immunization. -Community awareness campaigns. -Education and awareness raising workshops for staff on spread and management of communicable disease.								
Community health and safety risk related to Pools of water act as breeding grounds for disease and illness(mosquitoes)	-Prevention of larval and adult propagation through sanitation. improvements and elimination of breeding habitats close to human settlements. -Elimination of unusable impounded water. - Increase in water velocity in natural and artificial channels.	Government of South Sudan, Contractors and other Partners	Weekly	Dike construction Health and Safety Management Plan	Number of site inspections	Monthly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	- Considering the application of residual insecticide to dormitory walls. - Implementation of integrated vector control programs. - Promoting use of repellents, clothing, netting, and other barriers to prevent insect bites. - Use of chemoprophylaxis drugs by non-immune workers and collaborating with public health officials to help eradicate disease reservoirs. -Monitoring and treatment of circulating and migrating populations to prevent disease reservoir spread. - Collaboration and exchange of in-kind services with other control programs in the project area to maximize beneficial effects. - Educating project personnel and area residents on risks, prevention, and available treatment.								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	-Monitoring communities during high-risk seasons to detect and treat cases. -Awareness raising campaigns.								
Risk and impacts of occupational health and safety	-The Contractor must make sure that there is a Site Safety, Health & Environmental Officer or appointed focal person. A Safety, Health and Environment awareness induction training should be conducted for both contractual and casual employees before dike construction commences. -Dike construction should be carried out in accordance with relevant occupational health and safety standards. -Integrity testing must be done before work begins on heights. -Workers must be trained on climbing techniques and fall protection measures.	Government of South Sudan, Contractors and other Partners	Daily	Site inspection reports, Dike construction Health and Safety Management Plan	Number of site inspections	Monthly	Government of South Sudan, Contractors and other Partners	Weekly	Contractor cost, to be included in the works contract

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	-Adequate PPE and tool bags must be delivered for workers and ensure workers are used PPE properly. -Minimum standards of provision of segregated lockable sanitary facilities for males and females where necessary. -Machines and Equipment must be operated only by qualified staff. -Fire risks are possible due to improper storage facilities and lack of fire drill, and this requires provision of regular training and awareness creation to the workers; -The entire workforce should be trained in the use of protective gear, handling of chemical products, procedures for entering enclosed areas, fire protection and prevention, emergency response and care procedures;								

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
	-The contractor must develop workers' Health and Safety Plan for managing risk and impact associated with OHS gaps in case of accidents.								
Labor risks of injuries. Workers may raise their concerns (safety, discontent, maltreatment or else) through the Grievance Mechanism.	-Provide PPEs; Install warning signs at the dike construction site; adopt a dike construction management plan. -Establishment of a worker specific grievance redress mechanism for project workers. -The project worker is entitled to give suggestions, remarks and information regarding health and safety at work. The project workers should be informed on available grievance redress mechanisms upon their employment or engagement.	Government of South Sudan, Contractors and other Partners	Weekly	Site inspection report	Number of site inspections	Monthly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract

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Potential risk and Impacts	Mitigation measures	Responsible body for implementation	Time frame for implementation	Method of Monitoring	Monitoring indicator	Monitoring frequency	Responsible body for monitoring	Time frame for monitoring	Cost estimate (USD)
Reduced access through the area where the works are executed.	Plan the relocation of equipment at times when daily traffic is not jammed; Provide alternative passage for pedestrians and vehicles in cooperation with local authorities Avoid roads through inhabited areas especially near schools and hospitals; Prepare and implement the Dike construction Site Management Plan that incorporates good dike construction practice measures.	Government of South Sudan, Contractors and other Partners	Weekly	Site inspection report	Number of site inspections	Monthly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract
Dike construction material leftovers after the completion of dike construction.	-Reuse/recycle leftovers. Dispose unwanted remnants in approved sites.	Government of South Sudan, Contractors and other Partners	Weekly	Site inspection report	Amount of materials leftover after completion of work	Monthly	Government of South Sudan, Contractors and other Partners	Monthly	Contractor cost, to be included in the works contract

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CHAPTER 8

GRIEVANCE REDRESS MECHANISM

The ECRP II project is guided by the WB ESF requirements, and the management of grievances is a key component of the ESF requirements. Thus, in a bid to provide for the sound management of environmental and social risks, the Grievance Redress Mechanism (GRM) guidelines have been developed for the management of complaints and grievances under the ECRP II project. These guidelines shall apply during the implementation of the proposed subprojects. The GRM system seeks to provide a suitable, centralized system for the reception, recording, investigation, management and closure of GRM cases. The GRM is based on six core principles namely:

1. **Fairness**: Grievances are treated confidentially, assessed impartially, and handled transparently.
2. **Objectivity**: The GRM incorporates all interested parties in order to guarantee an objective focused on the grievance and not the complainant. GRM officers who include the Safeguards Specialist, Social Mobilizer/Community Outreach Assistant and Health and Safety officers will be trained by the Project team and will have adequate means and mandate to document grievances (e.g. through interview of witnesses and access to records).
3. **Simplicity and accessibility**: Procedures to file grievances and seek action are simple enough that PAPs can easily understand them. PAPs have a range of contact options including, at a minimum, a hotline telephone number. The GRM is accessible to a wide range of stakeholders, irrespective of their level of education or income. The GRM processes have been made simple and user-friendly to avoid creating confusion or anxiety to potential users.
4. **Responsiveness and efficiency**: The GRM is designed to be responsive to the needs of all complainants. Accordingly, staff handling grievances are trained to take effective action, and respond quickly to grievances and suggestions.
5. **Speed and proportionality:** All grievances, simple or complex, are addressed and resolved as quickly as possible. The action taken is swift, decisive, and constructive.
6. **Participation and social inclusion:** A wide range of PAPs, including community members, members of vulnerable groups, project implementers, civil society, and the media, are encouraged to bring grievances and comments to the attention of the Project staff. Special
   attention is given to ensure that marginalized or vulnerable groups, including those with special needs, can access the GRM.

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10.1. Categorization of Grievances

Grievances have been categorized as summarized in table 8. **Grievances outside the ECRP II mandate will be referred to the appropriate statutory institutions**.

Table 9:Categories of grievances

Categories of Grievances
1. Access to Basic information
- Limited access to basic information on the subproject itself and the GRM processes
- Correction and deletion of untrue or misleading information that affects the PAP
2. Ethics and conduct
- Implementing Partner staff may not exercise appropriate work ethics, like taking bribes from any relevant stakeholders. - Violation and breach of codes of ethics by staff of Implementing Partners and contractors
3. Corruption and economic crimes
- Unethical conduct
4. Labor and working conditions
- Termination/summary dismissal/wrongful termination
- Breach of employment contract terms
- Conflicts with trade unions
- Work injury
- Discrimination
- Remuneration
- Suspension
- Waiver of claims
5.Land Use Related Grievances
Physical and Economic displacement, Valuation, Entitlement and Eligibility, Compensation Payment, Relocation Assistance, Resettlement assistance etc.
6. Occupational Health and Safety (OHS)
Violation of occupational health and safety measures and standards laid out in the ESMF, ESMPs
7. Sexual Exploitation and Abuse (SEA/SH) / Sexual Harassment (SH)

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- Sexual exploitation and abuse committed by subproject workers of an IP associated to the subproject (including any worker employed by sub-contractors) against a subproject beneficiary.
- SH committed by any subproject worker (including any worker employed by sub-contractors) against another subproject worker
8. Other
- All other subproject related grievances that are not captured above but relate directly to the subproject for example land disputes in relation to the subproject.

10.2. Means of Filing Grievance

There are four distinct means that must be made available at the subproject locality for people to file a grievance:

- **A Help Desk**: This will be set up by IOM during the implementation of physical subproject activities in an area and will be manned by a social mobilizer.[1] The help desk can be open at hours decided upon by the IP, with a minimum a half working day (4hrs) and the help desk must be set up at a public space easily accessible and in close proximity to the subproject activities. It should be manned by IP staff, especially its community subproject facilitators, in close coordination with local authorities. At the help desk, PAPs can inquire about information regarding subproject activities, or they can file a grievance directly with the person manning the desk. Grievances can be filed in writing or verbally at the help desk. The staff manning the desk will register the grievance in a GRM log. The social mobilizers will undergo an intensive training program before being deployed to operate as desk minders. The staff will be trained in a) the registration of a grievance; b) the interaction with complainants; c) appropriate handling of SEA/SH related grievances; and d) workers' GRM.

- **Community Focal Persons**: Each relevant boma will have a community selected focal person in the local community – for the GRM during subproject activities: the 'boma or payam GRM focal point'. Community Focal Persons (volunteers) elected by the community available in each subproject site will be required to accept formal grievances and ensure that avenues for lodging grievances are accessible to the public and all PAPs. This volunteer is elected by the Boma Development Committee (BDC) members. The first point of contact for all potential grievances from community members are these elected community focal persons. They will be required to accept formal grievances; or they can point out the Hotline Operator's number, the help desk (when relevant/operational) or suggestion boxes and the Social Mobiliser who will further accept and register the grievance in a log. Each relevant

[1] The help desk must be budgeted by the IP, the manning of the help desk will depend on the nature of the activity

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volunteer will be trained by the IP or PMU in a) the registration of a grievance; b) the interaction with complainants; c) appropriate responses to SEA/SH related grievances; and d) workers' GRM. The volunteer will be trained by the PMU and will be in direct contact with the IP and Social Mobiliser for any assistance. For the Kodok and Malakal context the named GRM focal persons are Papity Ezekiel Kur, Community Outreach Assistant (epapity@iom.int +211 922 228 985), and Aguil Monyluk, Community Outreach Assistant (achol@iom.int +211 922 621 729).

- **A Suggestion Box**: This must be installed at the nearest Boma administrative office of the subproject site. Suggestion boxes provide a more anonymous way of filing a grievance or for providing feedback. Grievances or feedback submitted to the suggestion box must be expressed in writing. Boxes are clearly marked as ***ERCP II - related*** feedback and grievance mechanisms. They will also clearly indicate when the box will be opened and grievances addressed and recorded. A signature sheet for when this is done will also be at the box for accountability purposes. The Social Mobilizer for the respective county holds the key to the suggestion boxes who will be stationed one at the boma and the other one at payam level. IOM will procure the suggestion boxes and IOM will be responsible for the set-up of the boxes in the counties where they have infrastructure subprojects. The contents of the boxes will be emptied on a weekly basis by the Social Mobilizer or assigned person and then transferred to the Safeguards Specialist in charge of the GRM. However, use of suggestion boxes comes with challenges of ability to write either in local language or English; and centralizing the box at the County may disadvantage those people in Payams and Bomas. Therefore, this should be encouraged where it's practically possible.

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10.3. Case Processing Schedule

The management of grievances will follow a systematic process as presented in Table 8.

Table 10: GRM Case processing guide

Type of Case	Actions Required	Response Required	No. of days for action
GBV/SEA/SH	Identify and assign at least two focal point per site	Refer to step 4 and Annex 3	
Straight-forward cases with little anticipated complications e.g. (holding long meetings exceeding agreed times)	Minimal checks and consultations	Acknowledge receipt of the grievance, detail follow-up steps and set timelines (number of days) for follow-up activities: verify, investigate, if needs be, and communicate outcomes and next steps based on outcomes	1-2 days
Cases that require some minimal processes e.g. (delayed payment of a contractor)	Delete misleading information, collect information, analyse existing information, prepare communication materials to disclose delayed information, clarify existing information, and correct misleading information	Acknowledge reception of the grievance, detail the steps to follow, and provide the appropriate practical timelines	7-14 days
Cases that require investigation (land ownership dispute)	Access and review of relevant documentation (reports, policy documentation), field-based fact findings missions (visits and interviews), analysis and preparation of reports, consultative sessions to rectify or adjust the implementation approaches	Acknowledge reception of the grievance, provide follow-up steps and outline steps that will be followed to provide a comprehensive response	1 - 2 months
Cases that require escalation to higher ECRP II implementation level e.g. (Fraud)	Transfer case to relevant higher level (e.g. state-level or national IOM or to PMU)	Acknowledge reception of the grievance, provide the need for escalation of the grievance to the next project implementation level, and set timelines for a comprehensive response	1-4 Months
	Transfer case to relevant institution (National Police Service, WB)	Acknowledge reception of the grievance, provide the need for referral of the grievance to an appropriate institution, and set timelines for a comprehensive response on referral progress	6 months and more

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10.4. GRM Case management Process

The process of managing grievances is summarised in Figure 14.

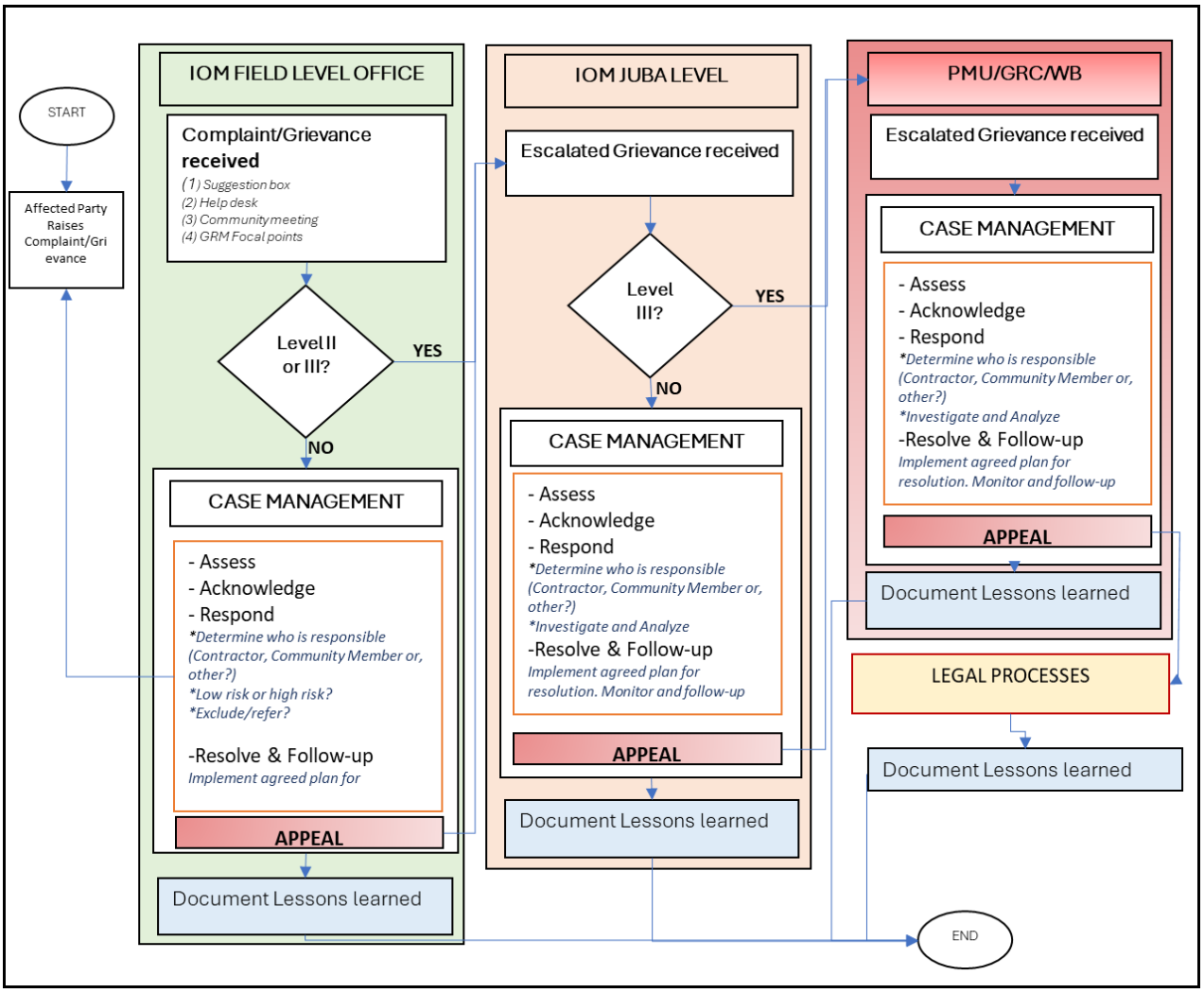

Figure 12 Overview of the case management process and escalation modalities

Workers' Grievance Redress Mechanism

A dedicated Workers' Grievance Redress Mechanism shall be established for all workers engaged on the subprojects, separate from the community GRM described above. The mechanism shall be in place before works commence. The Contractor shall designate a Workers' GRM focal point, named in the Contractor's Environmental and Social Management Plan (C-ESMP) at mobilisation, as the first point of contact for worker grievances. The Supervising Engineer shall verify that the mechanism is operating, and the IOM Safeguarding Officer shall act as the escalation point where a grievance is not resolved or where a worker cannot safely use the Contractor's channel.

The mechanism shall be accessible to all categories of workers, including direct, contracted and community workers, and its existence and procedures shall be explained to every worker during induction and

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displayed at the worksite. Channels for lodging a worker grievance shall include a grievance register and suggestion box at the site office, a named focal point reachable in person or by telephone, and the option to escalate to the IOM Safeguarding Officer.

Worker grievances shall be handled to clear timelines: receipt acknowledged within three working days, resolution within fourteen working days, and escalation to the IOM Safeguarding Officer where the grievance is not resolved within that period or where the worker requests it. All worker grievances shall be recorded, tracked and reported in the monthly progress reports, and no worker shall suffer any retaliation for raising a grievance in good faith.

Gender-Based Violence, Sexual Exploitation and Abuse, and Sexual Harassment (GBV/SEA/SH) Reporting

A separate and confidential reporting channel shall be available for grievances relating to gender-based violence, sexual exploitation and abuse, and sexual harassment (GBV/SEA/SH). This channel is distinct from both the community GRM and the Workers' GRM, and GBV/SEA/SH cases shall not be reported through, or handled by, the Contractor's worker grievance focal point.

The mechanism shall follow a survivor-centred approach. The rights, needs, wishes and safety of the survivor shall guide every step. Reporting shall be confidential, voluntary and free from any requirement that the survivor identify the perpetrator. The role of the project is to receive the report safely and refer the survivor, with informed consent, to qualified GBV service providers (medical, psychosocial, legal and protection services), and not to investigate the incident itself.

Reports may be made to a trained GBV/SEA/SH focal point on the IOM safeguarding side, through the confidential channel set out in this chapter, or to any GBV service provider mapped for the subproject area. All persons engaged on the subprojects shall sign and abide by a Code of Conduct prohibiting GBV/SEA/SH and shall receive induction and regular awareness sessions on prohibited conduct, the reporting channels, and the principle of non-retaliation. Confidentiality shall be maintained at all times, information shall be shared only on a need-to-know basis and with the survivor's informed consent, and no survivor or good-faith reporter shall face retaliation.

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CHAPTER 9

EMERGENCY PREPAREDNESS AND RESPONSE PLAN

This section provides a summary of key steps that the project team can follow in the event of an emergency. The hazard/aspect impact identification and assessment process for all ECRP II operations has identified various emergency situations that can arise in the process of implementing subprojects in Fashoda County, Kodok. This therefore calls for a plan to be put in place in preparation for such a contingency. The following are some broad guidelines when dealing with emergencies: -

- Speed and knowing what to do, are the main points when discovering an emergency.
- Effective communication in cases of emergencies is very important as it saves time and life.
- All persons must be aware of their responsibilities and duties when an emergency arises.
- Regular drills should be conducted to ensure that all key players adapt to the response in cases of real emergency.
- Emergency Co-coordinators, team members and all employees must be trained and familiarised with all the contents of this document including their duties. This will enable them to respond appropriately whenever an emergency arises.

Planning Coordination:
Procedures should be prepared for:
o Informing the public and emergency response agencies.
o Documenting first aid and emergency medical treatment.
o Taking emergency response actions.
o Reviewing and updating the emergency response plan to reflect changes and ensuring that employees are informed of such changes.

Emergency Equipment: Procedures should be prepared for using, inspecting, testing, and maintaining the emergency response equipment.
Training: Employees and contractors should be trained on emergency response procedures.

8.0. HOW TO RESPOND TO AN EMERGENCY SITUATION:

- **ESTABLISH:**
  - The nature, type and magnitude of the emergency

- **CALL:**
  - For help by contacting the Emergency call centre (Security).

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- The departmental emergency coordinator.
- The Site HSE Personnel
- IOM NOO

- **INVESTIGATE:**
  - Extent of emergency and establish the affected person's location.
  - Get the relevant information and inform the IOM NOO, IOM Safeguarding Officer and ECRP II program coordinator.

- **ASSIST:**
  - The injured or affected persons.

- **ASSEMBLE:**
  - At the designated Assembly Point, if safe to do so.

- **BRIEF:**
  - Emergency Coordinator of the sequence of events and follow instructions given when the Emergency Coordinator takes over.

- **EVALUATE:**
  - The need to systematically shut down operations.
  - Contain hazardous Substances or
  - Protect equipment as well as type of assistance required.

- **AWAIT:**
  - For instructions and response from the Emergency Coordinator.

- **REMAIN:**
  - At the assembly point until further instructions from an official

- **AWAIT:**
  - For declaration of **"ALL CLEAR"** notification

8.1. FIRE RELATED INCIDENTS

What constitutes fire?

- Fire on mobile equipment
- Fire on conveyor belt or other installations
- Fire from fuel pump/stations

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- Fire from cooking activities
- Fire on electrical installations (cables, substations)
- Gas Cylinder Explosion

Person at scene to report to the designated onsite Emergency Coordinator

Actions by the Designated onsite Emergency Coordinator

For all emergency scenarios in this category

a) Stop all running machinery/equipment

For fires

b) Try to fight the fire if trained to do so and if safe to do so.
c) If not trained or fire gets out of hand, raise the alarm.

Designated on site Emergency Coordinator:

a) Call the firefighting team.
b) Evacuate employees to the Assembly point if it is safe to do so
c) Switch off all energy sources (electrical in affected area).
d) Conduct roll call.
e) Communicate with the Security, clinic, Fire Team, IOM ECRP II Local Staff clearly stating the nature and magnitude of the emergency, exact location and number of casualties if any.
f) IOM ECRP II Local staff to communicate to the NOO, Safeguarding officer and Project Manager
g) Call the Ambulance if necessary

8.1.1 Safeguarding Official:

a) Assess situation and take action to assist as necessary
b) Arrange logistics for investigation and reporting in consultation with the safeguarding officer and the project manager.

8.2. MULTI-CASUALITY

What constitutes multiple casualties?

Accidents / incidents in which more than **one person** is injured to warrant evacuation from the site of the incident/ accident to a safe place of recovery e.g. Clinic. Multi casualty incidents/ accidents can be as a result of anything e.g. road Traffic accidents

Person at Scene report to IOM ECRP II National Operation Officer Immediately

Designated onsite Emergency Coordinator

For all emergency scenarios in this category

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a. For Road traffic accidents, the person at scene reports the case to the Police and ECRP II National Operation Officer.
b. The National Operations officer has the obligation to report the incident following the ECRP II incident reporting system.
c. Raise the alarm.
d. Call Emergency number
e. Withdraw men from dangerous areas
f. Attend to injured and call for ambulance
g. Render First Aid.
h. Transport injured to the nearest approved medical facility.

Medical Emergency and Casualty Evacuation (CASEVAC) Protocol

The nearest medical facilities to the works are the Kodok hospital, the Abudhok Primary Health Care Unit and the Obang Maternity ward in Kodok Town. The Contractor shall maintain a fully equipped first-aid kit and a trained first aider at each active work site and shall stabilise any injured person on site before transport.

For a casualty that can be treated locally, the injured person is transported by site vehicle to the Kodok hospital or the Abudhok PHCU, the nearest approved facilities. The site Emergency Coordinator informs the IOM National Operations Officer and the IOM Safeguarding Officer without delay.

For a serious or life-threatening casualty beyond the capacity of the Kodok facilities, the case is escalated for casualty evacuation. The IOM National Operations Officer, in coordination with the IOM Safeguarding Officer, arranges evacuation to Malakal for higher-level care. Air evacuation is requested through the United Nations Humanitarian Air Service (UNHAS), the air service used by IOM in South Sudan, which operates scheduled and on-request flights to Malakal and performs medical evacuations on request; the Malakal airstrip is the nearest all-weather airstrip serving Upper Nile. Where air evacuation is not immediately available, the patient is referred by road or river to the receiving hospital in Malakal.

Contact details for the IOM National Operations Officer, the IOM Safeguarding Officer and the UNHAS booking and medevac focal point shall be posted at each site office and in each project vehicle and shall be kept current. The CASEVAC contact referred to in the ECRP II Driver Code of Conduct is the IOM National Operations Officer, who initiates the chain set out above.

8.3. FLOODING/ BREACH

This emergency action plan caters for floods and breach scenarios. Although monitoring measures (including closely following and monitoring current flood warning) have been put in place, a breach may occur due to multiple factors. This may lead to displacement of communities and death of livestock due to flooding.

Person(s) at Scene:

a) Move to safe higher ground
b) Inform the site supervisor and plant operator of the situation.

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c) Inform IOM ECRP II Local Officers
d) Inform IOM ECRP II National Operations Officer
e) Warn unsuspecting public of the hazard.
f) Help casualties if any.

Designated onsite Emergency Coordinator

a) Conduct the County Disaster Risk Management Committee (DRMC) to sound the emergency alarm/notification immediately
b) Designated onsite Emergency Coordinator to immediately inform the IOM National Operations Officer, Security focal points, Clinic and Safeguarding Assistants.
c) Designated onsite Emergency Coordinator to conduct a preliminary assessment of the magnitude of flood and breach.
d) Call for an ambulance and emergency services
e) Confirm that the Project Manager, Head of Sub-office, Safeguarding officer, Safety and Security staff, have been notified
f) Once on site, assess the situation and raise the following for assistance where Necessary:

- Ministry of Humanitarian Affairs and Disaster Management
- Fire Brigade
- Police
- Ministry of Health

g) Confirm with the clinic for casualty arrangement.
h) Give instruction for inspections to be done by a team headed by a Senior Engineering Official before issuing emergency evacuation instructions.

8.4 HAZARDOUS SUBSTANCES SPILLAGE

This emergency action plan caters for incidents involving the accidental spillage of hazardous material at subprojects sites. Hazardous substances can be defined as any substance that has the potential to cause irreversible harm or damage to human health and the environment. At ECRP II subprojects, common hazardous substances include flammable liquids (Petrol, Diesel), flammable gases e.g. LPG etc. In the event of a spillage or an accidental discharge, the following steps should be taken at ECRP II sites:

Person on site

a) b) Inform the site supervisor and plant operator of the situation.
c) Inform IOM ECRP II Local Officers
d) Inform IOM ECRP II National Operations Officer
e) Warn unsuspecting public of the hazard.

Designated onsite Emergency Coordinator

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a) Determine what substance that has been involved in the spillages by asking what type of container the substances were in; and labels on the containers
b) Determine the extent of the spillage
c) Gather resources for attending to the spillage with the inclusion of: Adequate PPE for the complete team attending the spillage; Materials and resources to stop leaks such as wood plugs, self-adhesives, Material to store contaminated soil, clothing, materials, etc.
d) Upon approaching the spillage site, determine the wind direction. Approach the spillage scene from upwind as best as possible.
e) Assess the actual type, quality and quantity of the spilled substance, the location and area of the affected site
f) Determine evacuation distances using the ER Guidebook provided
g) Secure the area;
h) Place labels and warning signs on the scene of the spillage to alert the public and other staff members
i) Demarcate scene in Hot, Warm and Cold Zones as guided by the ER Guidebook provided
j) If necessary, evacuate people [Remember the priorities: Save life-Save property-Save the environment]
k) If safe to do so, contain the spillage in one area. Stop leaks if any.
l) Assess the impacts that the spillage has already caused or will cause to the environment
m) Alert the users of the receiving environments of the dangers associated with the spillage.

ECRP II National Operations Office

a) Cause the cleanup operations to be done according to best available cleanup methods to the satisfaction of the relevant authorities following the guidance provided in the safety data sheet as read with the ER Guidebook)
b) Call for an ambulance and emergency services
c) Confirm that the Project Manager, Head of Sub-office, Safeguarding officer, Safety and Security staff, have been notified
d) Once on site, assess the situation and raise the following for assistance where Necessary:
    - Ministry of Humanitarian Affairs and Disaster Management
    - Fire Brigade
    - Police
    - Ministry of Health
e) Give instruction for inspections to be done by a team headed by a Senior Engineering Official before issuing emergency evacuation instructions.

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CHAPTER 10

TRAINING AWARENESS RAISING & CAPACITY BUILDING

The project recognises the capacity gaps that exist in South Sudan when it comes to the management of Environmental and Social Safeguarding issues. In a bid to ensure the sustainable implementation of the proposed subprojects will focus on providing capacity building training for workers and communities to ensure effective implementation of this ESMP. A summary of the training that will be considered are presented in the table below.

Table 11:Targeted trainings for the effective implementation of the ESMP

OBJECTIVES	ISSUES FOR ENGAGEMENT	METHOD OF ENGAGEMENT	STAKEHOLDERS TARGETED	RESPONSIBLE PERSON	TIME FRAME	BUDGET IN USD
Enhance awareness and knowledge about GRM and OHS risk with its prevention measures.	GRM	Training, Plenary discussion with questions and answer	Beneficiaries, Contractors, PDCs, BDCs, PDRMC, Contractor workers, community leaders	ES Safeguarding Officer, Gender GBV Officer, Safeguarding Assistants COAs	Weekly	7000
ES induction training	ES Safeguarding issues	Training	All project workers as defined under ESS2	ES Safeguarding Officer, Gender GBV Officer, Safeguarding Assistants NOOs, Senior Engineers, Site Engineers	Ongoing for all new staff	Included in staff costs
Ensure compliance to implementation of ESMP and Safeguarding requirements	Environmental and Social Risks Management	Training, Focus group discussions, site visits and interviews	Beneficiaries, Contractors	ES Safeguarding Officer, Gender GBV Officer, Safeguarding Assistants COAs	Monthly	8000

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OBJECTIVES	ISSUES FOR ENGAGEMENT	METHOD OF ENGAGEMENT	STAKEHOLDERS TARGETED	RESPONSIBLE PERSON	TIME FRAME	BUDGET IN USD
Subproject Environmental and Social screening	E&S Screening	Training, On the job training	ECRP II Staff	ES Safeguarding Officer, Gender GBV Officer, Safeguarding Assistants COAs	Prior to commencement of subprojects	Included in staff costs
Stakeholder engagement	SEP	Workshop	ECRP II Staff, Contractors	ES Safeguarding Officer, Gender GBV Officer, Safeguarding Assistants	Prior to commencement of subprojects	7,000
GBV Action Plan	GBV risks	Meetings	Beneficiaries, communities, contractors, subcontractors, primary suppliers, workers	ES Safeguarding Officer, Gender GBV Officer, Safeguarding Assistants COAs	Prior to commencement of subprojects	10,000 USD
LMP	Labor risks	Meetings	Contractors, subcontractors, primary suppliers, workers	ES Safeguarding Officer, Gender GBV Officer, Safeguarding Assistants	Prior to commencement of subprojects	Included in staff costs
Emergency preparedness and response	EPP	Meetings	Contractors, subcontractors, primary suppliers, workers	ES Safeguarding Officer, Gender GBV Officer, Safeguarding Assistants	Prior to commencement of subprojects	7,000 USD
Implementation, monitoring and reporting of ESMPs	E&S risk mitigation	Workshop	Contractors, subcontractors, primary suppliers, workers	ES Safeguarding Officer, Gender GBV	Prior to commencement of subprojects	Included with other training costs

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OBJECTIVES	ISSUES FOR ENGAGEMENT	METHOD OF ENGAGEMENT	STAKEHOLDERS TARGETED	RESPONSIBLE PERSON	TIME FRAME	BUDGET IN USD
				Officer, Safeguarding Assistants COAs		
Provision of a safe working environment and management of OHS risks	OHS risk management	Training, FGDs, site visits, inspections and interviews	Beneficiaries, contractor staff	ES Safeguarding Officer, Gender GBV Officer, Safeguarding Assistants COAs	prior to dike construction works	5,000 USD
OHS risk management	OHS training	Training, FGDs, site visits, inspections and interviews	Contractors, subcontractors, primary suppliers, workers	ES Safeguarding Officer, Gender GBV Officer, Safeguarding Assistants COAs	Prior to commencement of subprojects	Included with other training costs
Prevention of Sexual Exploitation and Abuse (PSEA) compliance across all project staff and contractors	PSEA	Mandatory online module plus in-person induction; refresher every 12 months	All ECRP II staff, IOM consultants, contractor staff, subcontractor staff, primary suppliers	ES Safeguarding Officer, Gender GBV Officer, IOM PSEA Focal Point	Pre-mobilisation; annual refresher	Included in staff costs
Sexual Exploitation, Abuse and Sexual Harassment (SEA/SH) risk identification, prevention and survivor-centred response	SEA/SH	Workshop, scenario-based training, confidential GRM channel briefing	Contractor staff, IOM site personnel, community focal points, GBV Officer, Safeguarding Assistants	ES Safeguarding Officer, Gender GBV Officer, Safeguarding Assistants	Pre-mobilisation; quarterly refresher during construction	5,000 USD

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OBJECTIVES	ISSUES FOR ENGAGEMENT	METHOD OF ENGAGEMENT	STAKEHOLDERS TARGETED	RESPONSIBLE PERSON	TIME FRAME	BUDGET IN USD
Explosive Ordnance Risk Education (EORE) for site workers and adjacent communities in South Sudan UXO-affected areas	EORE	Training delivered in partnership with UNMAS or equivalent accredited mine action partner; site-specific risk briefings	Contractor staff, IOM site personnel, community members near works areas including Lemo borrow pit	Contractor / IOM Safeguarding / UNMAS partner	Pre-mobilisation; refresher monthly during construction	8,000 USD
Chance Finds Procedure awareness under ESS8 Cultural Heritage requirements, including the halt-work-and-report protocol	Chance Finds Procedure	Training based on Annex 5 Chance Finds Procedure; walk-down briefings at sensitive areas including the unofficial cemetery south of the dike alignment	Contractor staff, site supervisors, IOM Safeguarding, Reth's office liaison	ES Safeguarding Officer, IOM Cultural Heritage focal point	Pre-mobilisation; refresher at start of each ground-disturbance phase	Included in staff costs
ECRP II Code of Conduct sign-up and compliance for all project workers and contractors	ECRP II Code of Conduct	Signed-acknowledgement induction; Code register maintained on site	All ECRP II staff, IOM consultants, contractor staff, subcontractor staff, primary suppliers	ES Safeguarding Officer, HR focal point, Contractor HR lead	Pre-mobilisation; signature on file before site access	Included in staff costs
ESS7 engagement protocols for Shilluk traditional authorities under the Reth's office, including free, prior and informed consultation	ESS7 Shilluk engagement	Workshop; documented engagement records at boma, payam and county levels; cultural heritage protocol briefings	IOM Safeguarding, Consultant, Contractor community liaison, Reth's office representatives	ES Safeguarding Officer, Consultant	Pre-mobilisation; quarterly minimum throughout works; ad-hoc as needed	Procedural

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OBJECTIVES	ISSUES FOR ENGAGEMENT	METHOD OF ENGAGEMENT	STAKEHOLDERS TARGETED	RESPONSIBLE PERSON	TIME FRAME	BUDGET IN USD
B Borrow Pit Management Plan (BPMP) procedures including borrow pit selection, operation, closure and alternative end-use conversion to community haffir per Annex 13	BPMP procedures	Training on Annex 13 BPMP; site walk-down at the Lemo borrow pit; haffir conversion design briefing per the IOM design at Annex 4	Contractor staff, IOM Engineering, PDRMC, BDC Chairpersons (Lemo and Debor), Boma Chiefs	Contractor / IOM Engineering / IOM Safeguarding	Pre-extraction at each borrow pit; refresher at handover/closure	Included in contractor BPMP

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CHAPTER 11

INSTITUTIONAL ARRANGEMENTS

The successful implementation of this ESMP depends on the commitment and capacity of various institutions and stakeholders to implement the ESMP effectively. Thus, the institutional arrangements as well as the roles and responsibilities of the institutions and persons that will be involved in the implementation, monitoring and review of this ESMP are discussed in the Table 11 below.

Overall responsibility for environmental and social management rests with the Project. IOM, as implementing partner, is accountable for delivering the mitigation, monitoring and institutional measures in this ESMP, and shall not defer this responsibility to unspecified local bodies. Where a specific role is assigned to a government institution in the tables below, the named body is the Payam Disaster Risk Management Committee, the County Relief and Rehabilitation Commission, or the State Ministry of Physical Infrastructure, as applicable, with IOM retaining oversight throughout the subproject life cycle.

Table 12:Table Institutional arrangement for the Implementation of the ESMP

INSTITUTION	ROLES AND RESPONSIBILITIES
World Bank	▪ Overall supervision and provision of technical support and guidance. ▪ Recommend additional measures for strengthening the management framework and implementation performance. ▪ Supervising the application and recommendations of sub- project ESMPs.
PMU	▪ Review all ESMPs documents prepared by IOM and ensure adequacy under the World Bank Safeguard policies. ▪ Ensure that the project design and specifications adequately reflect the recommendations of the ESMPs. ▪ Coordinate application, follow up processing and obtain requisite clearances required for the project, if required. ▪ Prepare compliance reports with statutory requirements. ▪ Develop, organize and deliver training program for the project staff, the contractors and others involved in the project implementation, in collaboration with IOM ▪ Review and approve the Contractor's Implementation Plan for the environmental measures, as per the ESMF. ▪ Liaise with the Contractors and the IOM team on the implementation of the ESMPs; ▪ Liaise with various National government and State Government agencies on environmental and other regulatory matters.

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INSTITUTION	ROLES AND RESPONSIBILITIES
	▪ Continuously interact with the NGOs and community groups that would be involved in the project. ▪ Review the performance of the project through an assessment of the periodic environmental and social monitoring reports. ▪ Provide a summary of the same to the Project Manager, and initiate necessary follow-up actions;
IOM	▪ Management, implementation, monitoring, and compliance of the ESMP, and any approval conditions, including dike construction supervision and performance of project staff, contractors and subcontractors. ▪ Review of ESMP performance and implementation of correction actions ▪ Stop work procedures, in the event of breaches of ESMP conditions that may lead to serious impacts on local communities, or affect the reputation of the Project ▪ Ensure effective communication and dissemination of the content and requirements of the ESMP to contractors and subcontractors. ▪ Assisting the contractor with implementation of ESMP sub-plans. ▪ Monitoring of ESMP performance ▪ Ensuring compliance to all Project social commitments, including implementation of the social management plans ▪ Report environmental performance of the Project directly to PMU. ▪ Prepare environmental reports summarizing Project activities, as required, ▪ Representing the Project at community meetings ▪ Ensuring effective community liaison and fulfilling commitments to facilitate public consultation throughout the Project cycle. ▪ Establish dialogue with the affected communities and ensure that the environmental and social concerns and suggestions are incorporated and implemented in the project;
Contractors	▪ Contractors should ensure that all their personnel or subcontractor's personnel has received proper induction. o and awareness arising as necessary of ESMP, health and safety management practices, and are aware of relevant site rules. ▪ Keep the health and safety records of their subcontractors or partners in a joint venture and keep those records available for IOM inspection at any time. ▪ Contractors will include environmental and social requirements in the procurement and contracting process including bidding documents, for potential civil works. ▪ Relevant requirements are included in contracts and subcontracts consistent with the requirements of Environment and Social Standards (ESSs); codes of

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INSTITUTION	ROLES AND RESPONSIBILITIES
	conduct are required for contractors, subcontractors, primary suppliers, and their workers. ▪ Contractor will prepare a detailed construction-ESMP (C-ESMP) that is costed, with sufficient budget to mitigate E&S risks ▪ Contractor's commitment and compliance will be monitored in accordance with ESSs ▪ Contractor will be trained by IOM on grievance redress mechanisms, and their subcontractors are expected to do the same to the affected communities and other stakeholders. ▪ The contractor will develop a grievance mechanism to handle concerns of their employees. ▪ Conducting weekly HSSE Inspection and submitting the reports to IOM Site Engineer ▪ Contractors will provide Monthly and quarterly details on contractor's oversight on environmental, social, health and safety (ESHS) performance. ▪ The contractor shall have a Labor Management Plan (LMP), which conforms to the requirements of the LMP and Environmental Social Standards 2. ESS2
IOM Field Engineer	▪ Supervision of contractor performance of implementation of the Construction ▪ Reporting any incidents or non-compliance with the ESMP to the CI HSSE Team ▪ Conducting weekly HSSE inspection at the sites and Submitting reports to CI HSSE Team ▪ Making recommendations to the CI HSSE Team regarding ESMP performance as part of an overall commitment to continuous improvement
General Public	▪ Identify environmental and social issues that could derail the project and support project impacts and mitigation measures. ▪ Assist in awareness campaigns

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10.5. ESMP Implementing schedule.

The implementation of the ESMP will be done throughout the project Life Cycle.

Table 13: ESMP Implementing schedule.

S/N	ACTIVITY	RESPONSIBILITY	SUB PROJECT IMPLEMENTATION		
Environment and Social Management			**M1**	**M2**	**M3**
1	Formal Disclosure of ESMP	PMU &IOM			
2	Develop Environmental/Social Requirements in Bid Documents for contractors	PMU & IOM			
3	Training of engineers and Contractors on the ESMP	IOM			
4	Implementation of Environmental and Social Mitigation Measures	IOM			
5	Supervision of pre-Construction/dike construction and / activities	IOM & PMU			
6	Supervision of ESMP Implementation	IOM & PMU			
7	Environmental and Social Monitoring and Auditing	IOM & PMU			
8	Reporting on ESMP Implementation	IOM & PMU			

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10.6. Proposed budget for ESMP implementation

The total cost for implementing this ESMP is estimated to be USD 170,000. The table below breaks down the budget estimate and the responsibility for implementation of the ESMP.

Table 14: Proposed budget for ESMP implementation

S/N	ITEM	RESPONSIBILITY	COST ESTIMATE (USD)
1	Mitigation	IOM, Contractor, and PMU	60,000.00
2	Audits & Monitoring	IOM & PMU	80,000.00
3	Capacity Building	IOM & PMU	30,000.00
Total			**170,000.00**

10.7. Reporting

Reports shall be produced through the course of implementation of monitoring programs, collecting incident/grievances forms, consulting with local communities and auditing performance of existing programs/mitigation measures within the ESMP.

Table 15: Types of reports required.

RESPONSIBILITY	TYPE OF REPORT	PURPOSE/DETAILS OF REPORTING	FREQUENCY OF SUBMISSION	SUBMIT TO:
Contractor	Accidents/ Incident Report	Filing/notification of accidents or unplanned events	Within 24 hours of the incident	IOM Safeguards Assistant/IOM safeguards officer
	Weekly Site Inspection Report	Report of compliance and noncompliance issues / measures	Weekly	IOM Safeguards Assistant/IOM safeguards officer
IOM Site Engineer	Accidents/ Incident Report	Filing/notification of accidents or unplanned events	Within 24 hours of the incident	IOM Safeguards Assistant/IOM safeguards officer
	Site Inspection Report	Report of compliance and noncompliance issues / measures	Weekly	IOM Safeguards Assistant/IOM safeguards officer

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RESPONSIBILITY	TYPE OF REPORT	PURPOSE/DETAILS OF REPORTING	FREQUENCY OF SUBMISSION	SUBMIT TO:
IOM Safeguarding Team	Incident Investigation/ Review report	Detail the cause, nature and effect of any environmental and/or social incident	Not more than 5 days from occurrence	PMU
IOM Safeguarding Team	Monthly Compliance Report	Monthly report of compliance before the 5th of every new month	Monthly	PMU
PMU	Quarterly Compliance Report	Quarterly report of compliance to ESMP	Quarterly	World Bank

10.8. ESMP Disclosure

The ESMP shall be disclosed to the Public following the review and clearance by the World Bank.

Table 16: ESMP Disclosure

ACTIVITY	RESPONSIBILITY
Disclosure of the ESMP at the National Level on the Public notice boards	PMU will liaise with IO M and the relevant government authorities
Disclosure of the ESMP at the State level on the public notice boards	PMU will liaise with IOM and the relevant government authorities
Disclosure of the ESMP at the County and Payam level on the public notice boards	PMU will liaise with IOM and the relevant government authorities
Disclosure of the ESMP at the project community	PMU will liaise with IOM and the relevant government authorities

For the 2026 Kodok scope, disclosure follows two complementary channels: (a) publication on the Ministry of Finance and Planning (MoFP) website at the National level once cleared by the World Bank; and (b) in-country disclosure at boma, payam and county level coordinated through the IOM Malakal sub-office, including printed notice-board copies at the Fashoda County Headquarters in Kodok Town and at the Lemo and Debor boma centres.

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CHAPTER 12

SUMMARY DISCUSSION, CONCLUSION AND RECOMMENDATION

12.1 Discussion

The Environmental and Social Management Plan (ESMP) for the Immediate Flood Mitigation Measures (IFMM) in Kodok Town has been developed in line with the World Bank Environmental and Social Framework (ESF), particularly ESS1: Assessment and Management of Environmental and Social Risks and Impacts, which requires a comprehensive, lifecycle-based approach to risk identification, mitigation, and monitoring. The ESMP demonstrates that a systematic process was undertaken, including screening, baseline assessment, stakeholder engagement, risk analysis, and mitigation design, consistent with ESF principles of proportionality and adaptive management.

The proposed interventions respond directly to the persistent and escalating flood risks affecting Kodok Town and Fashoda County, which have resulted in repeated displacement, livelihoods disruption, and infrastructure damage over recent years. The project aligns with both national priorities and international development frameworks addressing climate resilience, particularly under ESS4: Community Health and Safety, by reducing flood hazards and associated risks such as water-borne diseases, food insecurity, and restricted access to essential services.

The integration of climate-resilient engineering designs—including elevated dike structures, functional drainage networks, and gated culvert systems—demonstrates compliance with ESF requirements for climate risk consideration and long-term sustainability. Additionally, the use of locally available materials and nature-based solutions enhances feasibility and promotes environmental sustainability, in line with ESS3: Resource Efficiency and Pollution Prevention and Management.

The environmental baseline indicates that the project area is situated within a floodplain ecosystem characterized by wetlands, herbaceous vegetation, and riverine biodiversity. Although the project footprint does not overlap with protected areas, biodiversity screening identified species of conservation concern within the wider landscape, thus triggering considerations under ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources.

Potential ecological impacts—such as vegetation clearance, disturbance to aquatic habitats, and sedimentation—are expected to be localized and reversible. The ESMP includes appropriate mitigation measures such as controlled clearing, rehabilitation of disturbed areas, erosion control, and biodiversity-sensitive construction practices, ensuring compliance with ESS6 requirements to avoid, minimize, and restore impacts.

The socio-economic context of Kodok Town is characterized by a vulnerable population comprising host communities, returnees, and internally displaced persons (IDPs), with livelihoods heavily dependent on agriculture, livestock, fishing, and river trade. This context underscores the importance of ensuring inclusive and equitable project benefits, consistent with ESF principles of non-discrimination and inclusion.

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From a labour perspective, the project introduces risks and opportunities addressed under ESS2: Labour and Working Conditions, including:

- Employment creation for local communities
- Occupational health and safety (OHS) risks during construction
- Need for fair labour practices and prohibition of child labour

The ESMP incorporates Labour Management Procedures (LMP), OHS plans, and worker training requirements to mitigate these risks.

Under ESS4, the project addresses community health and safety risks such as:

- Exposure to construction hazards
- Increased traffic and accident risks
- Potential spread of communicable diseases
- Risks of Gender-Based Violence (GBV) and Sexual Exploitation and Abuse (SEA/SH)

These risks are mitigated through awareness programs, traffic management measures, community safety protocols, and dedicated grievance redress mechanisms for sensitive cases.

In relation to ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement, the project demonstrates a strong safeguard approach by:

- Avoiding involuntary resettlement
- Utilizing public land and documented voluntary land donation
- Ensuring no physical or economic displacement

This significantly reduces social risk and enhances project acceptability.

Stakeholder engagement has been robust and inclusive, covering national, state, county, payam, and community levels, and involving a diverse range of stakeholders including vulnerable groups. This process complies with ESS10: Stakeholder Engagement and Information Disclosure, ensuring transparency, participation, and accountability.

Key outcomes of stakeholder engagement include:

- Strong community support for the project
- Emphasis on timely implementation before flood seasons
- Demand for local employment and capacity building

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- Identification of site-specific risks and mitigation measures

The establishment of a functional Grievance Redress Mechanism (GRM) ensures that concerns can be addressed promptly and fairly, in line with ESS10 requirements.

Overall, the project is classified as having moderate environmental and social risk, meaning that impacts are:

- Site-specific
- Predictable
- Reversible with mitigation

The ESMP demonstrates that risks can be effectively managed through:

- Application of the mitigation hierarchy
- Continuous monitoring and reporting
- Institutional coordination between IOM, PMU, and contractors

This confirms that the project is consistent with ESF standards and good international industry practice.

12.2 Conclusion

The assessment concludes that the proposed IFMM subprojects in Kodok Town are technically sound, environmentally sustainable, and socially acceptable, and are fully aligned with the World Bank Environmental and Social Framework (ESF).

In compliance with ESS1, the ESMP has comprehensively addressed environmental and social risks across the project lifecycle, and has established clear mitigation, monitoring, and institutional arrangements. The classification of the project as moderate risk reflects the limited scale and manageable nature of potential impacts.

The project will generate significant and long-term benefits, including:

- Substantial reduction in flood risks (ESS4)
- Improved food security and livelihood resilience
- Protection of critical infrastructure and social services
- Enhanced climate adaptation capacity

Compliance with key ESS requirements is demonstrated as follows:

- ESS2: Labour management systems and OHS frameworks are in place
- ESS3: Pollution prevention and waste management strategies are incorporated

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- ESS4: Community health and safety risks are addressed through proactive measures
- ESS5: No involuntary resettlement; voluntary land use applied
- ESS6: Biodiversity considerations integrated into mitigation planning
- ESS8: Chance Finds Procedure established for cultural heritage
- ESS10: Stakeholder engagement and GRM fully operational

The overall analysis confirms that project benefits significantly outweigh potential adverse impacts, which are temporary and manageable.

Therefore, the project is considered environmentally and socially viable and should proceed to implementation, subject to full adherence to ESMP provisions.

12.3 Recommendations

To ensure robust ESF compliance and long-term sustainability, the following detailed recommendations are provided:

1. Strengthening ESS1 Implementation (Risk Management)

- Ensure full operationalization of the ESMP and Contractor ESMP (C-ESMP) prior to construction
- Establish regular monitoring, auditing, and reporting systems
- Apply adaptive management to respond to emerging risks

2. Enhancing Labour and OHS Compliance (ESS2)

- Conduct mandatory induction training for all workers
- Provide adequate PPE and enforce compliance
- Establish incident reporting and emergency response systems
- Ensure non-discrimination and inclusion in employment

3. Improving Environmental Management (ESS3)

- Implement dust suppression, noise control, and emission reduction measures
- Establish waste management systems based on the 3R hierarchy
- Monitor water and soil quality regularly
- Rehabilitate borrow areas and disturbed land

4. Strengthening Community Health and Safety (ESS4)

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- Implement Traffic Management Plans and enforce speed limits
- Conduct continuous community awareness campaigns
- Strengthen GBV/SEA/SH prevention and response systems
- Ensure safe access routes and signage around construction sites

5. Land and Resettlement Compliance (ESS5)

- Maintain proper documentation of voluntary land agreements
- Monitor any emerging land-use conflicts
- Ensure grievance mechanisms are accessible for land-related issues

6. Biodiversity Safeguards (ESS6)

- Minimize vegetation clearance and habitat disturbance
- Restore disturbed areas through re-vegetation
- Monitor biodiversity impacts during implementation

7. Cultural Heritage Protection (ESS8)

- Strictly implement Chance Finds Procedures
- Coordinate with local authorities in case of discoveries

8. Stakeholder Engagement (ESS10)

- Continue structured stakeholder engagement throughout the project lifecycle
- Ensure inclusion of vulnerable groups
- Strengthen the functionality and accessibility of GRM

9. Institutional Capacity and Sustainability

- Train PDRMCs and local committees on operation and maintenance (O&M)
- Promote community ownership and participation
- Ensure adequate resourcing for long-term maintenance

10. Climate Resilience and Adaptive Management

- Periodically review performance of flood mitigation infrastructure

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- Integrate updated climate data into planning
- Strengthen early warning and preparedness systems

11. Timely Implementation

- Expedite construction activities to ensure completion before flood seasons
- Align implementation schedule with community priorities

The project should proceed to implementation, provided that all ESMP measures are rigorously implemented and monitored in compliance with the World Bank Environmental and Social Framework (ESF). Continued stakeholder engagement, strong institutional coordination, and adherence to mitigation measures will be critical in ensuring successful, sustainable, and inclusive outcomes for the communities of Fashoda County.

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ANNEXES

ANNEX 1: ENVIRONMENTAL AND SOCIAL REQUIREMENTS FOR CONTRACTOR/S

General Conditions

The Contractor shall Implement all activities under this contract in compliance with the requirements of the World Bank Environmental & Social Framework and the applicable laws of South Sudan in line with the ECRP II Environmental and Social Management Framework (ESMF) together with associated specific Environmental and Social (ES) risk management tools that may have been developed by IOM. All contractors engaged on the project operate in a manner consistent with the requirements of the environmental and social standards (ESSs), including the specific requirements set out in the Environmental and Social Commitment Plan (ESCP). To achieve this, the Contractor shall:

a) Incorporate the requirements of ESMF and all other relevant E&S instruments in the bid document.
b) Adopt the subprojects ESMPs and where necessary develop Dike Construction Environmental and Social Management Plans (C-ESMPs) to help manage dike construction risks.
c) Make sure that the C-ESMP should get approval from IOM before commencing the project.
d) Implement, and review site specific Contractor - Environmental and Social Management Plans (C-ESMPs) as required by the ESMF and specifically the Labor Management Procedures (LMP) including, OHS plans, labor recruitment plans, code of conduct (CoC) for employees, waste management plan, emergency plan, protection of biodiversity, land clearing and erosion control, traffic management, noise and dust control, and labor influx, communicable diseases and others. Protection of biodiversity shall include the IBAT-identified species and habitat sensitivities recorded at Annex 17 (Nubian Flapshell Turtle CR, restricted-range Nile fish, Black Crowned Crane VU, vulture guild, and the riparian interface).
e) Submit a recruitment plan containing the number of staff required, intended working conditions, Intended locations of staff, and Job specifications in terms of qualification and experience to PMU/IOM for review and approval.
f) Publishes the job invitation in the appropriate media (local press or direct invitation for contracted workers, or word of mouth through local leaders for community workers) to ensure all potential candidates have access to the information, including women and persons with disabilities.
g) Employ qualified E&S personnel to oversee E&S performance, and that Contractor staffing, and resources are commensurate with the magnitude and timing of work and potential E&S risks.
h) Ensure all workers have signed a Code of Conduct (see annex 3 of ESMF).
i) Prepare E&S training programs for workers and for communities if necessary.
j) Ensure the employees are aware of E&S commitments and their responsibilities, which include key Job Specifications, terms and Conditions of Employment, special Codes of Conduct, disciplinary Procedures, workers' Grievance Mechanism, freedom to join and participate fully in workers association activities, key E&S aspects of the ECRP II ESMF and other E&S instruments, and emergency Preparedness before work commencement.
k) Adopt and implement the national, regional, and international best practices on Safety, Health, Environment, and Social risk management.

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l) Ensure the provision of Safety, Health, Environment, and Social risk information to employees, communities, and all relevant stakeholders.
m) Focus on compliance with all applicable safety, health, environmental and Social Multilateral Agreements, policies, national laws, regulations, and Codes of practice applicable to the activities being implemented.

Ensure that substantial resources are allocated for the prevention of accidents, injuries, and fatalities in all areas of operation including the provision of a safe working environment for all.

o) Promote sustainable consumption and utilization of natural resources focusing on the prevention of environmental pollution, and environmental degradation. n) report E&S performance timely (on at least a monthly basis throughout the dike construction phase, including mobilization, construction, and demobilization), including investigating and resolving all complaints, issues, incidents, accidents, and non-conformities. o) Participate in a regular weekly meeting with IOM to evaluate E&S performance-monitoring results and to improve its performance.

p) Establish, maintain, and update relevant environmental and social risk management registers as required by IOM.
q) Conform to the requirements and provisions of the World Bank Environmental and Social Framework (ESF) as read with the applicable Environmental, Health and Safety Guidelines (EHSG).
r) Monitor and keep records on E&S performance following the E&S management plans. This may include monitoring of E&S matters, scheduled and unscheduled inspections to work locations, observations made during routine activities, desk reviews, drills, and any other monitoring protocols implemented by the Contractor to ensure E&S compliance.

Failure to comply with the Environmental and Social Safeguarding requirements shall constitute a violation of contractual provisions and may lead to the cancelation of the contract. IOM may recover any unanticipated costs from any funds withheld in terms of the contract to remedy any environmental and social residual risks that shall be attributed to the Contractor's activities. Generally, the Contractor s shall take corrective action(s) for major noncompliance, including to the LMP implementation. The following are some of the major noncompliance that Contractors need to take note of:

- Failure to submit mandatory quarterly progress report.
- Failure to avail for inspection specified documentation pertaining to the implementation of the ESMP, C- ESMP and LMP.
- Failure to timely notify and submit incident and accident investigation report.
- Failure to appoint or replace a competent and experienced EHS officer.
- Failing to enforce C-ESMPs including provision of adequate appropriate PPE.
- Recruitment of nontechnical staff from outside the local community.

1. Specific Conditions

2.1 Application National Policies and Laws

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The policy, legal and administrative framework provides guidance and provisions for the protection and conservation of the environment, employees and the communities. Contractors must comply with the Transitional Constitution of South Sudan (2011), the Environment Policy of South Sudan (2015-2025), The Draft Land Policy (2016), Forestry Policy (2019), the Land Act (2009), and the National Labour Act.

2.2 The World Bank Environmental and Social Framework (ESF) and relevant Environmental and Social Standards (ESSs).

2.2.1 ESS 1: Assessment and Management of Environmental and Social Risks and Impact

In line with the management of environmental and social risks, the Contractor shall:

a) identify, evaluate, and manage the environment and social risks and impacts of the subprojects in a manner consistent with the requirements of the World Bank ESF and relevant legislation of South Sudan.
b) adopt a mitigation hierarchy approach to: (a) Anticipate and avoid risks and impacts; (b) Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels; (c) Once risks and impacts have been minimized or reduced, mitigate; and (d) Where significant residual impacts remain, compensate for or offset them, where technically and financially feasible.
c) adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities resulting from the subprojects.
d) Utilize national environmental and social institutions, systems, laws, regulations, and procedures in the assessment, development, and implementation of projects, whenever appropriate.

The Contractor is required to take a risk-based approach when undertaking any activities under this contract. They are required to assess, manage, and monitor environmental and social risks and impacts associated with each stage of the subprojects implementation to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSs) set out in the WB ESF and the relevant national legislation of South Sudan. The Contractor is obliged to maintain documented information and records as evidence of maintaining a robust system for the management of ES risks. Such documents shall include but may not be limited to:

- *ECRP/ESS-P003 Contractor Management Plan (CMP)*
- *ECRP/ESS-P004 Waste Management Plan*
- *ECRP/ESS-P005 Site emergency and response plan*
- *ECRP/ESS-P006 Emergency phone numbers*
- *ECRP/ESS-RPT03 Daily Safety Talks*
- *ECRP/ESS-PR01 Accident & Incident Reporting procedure*
- *ECRP/ESS-PR02 Accident & Incident Investigation procedure*

2.2.2 ESS 2: Labor and Working Conditions

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For all works to be undertaken by the Contractor and/or their sub-contractor s including any other third parties, the following labour and working conditions shall apply:

a) Promotion of safe and healthy working environment at all ECRP II subprojects Contractor managed sites including all Contractor workstations and offices.
b) Promotion of fair treatment, non-discrimination, and equal opportunity for all workers.
c) Protection of workers, including vulnerable workers such as women, persons with disabilities, children (of working age, following the requirements of IOM, World Bank and the Government of South Sudan[2]) and migrant workers, contracted workers, community workers, and primary supply workers, as appropriate.
d) Prevention of the use of all forms of forced labor and child labor.
e) Supporting the principles of freedom of association and collective bargaining of workers in a manner consistent with the Laws of South Sudan.
a) Provide workers with accessible means to raise workplace concerns, issues, and grievances and be fully aware of and be ready to implement the Workers' Grievance Redress Mechanism.

Furthermore, for managing the OHS issues, the Contractor shall:

1. Develop and maintain an OHS management system that is consistent with the scope of work, duration of contract and IFC General Environmental Health and Safety Guidelines (EHSGs) on Occupational Health and Safety.
2. Appoint an appropriately qualified and experienced OHS/Environmental Officer whose responsibilities are to advise the employer on OHS related issues.
3. Prepare task specific risk assessment (TRA) and safe working procedures (SWP) for executing works.
4. Provide preventive and protective measures, including modification, substitution or elimination of hazardous conditions or substances informed by TRA and SWP.
5. Provides for appropriate training/induction of project workers and maintenance of training records on occupational health and safety subjects including TRA and SWP.
6. Documents and reports on occupational accidents, diseases and incidents.
7. Provides emergency prevention and preparedness and response arrangements to emergency situations including and not limited to workplace accidents; workplace illnesses; flooding; fire outbreak; disease outbreak; labor unrest and security.
8. Comply with all requirements of applicable occupational Health and Safety legislation and Environmental legislation including WB EHS guidelines.
9. Maintain all such records for activities related to the safety, health and environmental management for inspection by the PMU or the World Bank.
10. Verification of the soundness of the Contractor 's implementation of the requirements of the LMP by IOM.
11. Provide a fully equipped first aid kit.

[2] The more stringent requirement shall apply.

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12. Mainstream HIV issues in the workplace by providing HIV prevention training during induction and continuously during employment through health and safety talks.
13. Conduct pre-deployment health screening of workers before community entry, in line with prevailing public health guidance, and maintain records for inspection by IOM.
14. Conduct a quarterly age-verification audit of the workforce by the contractor Environmental, Health and Safety Officer to confirm that no person under 18 is engaged on the works and report the result to IOM in the monthly report.

The Contractor should recognize the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. They should promote sound worker-management relationships and enhance the development benefits of a sub project by treating workers in the project fairly and providing safe and healthy working conditions. The Contractor is obliged to maintain documented information and records as evidence of maintaining a sound OHS system:

- *ECRP/ESS-R003 HSSE Training and Induction register*
- *ECRP/ESS-R004 GRM Register*
- *ECRP/ESS-R006 Accident, Incident, near misses Register.*
- *ECRP/ESS-R007 Meeting Attendance Register*
- *ECRP/ESS-R011 Emergency drill and simulation register*
- *ECRP/ESS-F001 Accident, Incident, Near misses Report Form*
- *ECRP/ESS-F002 Pre-Task Risk Assessment Form*
- *ECRP/ESS-PTW001 Working at Heights permit.*
- *ECRP/ESS-PTW002 Working in cornified spaces permit.*
- *ECRP/ESS-PTW003 Excavation permit*
- *ECRP/ESS-PTW004 Lifting permit.*
- *ECRP/ESS-PTW005 Hot works permit*
- *ECRP/ESS-G004 Occupational Safety and Health Guidelines*

2.2.3 ESS3: Resource Efficiency and Pollution Prevention and Management

The Contractor shall:

a) promote the sustainable use of resources, including energy, water, and raw materials.
b) avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from subprojects activities.
c) avoid or minimize subprojects-related emissions of short and long-lived climate pollutants.
d) avoid or minimize generation of hazardous and non-hazardous waste.
e) minimize and manage the risk and impacts associated with pesticide use.

The Contractor should recognize that subprojects' activities often generate pollution of air, water, and land, and consume finite resources that may threaten people, ecosystem services and the environment. Thus, they are required to address resource efficiency and pollution prevention and management

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throughout the subproject's life cycle. The Contractor is obliged to maintain a system and keep documented information and records as evidence. Such records shall include:

- *ECRP/ESS-R001 Licenses, Permits and Authorizations Register*
- *ECRP/ESS-P006 Site Plans (these shall include areas for the abstraction of pits and, river sand, quarry sites and any materials that shall be required for the implementation of subprojects sites)*
- *ECRP/ESS-R014 Materials abstraction register*

2.2.4 ESS 4: Community Health and Safety

The Contractor shall:

a) anticipate and avoid adverse impacts on the health and safety of subprojects-affected communities during the project life cycle from both routine and non-routine circumstances.
b) avoid or minimize community exposure to subprojects-related traffic and road safety risks, diseases, and hazardous materials.
c) have in place effective measures to address emergency events.
d) ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities.
e) Contractor shall ensure that all non-technical work is reserved for locals (identifiable with the host community and witnessed by host community leadership).
f) Beneficiary selection and employment recruitment should verify the authenticity of the localness of potential employees.
g) g) Contractor liaises with local leadership on enrolment for community workers while at the same time ensuring that no grievances derive from nepotism via utmost transparency in the selection process, announcing hiring campaigns early enough in community consultations and/or other outreach activities.
h) Where there are camp establishments, Contractor shall ensure camp management and community relations are good. If labor camps are required, special management plans need to be developed, or if smaller establishments, camp management reflected in the ESMP.
    - Security within camp
    - Social relations with community members should be cordial and consistent with GBV and SEA
    - Waste management
    - Water and sanitation
    - Proper camp demobilization
i) Establish code of conduct for contract workers interaction with the host community. This may include:
    - Access to camp by children, non-employed girls and women
    - Appropriate language
    - Time restrictions where required
    - GBV/SEA

j) Good conduct if small numbers of workers are accommodated in communities rather

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than camps (requirements on when to establish a camp shall be included in the POM)
k) Contractor shall ensure that local supply shall not negatively impact the availability of resources for the local communities and sourcing of local wildlife shall be prohibited.
Subprojects are implemented within communities and Contractors should address the health, safety, and security risks and impacts on project-affected communities. Focus should be put on avoiding or minimizing such risks and impacts, with particular attention to people who, because of their circumstances, may be vulnerable. The Contractor shall maintain clear records of stakeholder engagement and shall erect safety signage and/or barricades to alert communities of perceived risks. *ECRP/ESS-R002 Stakeholder engagement minutes shall be kept at site offices as a record of engagement of communities regarding community safety and health.*

2.2.5 ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

The Contractor shall:

a) avoid an activity that may lead to involuntary resettlement.
b) shall ensure that the subprojects implemented have land donation forms and land has been voluntarily given for the purposes of the subprojects.

The Contractor is obliged to maintain a system that documents information and records all land issues as evidence: The following documents shall be kept:

- *ECRP/ESS-F005 Land donation forms*
- *ECRP/ESS-R002Stakeholder engagement minutes*

2.2.6 ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

Protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development. Thus, the Contractor should strive to recognize the importance of maintaining core ecological functions of habitat within their area of operation. They should also ensure sustainable management of primary production and harvesting of living natural resources and recognize the need to consider the livelihood of project-affected parties, including Indigenous Peoples, whose access to, or use of, biodiversity or living natural resources may be affected by subprojects. The Contractor is obliged to establish and maintain documented information and records as evidence as follows:

- *ECRP/ESS-R001Licenses, Permits and Authorizations Register*
- *ECRP/ESS-P006 Site Plans (these shall include areas for the abstraction of pits and, river sand, quarry sites and any materials that shall be required for the implementation of subprojects sites)*
- *ECRP/ESS-R014Materials abstraction register (The register should capture the quantity of materials used for each subprojects site and this includes Pit sand, River sand and Water)*
- *Preservation of nationally protected and/or globally threatened species*

Compliance with the species and habitat sensitivities identified in the IBAT Biodiversity Assessment at Annex 17 is required. The Contractor shall implement the worker awareness, sediment and turbidity

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control, night lighting, vehicle speed, waste management, and species encounter reporting measures set out in Chapter 6 of this ESMP.

2.2.7 ESS 7 - Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities.

This ESS applies to distinct social and cultural groups.

a) To ensure that the development process fosters full respect for the human rights, dignity, aspirations, identity, culture, and natural resource-based livelihoods of Indigenous Peoples/ Sub-Saharan African Historically Underserved Traditional Local Communities.
b) To avoid adverse impacts of projects on Indigenous Peoples/ Sub-Saharan African Historically Underserved Traditional Local Communities, or when avoidance is not possible, to minimize, mitigate and/or compensate for such impacts.
c) To promote sustainable development benefits and opportunities for Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities in a manner that is accessible, culturally appropriate and inclusive.
d) Enhance opportunities for Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities to participate in, and benefit from, the development process in ways that do not threaten their unique cultural identities and well-being. The Contractor is obliged to keep the following records:

- *ECRP/ESS-P002 Stakeholder Engagement Plan (SEP)*
- *ECRP/ESS-PR05 Grievance Redress Mechanism (GRM) Procedure*

2.2.8 ESS 8: Cultural Heritage

The Contractor shall:

a) protect cultural heritage from the adverse impacts of subprojects activities and support its preservation.
b) address cultural heritage as an integral aspect of sustainable development.
c) promote meaningful consultation with all relevant stakeholders regarding cultural heritage.

Cultural heritage provides continuity in tangible and intangible forms between the past, present, and future. The Contractor should adopt measures designed to protect cultural heritage throughout the subproject's activities. The Contractor is obliged to keep the following records:

- *ECRP/ESS-R002 Stakeholder engagement minutes*
- *ECRP/ESS-PR04 Chance finds Procedure*
- *ECRP/ESS-PR05 Grievance Redress Mechanism (GRM) Procedure*

2.2.9 ESS 10: Stakeholder Engagement and Information Disclosure

The Contractor shall:

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a) Establish a systematic approach to stakeholder engagement that will identify stakeholders and build and maintain a constructive relationship with them.
b) Assess the level of stakeholder interest and support for the subprojects and enable stakeholders' views to be considered in subprojects design and environmental and social performance.
c) Promote and provide means for effective and inclusive engagement with subprojects-affected parties throughout the subprojects life cycle on issues that could potentially affect them.
d) Ensure that appropriate subprojects information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible, and appropriate manner and format.
e) Provide subprojects-affected parties with accessible and inclusive means to raise issues and grievances and allow IOM to respond to and manage such grievances.

The Contractor should ensure open and transparent engagement of project stakeholders. Effective stakeholder engagement is envisaged as a tool to improve the environmental and social sustainability of subprojects, enhance subprojects acceptance, and make a significant contribution to successful subprojects design and implementation. The Contractor is obliged keep the following records:

- *ECRP/ESS-R002 Stakeholder engagement minutes*
- *ECRP/ESS-P002 Stakeholder Engagement Plan (SEP)*

Kodok-specific contractor requirements

Contractor obligations specific to the Fashoda DRM 2026 scope include:

(a) compliance with the design engineer vendor briefing dated 8 December 2025;

(b) submission of Programme of Works prior to mobilisation;

(c) Resourcing Plan with CVs of Project Engineer, Site Supervisor, OHS Focal Point, and Environmental Focal Point;

(d) Plant and Machinery list;

(e) Quality Management procedures including concrete cube testing (20 cubes minimum to approved laboratory);

(f) pre-works structured photographic baseline of the dike alignment and drainage corridor, geo-tagged and dated and captioned to chainage;

(g) Ground Investigation submission per SSDRR-ARP-FA-XX-DR-IN-10202 General Notes prior to construction;

(h) vetiver grass establishment and aftercare per SSDRR-ARP-FA-XX-DR-IN-10202;

(i) batching using drinking-quality water;

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(j) construction camp and staging area location proposed by contractor and approved by IOM;

(k) borrow pit management per Annex 13 BPMP including the Lemo borrow pit conversion pathway.

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ANNEX 2: POLICY, LEGAL, ADMINISTRATIVE AND REGULATORY FRAMEWORK REVIEW

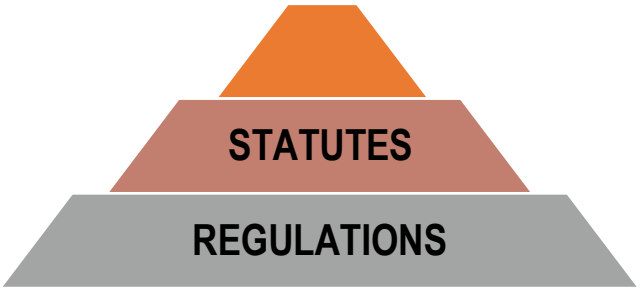
POLICY, LEGAL, ADMINISTRATIVE AND REGULATORY FRAMEWORK REVIEW

The GoSS is committed to the sound management of its environmental resources focusing on the sustainable utilization of natural resources, prevention of pollution and land degradation. The government has promulgated several instruments in view of providing principles, guidance, and stipulations to guarantee the protection of the country's environment, social and cultural values.

The development of ESMPs is done to proactively identify potential impacts on environmental and social resources prior to the implementation of targeted projects. The focus of the ESMP development process is to ensure that identified positive impacts are enhanced while the mitigation of negative impacts is placed at the core of the process and is supported through the adoption of sustainable approaches to avoid, reduce, mitigate, and/or offset negative impacts.

The project seeks to abide by all the existing legal provisions to ensure the protection of the environment and adherence to environmental and social standards as stipulated in the laws of South Sudan. Since attaining Independence in July 2011, the GoSS has adopted a new constitution which is operationalized through various legal instruments including policies, statutes, regulations, and guidelines. The development of environmental and social laws in South Sudan is ongoing, and the country has several legal instruments that are being drafted with the aim of enhancing sustainable socio-economic development. The policies and laws provide procedures to be followed in the planning and implementation of activities to ensure adherence to environmental and social standards.

This section provides an overview of the relevant environmental and social international, regional and national legal, policy and Institutional Framework that apply to ECRP II. Internationally and regionally, a review of Multilateral Environmental and Social agreements is presented while at national level, the hierarchy of laws presented in Figure 2 was used to guide the legal review. The World Bank Environmental and Social framework as read with the provisions of applicable Environmental, Health and Safety Guidelines were also reviewed and presented in this section highlighting the critical Environmental and Social Standards that Apply to ECRP II.



Hierarchy of Laws

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The following sections provide an overview of some of the relevant legal instruments that guide the maintenance of environmental and social standards in South Sudan.

Constitution of South Sudan

The Transitional Constitution of the Republic of South Sudan of 2011 includes numerous provisions that have a bearing on the environment. Under Article 41 (1), the constitution stipulates environmental rights and provides that the people of South Sudan shall have a right to a clean and healthy environment and (2) that every person shall be obliged to protect the environment and (3) that future generations shall have the right to inherit an environment protected for the benefit of present and future generations. Furthermore, Article 166 (6) expects local governments to involve communities in decision-making in the promotion of a safe and healthy environment. The constitution stipulates that:

"Women shall be accorded the full and equal dignity of the person with men. Women shall have the right to equal pay for equal work and other related benefits with men. Women shall have the right to participate equally with men in public life. All levels of government shall: (a) promote women participation in public life and their representation in the legislative and executive organs by at least twenty-five per cent as an affirmative action to redress imbalances created by history, customs, and traditions; (b) enact laws to combat harmful customs and traditions which undermine the dignity and status of women; and (c) provide maternity and childcare and medical care for pregnant and lactating women. Women shall have the right to own property and share in the estates of their deceased husbands together with any surviving legal heir of the deceased."

The rights of children are provided in the constitution which defines any person under the age of eighteen years as a child. The constitution seeks to protect children from unfair and unjust practices.

In executing the project, IOM and the Contractor s will need to adopt policies and systems that fully address the stipulated human rights in terms of the Constitution.

Policies

South Sudan Vision 2040

The major government document that is guiding the future development of South Sudan is entitled "Towards Freedom, Equality, Justice, Peace and Prosperity for All". The document spells out the national goals of the Vision 2040 that are meant to create a vibrant, competitive, and diversified economy that is largely driven by various industrial sectors which include agriculture, mining, tourism, and services in view of attracting investors. The commitment of the GoSS to sustainable environmental management and prevention of environmental pollution that emanates from developmental programs is also explicitly highlighted. Vision emphasizes the need to minimize greenhouse gas emissions as a measure to combat climate change. Furthermore, the medium-term development plan (Revised National Development Strategy for South Sudan - 2021-2024) includes; Establish and/or strengthen institutions for transparent, accountable and inclusive governance in a bid to foster macroeconomic stability and lay foundations for

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the diversification of the economy. The government is focusing on building critical infrastructure for sustainable development, which includes roads, public buildings, and broadband capability. Moreover, the government is also focusing on mainstream gender in all development policies and programs and empowering women and youth as drivers of growth and nation-building.

The ECRP II project is aligned to government focus as it is focusing on the dike construction of community infrastructure. Furthermore, the project has mainstreamed the involvement of the youth and women including vulnerable groups. IOM and the Contractor s should continue to uphold the principles of the project that are aligned to the South Sudan Vision 2040.

South Sudan National Environment Policy 2015 to 2025

The South Sudan Environmental Policy of 2015 provides the basis and framework for the sound management of environmental resources and paves the way for the mainstreaming of the sustainable development agenda in the development agenda in the country. The policy has been developed in response to the challenges posed by existing environmental challenges, such as pollution and depletion of natural resources. The policy recognizes the essential links between sustainable development and sound environmental management. The policy provides strategies that seek to guide key actors in the public, private, and community domains in relation to the management of environmental resources. The policy focuses on making provisions for the protection and subsequent improvement in the way environmental resources are managed in a bid to improve the quality of life of both present and future generations. The nexus between environmental protection and occupational safety and health is presented and the policy seeks to guide sustainable economic growth.

The proposed project has the potential to cause environmental pollution during the dike construction and operation phases, and these issues are addressed in the ESMP document. Also, by undertaking the ESMP, the project has observed the requirements of the national environmental policy and will continue to observe the requirements of the policy during the whole life cycle of the project.

The South Sudan Forest Policy (2019)

The Forest Policy of South Sudan was launched in 2019. The Policy is broadly intended to protect the roles forests play in stabilizing the global systems including the hydrological balance, the carbon balance, atmospheric systems. The policy seeks to promote ecological stability of riverine systems, the lakes, swamps, agricultural production, and other natural ecological systems. The guiding principles of the Forest Policy include:

(i) sustainable management of all forests and tree resources of South Sudan to ensure continuous accrual of benefits to the present and future generations.

(ii) Establishment and management of permanent forest estates (PFE) to ensure conservation of biodiversity and steady flow of benefits.

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(iii) forests and tree resources will be managed in accordance with set criteria and indicators for sustainable management.

(iv) regular development of appropriate policies, legislation, institutional reforms that will be implemented to support growth and sustainability of the forest sector.

(v) establishment of industrial and other plantations for sustainable supply of forest resources to meet the increasing demands.

(vi) increased community participation in forest management through collaborative management schemes while the community sustainably benefit from forest resources; (vii) development of forest products based industrial development (forest products processing) to promote, and support increased economic benefits from forest resources;

(vii) strengthening of forestry management institutions increase productivity, achieve household food security, alleviate poverty and contribute to the macro-economy of South Sudan.

(viii) sustained commitment to forest related regional and international agreements and conventions; and

(ix) human capacity development in the management of forests and tree resources.

While the project shall focus on avoiding the cutting down of trees, in the unlikely event that trees will be cut, the project shall ensure that planting of trees shall be done to compensate the trees that could have been cut down during sub- project implementation.

South Sudan Draft Environment Bill (2023)

The Bill has been crafted in a bid to pave way to the promulgation of the statutes that are focusing on the protection of the South Sudan environment. The bill also seeks to promote sustainable development that is centred on improving the quality of life for both the present and future generations. Explicitly, under section 18 of the Draft Environmental and Protection Bill, requirements for Environmental Impact Assessments are set out. The bill defines the Environmental Impact Assessment (EIA) as a systematic examination conducted to determine whether or not a project will have any adverse impact on the environment and prescribe mitigation measures. The EIA process as enshrined with the bill seeks to ensure that environmental and social risks are proactively identified and managed systematically. The bill under section 32 stipulates provisions relating to Environmental Audits. The focus of the audits is to assess the extent of compliance of developmental projects to the provisions of the Environmental Impact Assessment (EIA) provisions. The audits also provide mechanisms for comprehensible implementation procedures of a project so as to mitigate adverse environmental impacts and provide regulatory bodies with a framework for ensuring compliance with, and the performance of an environmental management plan. Under section 20 the bill provides for Environmental Monitoring. The mandate for environmental monitoring is placed online ministries and includes monitoring the operations of projects and/or project activities to determine its immediate and long-term effect on the environment.

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The Bill has not yet been passed into law and as such it is not enforceable. Thus, the project will voluntarily adopt international best practices that are aligned to the provisions of the bill.

Gender Policy

The Government of South Sudan has committed to gender equality for women, men, girls and boys. It is the spirit of the policy to protect women and girls from harmful social norms. The Government has endorsed pledges to end female genital mutilation (FGM) and child marriage and prevent and respond to gender-based violence (GBV).

IOM and its contractors shall ensure alignment of the Gender Action plan with the provisions of the policy.

South Sudan National Women's Strategy 2016

The South Sudan National Women's Strategy document is a tool that is designed to be used by women and men from different sectors, institutions and organizations, which are committed to mainstream gender and provide for gender equality in different sectors of the society. Through this document, the women of South Sudan seek to emphasize and shed more light on the existing opportunity for women based on the gender competence among the women and women's rights as equal citizens of South Sudan. The objective of this strategy document is to ensure that women participation and contribution in decision making at national level is seen beyond the limitation of the 25% threshold of gender quota which is enshrined in the Constitution of Republic of South Sudan (2011) amended 2015.

IOM and its contractors shall ensure that Women are provided with an equal opportunity for employment and the project shall meet the stipulated gender quota.

Statutes

The Land Act of 2009

One of the key objectives of the Land Act is to promote a land management system, which can protect and preserve the environment and ecology for the sustainable development of South Sudan. It also provides for fair and prompt compensation to any person whose right of occupancy, ownership or recognized long-standing occupancy or customary use of land is revoked or otherwise interfered with. The Land Act reinforces the Government's recognition of customary land tenure.

The Land Act requires the Government to consult local communities and consider their views in decisions about community land. The Act also gives pastoralists special protection: No person shall without permission to carry out any activity on the communal grazing land which may prevent or restrict the residents of the traditional communities concerned from exercising their grazing rights.

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The proposed project has the potential to affect land holders. Thus, IOM and its contractors will be obliged to comply with the requirements of the Land Act. Though the project has explicitly stated the need to avoid involuntary resettlement due to any project activities. The project should continue to exercise due diligence to ensure that verification of land allocated for subprojects is voluntarily donated to avoid any compensation issues.

The Public Health (Water and Sanitation) Act (2008)

Emphasizes the prevention of the pollution of air and water and encourages improvement in sanitation. Key provisions include the protection of the sanitation of the environment, and it encompasses measures to address air and water pollution. The act provides for the prevention of pollution of water for consumption; prevention of pollution of potable water; guides anyone who offers the public water to drink or human food, and which includes frozen food. It stipulates that such individuals should ensure that the water conforms to the portable water regulations. To some extent, it guides the management and disposal of hazardous wastes, and storage of wastes on the premises of waste generators.

The project will implement subprojects that will provide the public with portable drinking water. Such water facilities shall be subjected to drinking water quality testing to ensure that the regulations and provisions of this act are fully met.

The Labor Act (Act No. 64 of 2017)

The Labor Act provides the minimum conditions of employment, labor relations, labor institutions, dispute resolution and provisions for health and safety in the workplace. It further reinforces the right to equal remuneration for work of equal value as guaranteed by the constitution. Section 6(1) of the Labor Act provides that 'No person shall discriminate, directly or indirectly, against an employee or job applicant in any work policy or practice'. Section 6(2) also forbids discrimination by any Trade Union, Employers Association or Federation. Section 6(3) defines discrimination as 'any distinction, exclusion or preference with the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation' based on a series of grounds including sex and pregnancy or childbirth. The Labor Act provides protections for children, however, there is a legal gap when it comes to clarity on prohibitions on the worst forms of child labor.

IOM and its contractor should comply with the provisions of the labor laws in the implementation of the sub projects. The contractor should comply with the provisions of the ECRP II Labor management procedures. The LMP seeks to:

(a) Identify the different types of project workers that are likely to be involved in the project.
(b) Identify, analyse and evaluate the labor related risks and impacts for ECRP II.
(c) Set out procedures to meet the requirements of ESS2, ESS4 and applicable national legislation.

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As such, the LMP will be very relevant to ensure that the requirements of the labor laws are fulfilled and should be applied with due consideration to the requirements of national laws, the interrelatedness of ESS2 and ESS4.

The Child Act (Act No. 10 of 2008):

The Child Act regulates the prohibition on child labor, the protection of children and young persons and hazardous child labor. *IOM and its contractors shall put in place measures to ensure that NO child labor cases will be recorded under the ECRP II.*

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Multilateral Environmental and Social Agreements (MESAs)

United Nations Framework Convention on Climate Change

The primary purpose of the Convention is to establish methods to minimize global warming and in particular the emission of greenhouse gases. The Convention was adopted for signature in 1992 and came into force in 1994.

IOM and the Contractor should ensure that at Subprojects level, designs and relevant plans are developed and implemented to minimise the release of GHG emissions.

Vienna Convention on the Protection of the Ozone Layer

The Vienna Convention was an intergovernmental negotiation for an international agreement to phase out ozone depleting substances in March 1985. It ended in the adoption of the Vienna Convention for the Protection of the Ozone Layer. The Convention encourages intergovernmental cooperation on research, systematic observation of the ozone layer, monitoring of CFC production, and the exchange of information.

IOM and the Contractor should ensure that at Subprojects level there is compliance with the national regulations on the prohibition and Control of Ozone Depleting Substances, and Greenhouse Gases.

Ramsar Convention for the Conservation and Sustainable Utilization of Wetlands

The Convention is an international treaty for the conservation and sustainable utilization of wetlands, recognizing the fundamental ecological functions of wetlands and their economic, cultural, scientific and recreational value. South Sudan has been a party to the convention since 10 October 2013. The country has 1 Ramsar site which covers an area of about 5.700.000 hectares. The IBAT screening at Annex 17 confirms that the Sudd Ramsar site (WDPA 1622) does not extend within 50 km of Kodok per current WDPA polygons; the subprojects therefore do not overlap with the designated Ramsar area.

The proposed Subprojects will avoid ecologically sensitive areas such as wetlands. IOM and the Contractor will be operating in the area with wetlands e.g. rivers. As such, both IOM and the Contractor should ensure that the wetlands are protected, and Subprojects activities should not alter or interfere with the wetlands.

Convention on the Rights of the Child

The Convention on the Rights of the Child from 1989 is the most comprehensive compilation of international legal standards for the protection of the human rights of children. It acknowledges children as individuals with rights and responsibilities according to their age and development, as well as members of a family or community. This includes non-discrimination, the best interest of the child, the right to life, survival and development and the right to participation.

IOM and the Contractor should ensure that the rights of children are protected.

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Eight Fundamental Conventions of the International Labour Organization

The eight "fundamental" Conventions cover subjects that are considered to be fundamental principles and rights at work. The freedom of association and the effective recognition of the right to collective bargaining; the elimination of all forms of forced or compulsory labour; the effective abolition of child labour; and the elimination of discrimination in respect of employment and occupation.

IOM and the Contractor should ensure that the rights of employees are protected and issues of occupational, health and safety are fully addressed. This includes the provision of a safe working environment and management of workplace hazards.

Convention on the Elimination of all forms of Discrimination against Women.

CEDAW places explicit obligations on states to protect women and girls from sexual exploitation and abuse.

IOM and the Contractor should ensure that at Subprojects level, the protection of women and girls from sexual exploitation and abuse is upheld.

Basel Convention

The Basel Convention (BC) on the Trans-boundary movement of hazardous waste and other wastes is one of the MEAs that addresses the issues of hazardous waste management. The BC was adopted in 1989, in response to a public outcry following the discovery, in the 1980s, in Africa and other parts of the developing world of deposits of toxic wastes imported from abroad. The thrust of the convention has been to combat the "toxic trade", as it was termed. The convention restricts the movement of hazardous waste and sets out a procedure that needs to be followed when hazardous waste is to be transported.

IOM and the Contractor should ensure that at Subprojects level, if any hazardous waste is generated, it should be managed in an environmentally sound manner.

Bamako Convention

The Bamako Convention controls the trans-boundary movement of hazardous wastes to and within Africa. The convention seeks to complement the BC through the protection of African states from the environmentally toxic effects of hazardous waste, e-waste included by imposing a ban on the import of toxic waste into Africa.

IOM and the Contractor should ensure that at the Subprojects level, if any hazardous waste is generated, it should be managed in an environmentally sound manner.

Stockholm Convention on Persistent Organic Pollutants (POPs)

The Stockholm Convention on Persistent Organic Pollutants (POPs) was signed on the 22nd of May 2001. POPs pose major and increasing threats to human health and the environment. Among the POPs that are earmarked for phasing out include Poly Chlorinated Biphenyls (PCBs) which are still widely used in old transformer oils.

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The Contractor has the obligation to ensure compliance to the requirements of the Stockholm Convention during the dike construction phase to uphold the same compliance level at implementation. Focus should be put on ensuring that POPs are managed in an environmentally sound manner.

Minamata Convention

The Minamata Convention (named after the Japan City of Japan) on Mercury was adopted and signed on 10th October 2012 at a Diplomatic Conference in Kumamoto Japan. The Minamata Convention is an international treaty designed to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. The convention includes provisions that relate to the entire life cycle of mercury, including controls and reduction across a range of products, processes, and industries where mercury is used, released or emitted.

The Contractor has the obligation to ensure compliance with the provisions of the convention in ensuring that the designs take into account measures to control and reduce the releases of mercury into the environment.

Kyoto Protocol, 2005

The Kyoto Protocol was adopted on 11 December 1997 and entered into force on 16th February 2005. The Kyoto Protocol operationalises the United Nations Framework Convention on Climate Change by committing industrialised countries to limit and reduce greenhouse gases (GHG) emissions in accordance with agreed individual targets. The Protocol requests countries to adopt policies and measures on mitigation to report periodically. It binds developed countries and places a heavier burden on them under the principle of 'common but differentiated responsibility and respective capabilities. Annex B of the Protocol sets binding emission reduction targets for 36 industrialised countries and the European Union; these targets add up to an average of 5 per cent emission reduction compared to 1990 levels over a five-year period 2008 – 2012 which is the first commitment period.

IOM and the Contractor should ensure that at Subprojects level, designs and relevant plans are developed and implemented to minimise the release of GHG emissions.

Montreal Protocol, adopted 15th September 1987

Montreal Protocol on Substances that Deplete the Ozone Layer is a multilateral environmental agreement that regulates the production and consumption of over man-made chemicals referred to as Ozone Depleting Substances (ODS), over 100 of them. When released to the atmosphere, those chemicals damage the stratospheric ozone layer, Earth's protective shield that protects humans and the environment from harmful levels of ultraviolet radiation from the sun. The Montreal Protocol phases down the consumption and production of the different ODS in a stepwise manner, with different timetables for developed and developing countries. Under the Protocol, all parties have specific responsibilities related to:

- The phase out of the different Ozone Depleting Substances.
- Control of ODS trade.

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- Annual reporting of data.
- National licensing systems to control ODS imports and exports.

Although both developing and developed countries have equal but differentiated responsibilities, all countries have binding, time-targeted and measurable commitments.

The Protocol includes provisions related to Control Measures, Calculation of control levels, Control of trade with non, Special situation of developing countries, Reporting of data, Non-compliance, Technical assistance. The substances controlled by the treaty are CFCs, halons, other fully halogenated CFCs, carbon tetrachloride, methyl chloroform, HCFCs, methyl bromide and HFCs.

IOM and the Contractor should ensure that at Subprojects level, designs and relevant plans are developed and implemented to minimise the release of ODS emissions at all stages of the Subprojects.

World Bank (WB) Environmental and Social Framework (ESF)

The WB Environmental and Social Framework (ESF) became effective on October 1, 2018, and is applicable to the ECRP II. The ESF covers areas such as labor, non-discrimination, climate change mitigation and adaptation, biodiversity, community health and safety, and stakeholder engagement – including expanding the role of public participation and grievance mechanisms. Through the ESF, the World Bank's enhanced commitment to sustainable development through adoption of a set of ten Environmental and Social Standards (ESS). The ESF is built upon the risk-based approach that promotes increased responsiveness to changes in Subprojects' circumstances through adaptive risk management and stakeholder engagement.

ECRP II framework documents applicable to this ESMP:

A. the Emergency Crisis Recovery Programme Phase II Environmental and Social Management Framework (ESMF, 2023 version, World Bank Project ID P177093);
B. The Environmental and Social Commitment Plan (ESCP, 2022);
C. The Stakeholder Engagement Plan (SEP 2022);
D. The Resettlement Policy Framework (RPF, 2022);
E. The Labor Management Procedures (LMP); and
F. The ECRP II Grievance Redress Mechanism (GRM) Guidelines published by the Ministry of Finance and Planning.

This ESMP responds to and is consistent with each of these parent instruments.

ESS 1: Assessment and Management of Environmental and Social Risks and Impact

The ESS1 provides the guiding principles for the effective environmental and social assessment of Subprojects, conduction of stakeholders' engagement, and legal agreement between the Borrower and

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the Bank. The focus is to ensure the effective implementation and management of the environmental and social risks through a legal Environmental and Social Commitment Plan (ESCP) and conduction of monitoring as well as regular reporting of environmental and social performance against the ESSs.

The proposed sub-projects will adopt the provisions of ESS 1 by addressing the environmental and social risks and impacts, which shall arise as result of implementation of the proposed sub-Subprojects activities. IOM and its Contractors are obliged to adopt the mitigation hierarchy in addressing significant ES risks at all stages of the Subprojects.

ESS 2: Labour and Working Conditions

The provisions of ESS 2 are applicable to these Subprojects. This objective of this standard is to promote health and safety in the workplace; protect Subprojects workers, particularly vulnerable workers such as women, persons with disabilities, migrant and community workers etc.; prevent child labour and forced labour; support principles of collective bargaining and freedom of association; and provide Subprojects workers means to raise workplace concerns.

The proposed sub-Subprojects will involve a Contractor and thus the ESS 2 will be very relevant to the Subprojects. The Contractor should ensure that the key risks related to OHS are addressed following the hierarchy of controls. Employees must be provided with adequate PPE, training and capacity building on OHS issues. A workers' GRM platform should be established and there should not be any discrimination at the workplace. The Contractor should ensure that a safe working environment is always maintained and OHS risks are communicated. Information on OHS should be made available to employees. Aligned to the provisions of ESS2, the LMP that were developed under ECRP II should be adhered to aid in fulfilling the requirements of ESS2 by the Contractor.

ESS 3: Resource Efficiency and Pollution Prevention and Management

The ESS 3 takes into account the necessary aspects of resource consumption for conduction of developmental activities, and as a result generates waste, resulting in air, water, soil and noise pollution, which may threaten the wellbeing of humans, ecosystem services and the environment. As such, adoption of more efficient and effective resource consumption measures, pollution control and prevention mechanisms and GHG emission avoidance, and mitigation technologies and practices will provide a more sustainable approach for Subprojects implementation.

The ESS is applicable to the Subprojects since the activities include resource consumption and the subsequent generation of waste. As such, IOM and the Contractor should ensure that plans and measures are put in place to ensure the sustainable extraction of natural resources, prevention of pollution and land degradation. At the design stage, the constructor should focus on measures to avoid the unnecessary abstraction of resources. The provisions of the ESS3 have already been taken into consideration during planning through the design considerations, adoption of SoPs, adoption of pollution abatement technology. IOM should ensure that the Contractor adheres to the design specification during construction.

ESS 4: Community Health and Safety

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The ESS4 generally lays down ESF principles for the health, safety, and security risks and impacts of Subprojects-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable.

The proposed Subprojects will be implemented at a Hospital that interacts with a surrounding community which includes schools, churches and other facilities. As such, to ensure community safety, IOM and the Contractor should ensure that hazard and risk communication signs are installed at various critical points. Engagement of community to ensure that they are aware of the anticipated risks and hazards to ensure community preparedness should be done prior to Subprojects implementation. Mitigation measures following the mitigation hierarchy should be adopted.

ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

ESS5 establishes the requirements for managing land acquisition impacts, restrictions on land use, and involuntary resettlement to avoid, minimise, or mitigate adverse impacts on affected persons. For the Kodok scope, the Subprojects are sited on public land reserves and do not require physical displacement of households, per the October 2024 Land Use Form (ECRP/ESS-F007). Resettlement Policy Framework (RPF, 2022) governs any economic displacement or land-use restriction that may arise during implementation.

ESS 6: Biodiversity Conservation

The ESS 6 emphasizes the importance of protecting and conserving biodiversity along with the core ecological functions of habitats and thus, sustainably managing primary production and harvesting of living natural resources.

Measures to ensure that Biodiversity impacts are minimised should be adopted.

ESS 7: Indigenous Peoples / Sub-Saharan African Historically Underserved Traditional Local Communities

ESS7 applies where projects affect Indigenous Peoples or Sub-Saharan African Historically Underserved Traditional Local Communities (SAHUTLUC) and requires Free, Prior and Informed Consultation (FPIC) where the standard's triggers are met. For the Kodok scope, ESS7 protocols apply to engagement with the Shilluk traditional authorities under the Reth's office, with documented engagement at boma, payam and county levels throughout pre-construction, construction, and operation phases. Cultural heritage protocols under ESS8 are applied in parallel.

ESS 8: Cultural Heritage

The ESS seeks to address the effects of Subprojects activities on tangible, intangible as well as movable and immovable cultural, archaeological, religious, and paleontological assets.

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The ESS is relevant, and IOM and the Contractor should work closely with the traditional leaders in the area to ensure that the culture, values and norms of the people of South Sudan is respected and upheld during all stages of the Subprojects.

ESS 10: Stakeholder Engagement and Information Disclosure

The ESS10 recognizes the importance of transparent and meaningful consultation throughout the Subprojects cycle as an essential element of international good practice. Meaningful stakeholder engagement can improve the environmental and social sustainability of Subprojects, enhance Subprojects acceptance and contribute to successful Subprojects design and implementation. The Subprojects has established a structured approach to stakeholder engagement and public outreach that is based upon meaningful consultation and disclosure of appropriate information, considering the specific challenges associated with combating COVID-19.

The ESS is relevant and IOM together with the Contractor should ensure the Stakeholder Engagement Plan is developed and followed, and the ECRP II Grievance Redress Mechanism should be implemented.

WB Guidelines: Environmental, Health and Safety Guidelines General EHS Guidelines.

The Environment, Health and Safety (EHS) Guidelines contain performance levels and measures for development of industrial Subprojects that are achievable in new facilities at reasonable costs by existing technology. Under these guidelines, the World Bank has several guidelines many of which are applicable to various components of the proposed Subprojects namely:

a) EHS Guidelines-Air Emissions and Ambient Air Quality

b) EHS Guidelines-Waste Management.

c) EHS Guidelines-Health Care Facilities.

d) EHS Guidelines-Hazardous Materials Management

e) EHS Guidelines-Dike construction and Decommissioning.

OM and the Contractor are required to comply with the provisions of the WBG, Environmental, Health and Safety Guidelines General EHS Guidelines at all stages of the Subprojects.

EHS Guidelines: Air Emissions and Ambient Air Quality

The guidelines mainly focus on preventing the generation and release of air emissions in this case through selection of fuel type, the optimal operation of the incinerator, the avoidance of burning all waste and proper healthcare waste handling skills among other initiatives. These guidelines are meant for all types of Subprojects with "significant" emissions, sources of air emissions, and potential for significant impacts to ambient air quality to prevent or minimize impacts by ensuring that Subprojects activities do not result in the release of pollutant concentrations that reach or exceed relevant ambient quality guidelines and standards. The Subprojects should avoid, minimize, and control adverse impacts to human health, safety, and the environment from emissions to air. Where this is not possible, the generation and release of emissions of any type should be managed through a combination of:

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• Energy use efficiency

• Process modification

• Selection of fuels or other materials, the processing of which may result in less polluting emissions

• Application of emissions control techniques

Moreover, the EHS guidelines require the application of national legislated standards, or in their absence, the current WHO Air Quality Guidelines, or other internationally recognized standards.

Subprojects that generate fugitive air emissions, especially during dike construction and operation. Furthermore, during the implementation of the Subprojects there will be release of air pollutants from mobile sources. Thus, these guidelines are applicable as they give control and monitoring measures. IOM and Contractors should ensure that adoption of measures to manage the release of air emissions are taken into account at all stages of the project.

WB EHS Guidelines: Waste Management

The guidelines apply to the management of non-hazardous and hazardous waste. These Subprojects will result in the generation of both hazardous and non-hazardous waste at various stages of the Subprojects. These guidelines provide categories of various wastes and a summary of treatment and disposal options. These guidelines provide good guidance on waste on-site handling, collection, treatment and disposal for both the proponent and the Contractor s during dike construction and operation phases respectively.

These guidelines are applicable to the Subprojects. As such, both IOM and the Contractor should ensure that all stages of the Subprojects are in compliance with the requirements of the guidelines to ensure the sound management of both waste and hazardous waste including healthcare waste. The waste management plans should be aligned to the provision of these guidelines.

WB EHS Guidelines: Noise

This section addresses impacts of noise beyond the property boundary of the facilities. These guidelines are applicable during the construction phase whereby dike construction equipment and activities are expected to emit noise.

These guidelines are applicable to these Subprojects so both IOM and the Contractor should ensure that throughout all stages of the Subprojects the provisions of the guideline are complied with. The noise levels should not exceed the levels presented in Table 1.7.1 of the guidelines or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site.

WB EHS Guidelines: Occupational Safety and Health

These guidelines guide employers and supervisors in fulfilling their obligation to implement all reasonable precautions to protect the health and safety of workers. The guidelines provide guidance and examples of reasonable precautions to implement in managing principal risks to occupational health and safety. Although the focus is placed on the operational phase of Subprojects, much of the guidance also applies to dike construction and decommissioning activities. The guidelines also describe how facility operation

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workplace design should be undertaken to prevent occupational health and safety risks and hazards. The guidelines also give examples of internationally published exposure guidelines which may be used to measure occupational health and safety performance. Such examples include the threshold limit Values, Occupational exposure guidelines and biological exposure indices published by the American Conference of Governmental Industrial Hygienists. Permissible exposure limits published by the Occupational Safety and Health administration of the United States, and Indicative occupational exposure limit values. The guidelines also provide guidelines on handling chemical hazards of asbestos containing materials. The guidelines state that emphasis must be put on:

(a) Eliminating the hazard by removing the activity from the work process;

(b) Controlling the hazard at its source through use of engineering controls;

(c) Minimizing the hazard through design of safe work systems and administrative or institutional control measures and

(d) Providing appropriate personal protective equipment (PPE) in conjunction with training, use, and maintenance of the PPE.

These guidelines are applicable to the Subprojects and as such, both IOM and the Contractor should ensure that all stages of the Subprojects the provisions of the guideline are complied with. Occupational Safety and Health standards should be adhered to, and the Contractor should ensure employees are made aware of the hazards that they are likely to face. Measures to eliminate or reduce exposure of employees should be adopted guided by the application of the hierarchy of controls. Provision of PPE, training and capacity building should be prioritized at all stages of the Subprojects.

WB EHS Guidelines: Dike construction and Decommissioning

These provide additional and specific guidance on prevention and control of community health and safety impacts that may occur during new Subprojects development, at the end of the Subprojects life cycle, or due to expansion or modification of existing Subprojects facilities. On road design ·The guidelines stipulate that there is a need to limit access road gradients to reduce runoff induced erosion and there is need to ensure provision of adequate road drainage based on road width, surface material, compaction, and maintenance.

These guidelines are applicable to the Subprojects as such, both IOM and the Contractor should ensure that all stages of the Subprojects designs, plans and activities are aligned to comply with the provision of the guideline

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Table 17: Summary of requirements & obligations for WB ESF and Guidelines

REF.	WB ES INSTRUMENT	RELEVANCE	COMPLIANCE LEADING INDICATORS	COMPLIANCE LAGGING INDICATORS
1.	WB ESF: ESS1: Assessment and Management of Environmental and Social Risks and Impact	Integrates Environmental and Social Assessment; includes requirements related to non-discrimination and social inclusion; proportionality and adaptive management; use of the ESCP	ESCP, ESMP; GRM ES procedures implemented. Permits, and Licenses obtained	Grievances Fines and penalties from regulators Near misses, incidents, and accidents at workstations
2.	WB ESF ESS2: ESS 2: Labour and Working Conditions	Prohibits child labour and forced labour, heightened focus on OHS, grievance mechanisms	OHS Policies, Procedures and Protocols Number of staff trained. PPE issued	High staff turnover. Grievances Fines and penalties from regulators Near misses, incidents and accidents at workstations
3.	WB ESF ESS 3: Resource Efficiency and Pollution Prevention and Management	Promotes efficient management of energy, water, and other resources and materials; hazardous materials management; pesticides; GHG assessment mandate	ES Policies, Procedures and Protocols Permits, and Licenses Education, Awareness raising and Capacity building.	Grievances Fines and penalties from regulators Land degradation. Environmental pollution
4.	WB ESF ESS 4: Community Health and Safety	Assess risks and impacts on communities; Design of safe and resilient infrastructure, equipment operation, products, services,	ES Policies, Procedures and Protocols Education, Awareness raising and Capacity building.	Grievances Fines and penalties from regulators

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REF.	WB ES INSTRUMENT	RELEVANCE	COMPLIANCE LEADING INDICATORS	COMPLIANCE LAGGING INDICATORS
		road safety, hazardous materials; emergency preparedness		Near misses, incidents and accidents at workstations
5.	WB ESF ESS 8: Cultural Heritage	Enhanced consultation with affected communities, intangible heritage	SEP implemented. Number of engagement meetings held. Stakeholder feedback incorporated	Grievances Fines and penalties from regulators
6.	WB ESF ESS 10: Stakeholder Engagement and Information Disclosure	Meaningful consultation, access to information and grievance redress through the life of Subprojects	SEP implemented. Number of engagement meetings held. Stakeholder feedback incorporated. Grievances recorded, investigated, and closed. Subprojects information disclosed	Number of grievances recorded. Fines and penalties from regulators
7.	WB Guidelines: Environmental, Health and Safety Guidelines General EHS Guidelines.	The EHS Guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP)	WB compliant ESMP developed and implemented. ES tools developed and implemented. Safety talks records Disclosure of OSH information	Number of grievances recorded. Fines and penalties from regulators Near misses, incidents and accidents recorded. Environmental pollution

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REF.	WB ES INSTRUMENT	RELEVANCE	COMPLIANCE LEADING INDICATORS	COMPLIANCE LAGGING INDICATORS
			Number of trained personnel on Osh issues Awareness raising initiatives recorded. Signage, Hazard and risk communication strategy	
8.	EHS Guidelines: Air Emissions and Ambient Air Quality	Applies to facilities or Subprojects that generate emissions to air at any stage of the Subprojects life cycle	ESMP developed and implemented. Designs that incorporate technologies for the reduction of emissions Monitoring of air emissions and ambient air quality Training, capacity building and awareness training initiatives Number of stakeholders trained	Air pollution Fines penalties and tickets from regulators Elevated pollutant levels
9.	WB EHS Guidelines: Waste Management	Applies to facilities or Subprojects dedicated to the management of municipal solid waste and industrial waste, including waste collection and transport; waste receipt, unloading, processing, and storage; landfill disposal;	ESMP developed and implemented. Waste management hierarchy implemented. Use of adequate PPE during waste management	Environmental pollution Fines penalties and tickets from regulators Elevated pollutant levels Outbreak of diseases

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REF.	WB ES INSTRUMENT	RELEVANCE	COMPLIANCE LEADING INDICATORS	COMPLIANCE LAGGING INDICATORS
		physic-chemical and biological treatment; and incineration Subprojects.	Training, capacity building and awareness training initiatives Number of stakeholders trained	Number of grievances
10.	WB EHS Guidelines: Noise	Addresses impacts of noise beyond the property boundary of the facilities. Worker exposure to noise is covered	ESMP developed and implemented. Ambient noise monitoring plan implemented. Proactive selection of Noise standards compliant equipment implemented	Environmental pollution Fines penalties and tickets from regulators Elevated ambient noise levels Number of grievances
11.	WB EHS Guidelines: Dike construction and Decommissioning	provides additional, specific guidance on prevention and control of community health and safety impacts that may occur during new Subprojects development, at the end of the Subprojects life cycle, or due to expansion or modification of existing Subprojects facilities	ESMP developed and implemented. Waste management/disposal licensees/permits acquired. Waste management hierarchy applied. Training, capacity building and awareness raising on waste management. Number of stakeholders trained	Environmental pollution (Air, Land and Water) Fines penalties and tickets from regulators Elevated ambient noise levels Number of grievances

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REF.	WB ES INSTRUMENT	RELEVANCE	COMPLIANCE LEADING INDICATORS	COMPLIANCE LAGGING INDICATORS
12.	WB EHS Guidelines: Occupational Safety and Health	Focuses on provision of a safe working environment. Guides the management of hazards and risk through the application of the hierarchy of controls.	ESMP developed and implemented. Legal register developed and updated. Near misses, incidents, accidents recorded, investigated, and closed. Adequate PPE provided. Training, education, capacity building and awareness raising conducted. Hierarchy of controls Implemented in management of OHS Hazards and Risks Pre and Post Medical examinations conducted. Hazard and risk communication	Fines penalties and tickets from regulators Number of grievances Number of near misses, incidents and accidents recorded

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ANNEX 3: LIST OF STAKEHOLDERS CONSULTED

ECRP II ECRP/ESS-R002 Stakeholders Register | Office: ECRP II | Location: Upper Nile State

Table A - Organisations and Designations of Stakeholders Consulted

No.	Organisation/Institution	Designation/Position
1	Ministry of Agriculture	Director of Horticulture
2	Ministry of Housing	Director of Housing
3	Ministry of Housing	Town Planner
4	Ministry of Agriculture	Director of Extension Services
5	Ministry of Agriculture	Director of Administration
6	Ministry of Local Government	Deputy Director of Administration
7	RRC	Administrator
8	RRC	Administrator / Finance
9	RRC	Field Inspector
10	County	Executive Director
11	RRC	RRC Coordinator
12	County	Deputy Director of Land and Housing
13	County	Director for Environment
14	County	Inspector of Education
15	County	Inspector of Forestry
16	County	Women Leader
17	County	Women Representative
18	County	Women Representative
19	County	Youth Chairperson
20	County	Youth Secretary
21	County	Youth Information Secretary
22	County	Youth Representative
23	County	Representative for Persons with Disabilities
24	County	Representative for Persons with Disabilities

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25	Payam	Payam Administrator
26	Payam	Chief - Hai Salam
27	Payam	Chief - Obang
28	Payam	Youth Leader
29	Payam	Youth Representative
30	Payam	Community Chief
31	Payam	Community Representative
32	Payam	Women Representative
33	Payam	Women Representative
34	Boma	Chief - Lemo Boma
35	Boma	Youth Leader Lemo Boma
36	Boma	Youth Leader Obang Boma
37	Boma	Chief - Debor Boma
38	Boma	Women Leader - Obang
39	Boma	Deputy Youth Leader - Obang
40	Boma	Women Leader - Abudhong
41	Kodok Port Association	Chairperson
42	Kodok Port Association	Deputy Chairperson
43	Kodok Port Association	Member
44	Kodok Port Association	Member
45	Kodok Port Association	Member
46	Kodok Port Association	Member
47	Kodok Port Association	Member
48	Kodok Port Association	Member
49	Traders	Chairperson
50	Traders	Member
51	Traders	Member
52	Traders	Member
53	Traders	Member
54	Payam	PDC

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55	Payam	PDC
56	Payam	PDC
57	Payam	PDC
58	Payam	PDC
59	Payam	PDC
60	Payam	PDRMC
61	Payam	PDRMC
62	Payam	PDRMC
63	Payam	PDRMC
64	Payam	PDRMC
65	Payam	PDRMC
66	Payam	PDRMC

Table B - Named Participants with Demographics

Name	Age Group	Gender	Level of Engagement
Tut John Jock	25-59 Years	Male	State
Alessio Akamy Bauo	25-59 Years	Male	State
Maria Joseph	25-59 Years	Male	State
Nyok Kon Muon	25-59 Years	Male	State
Riek Bayak Tong	25-59 Years	Male	State
James Tipo Deng	25-59 Years	Male	State
Paul Awin Ajak	25-59 Years	Male	State
Francis Faustino Ojwok	25-59 Years	Male	State
Tuong Marol Miyom	25-59 Years	Male	State
Stephen Deng Akol	25-59 Years	Male	County
Mangisto Martin Ngor	25-59 Years	Male	County
Clement Barnaba Ajak	25-59 Years	Male	County
Kamal Khamis Tipo	25-59 Years	Male	County
Peter Simon Okech	25-59 Years	Male	County
Peter Owet Ajang	25-59 Years	Male	County

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Name	Age Group	Gender	Level of Engagement
Elizabeth Ayang Aney	25-59 Years	Female	County
Sarah Opal Kur	25-59 Years	Female	County
Tereza Joseph Obang	25-59 Years	Female	County
Wilson Othow Adwok	25-59 Years	Male	County
Santino Ronjo Koryom	25-59 Years	Male	County
Cecilia Paulino Tipo	25-59 Years	Male	County
Pagan Yor Adeid	25-59 Years	Male	County
Mary Along Yor	25-59 Years	Female	County
Nyidong Ochol Nyidhong	25-59 Years	Male	County
John Othwok Padit	25-59 Years	Male	Payam
Johnson Abraham	25-59 Years	Male	Payam
Butrus Manyang	25-59 Years	Male	Payam
Changjwok Oyay	25-59 Years	Male	Payam
Zakaria Kur	25-59 Years	Male	Payam
Amin Akwoch	25-59 Years	Male	Payam
Bolis Adiang	25-59 Years	Male	Payam
Sunday Kur	25-59 Years	Female	Payam
Mary Majwok	25-59 Years	Female	Payam
Joseph Chol	25-59 Years	Female	Boma/Block
Deng Othwok	25-59 Years	Male	Boma/Block
Changjwok Oman	25-59 Years	Male	Boma/Block
Bolis Abato	25-59 Years	Male	Boma/Block
Martha Arop	25-59 Years	Male	Boma/Block
Cecilia Tipo Akol	25-59 Years	Female	Boma/Block
Martha Achiek Othow	25-59 Years	Male	Boma/Block
Obunying Aluthpiny	25-59 Years	Male	County
Mathew Ajik Ajang	25-59 Years	Male	County
Peter Aboul Yorwin	25-59 Years	Male	County
David Adwok Akolith	25-59 Years	Male	County

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Name	Age Group	Gender	Level of Engagement
Simon Obach	25-59 Years	Male	County
Joseph Yor	25-59 Years	Male	County
Augustino Sebit	25-59 Years	Male	County
James Khamis	25-59 Years	Male	County
Odol Omay Ayoker	25-59 Years	Male	Payam
James Owet Ayang	25-59 Years	Male	Payam
Abdalla Deng	25-59 Years	Male	Payam
Kor Lual Adwok	25-59 Years	Male	Payam
Mahmed Obach	25-59 Years	Male	Payam
John Othwok Padit	25-59 Years	Male	Payam
Obenj Agenyyang	25-59 Years	Male	Payam
Mary Sebit Ali	25-59 Years	Female	Payam
Opal Onak Ajak	25-59 Years	Male	Payam
Tereza Ayul	25-59 Years	Female	Payam
Achol Atwel Bol	25-59 Years	Male	Payam
Cecilia Paulino	25-59 Years	Female	Payam
Peter Simon	25-59 Years	Male	Payam
Daniel Deng Odew	25-59 Years	Male	Payam
Abdalla Tipo Amum	25-59 Years	Male	Payam
Adowin Bolis Amum	25-59 Years	Male	Payam
Okam Chol	25-59 Years	Male	Payam
Peter Aboye	25-59 Years	Male	Payam

(x) ANNEX 4: DETAILED ENGINEERING DRAWINGS

The detailed engineering drawings supporting this ESMP are attached separately to this document. The drawing list comprises:

- (a) IOM internal dike design (from Subproject 5 Description, dike cross section).
- (b) IOM Lemo Haffir Dam drawings for the 50 m by 50 m community haffir conversion of the Lemo borrow pit.

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- (c) The design engineer Structural Design Report SSDRR-ARP-FA-XX-DC-IN-10005, Revision P01 dated 6 February 2026, Issued for Construction.
- (d) The design engineer Issued-for-Construction drawings, Revision C01 dated 10 February 2026:
- SSDRR-ARP-FA-XX-DR-IN-10001 General Arrangement
- SSDRR-ARP-FA-XX-DR-IN-10002 Construction Sequencing Diversion
- SSDRR-ARP-FA-XX-DR-IN-10203 Plan at Bottom Slab and Top of Culvert
- SSDRR-ARP-FA-XX-DR-IN-10204 Sections Through Culvert (Foundation Options A, B2, C)
- SSDRR-ARP-FA-XX-DR-IN-10205 Casting Sequence and Expansion Joint Details
- SSDRR-ARP-FA-XX-DR-IN-10206 Pedestrian and Vehicle Barrier Details
- SSDRR-ARP-FA-XX-DR-IN-10207 Culvert Bottom and Top Reinforcement
- SSDRR-ARP-FA-XX-DR-IN-10208 Wing Wall Reinforcement
- SSDRR-ARP-FA-XX-DR-IN-10209 Section A-A Through Culvert
- SSDRR-ARP-FA-XX-DR-IN-10210 Workmanship Notes
- SSDRR-ARP-FA-XX-DR-IN-10211 Gabion Walls Typical Sections
- SSDRR-ARP-FA-XX-DR-IN-10212 Erosion Protection Typical Details

(e) The design engineer-IOM Vendor Briefing slides dated 8 December 2025.

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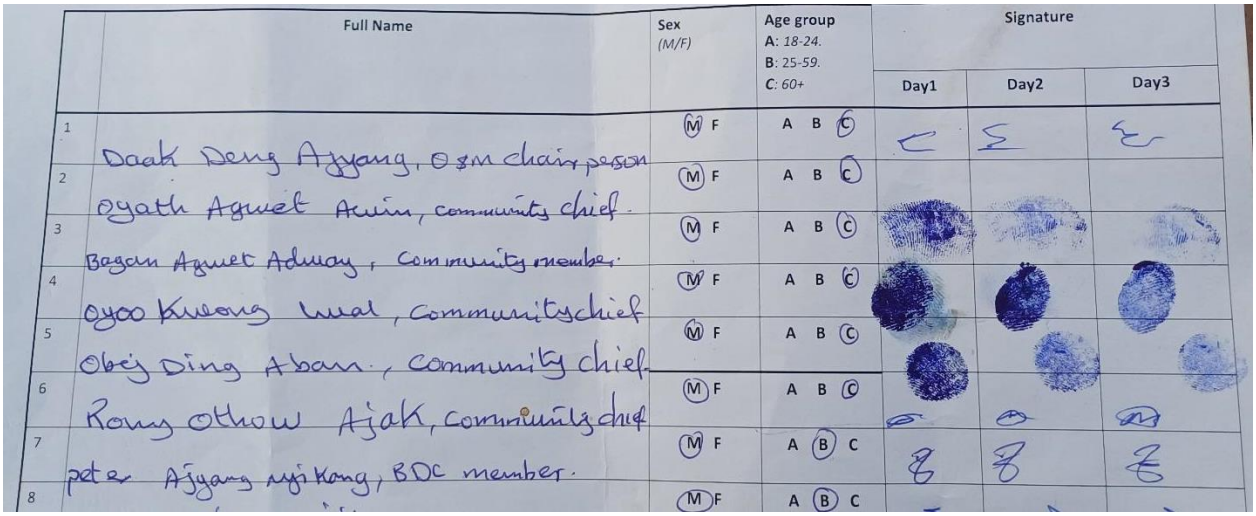
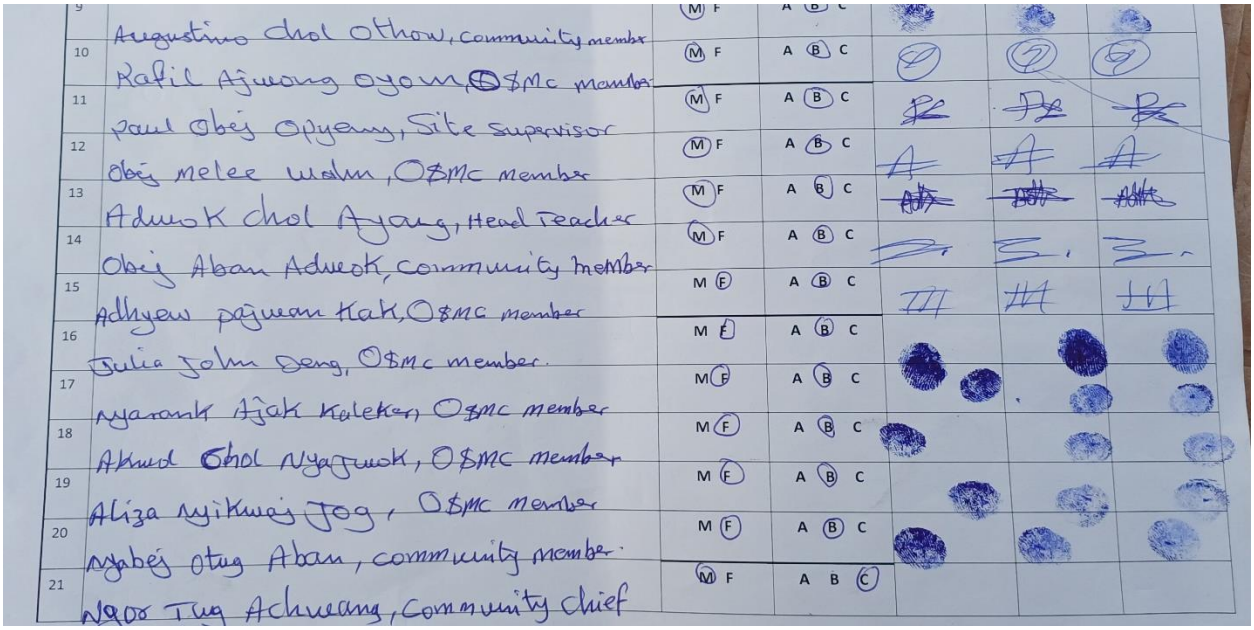


	Full Name	Sex (M/F)	Age group A: 18-24. B: 25-59. C: 60+	Signature Day1	Day2	Day3
1	Daak Deng Ajyang, O&M chairperson	(M) F	A B (C)			
2	Oyath Aguet Acuin, community chief.	(M) F	A B (C)			
3	Bagan Aguet Aduay, Community member.	(M) F	A B (C)			
4	Oyoo Kwong Lual, Communitychief	(M) F	A B (C)			
5	Obej Ding Aban., Community chief	(M) F	A B (C)			
6	Rony Othow Ajak, Communitychief	(M) F	A B (C)			
7	peter Ajyang nyikong, BDC member.	(M) F	A (B) C			
8		(M) F	A (B) C			



9		(M) F	A (B) C			
10	Augustino chol Othow, community member	(M) F	A (B) C			
11	Rafil Ajwong Oyom, O&Mc member.	(M) F	A (B) C			
12	Paul Obej Opyang, Site supervisor	(M) F	A (B) C			
13	Obej melee wadm, O&Mc member	(M) F	A (B) C			
14	Aduok chol Ayang, Head Teacher	(M) F	A (B) C			
15	Obej Aban Aduok, community member	M (F)	A (B) C			
16	Adhyew payuan Kak, O&Mc member	M (F)	A (B) C			
17	Julia John Deng, O&Mc member.	M (F)	A (B) C			
18	Nyarank Ajak Kolekar, O&Mc member	M (F)	A (B) C			
19	Akwd Chol Nyagwok, O&Mc member	M (F)	A (B) C			
20	Aliza nyikwej Jog, O&Mc member	M (F)	A (B) C			
21	Nyabej otug Aban, community member.	(M) F	A B (C)			
	Nyor Tug Achuang, Community chief					

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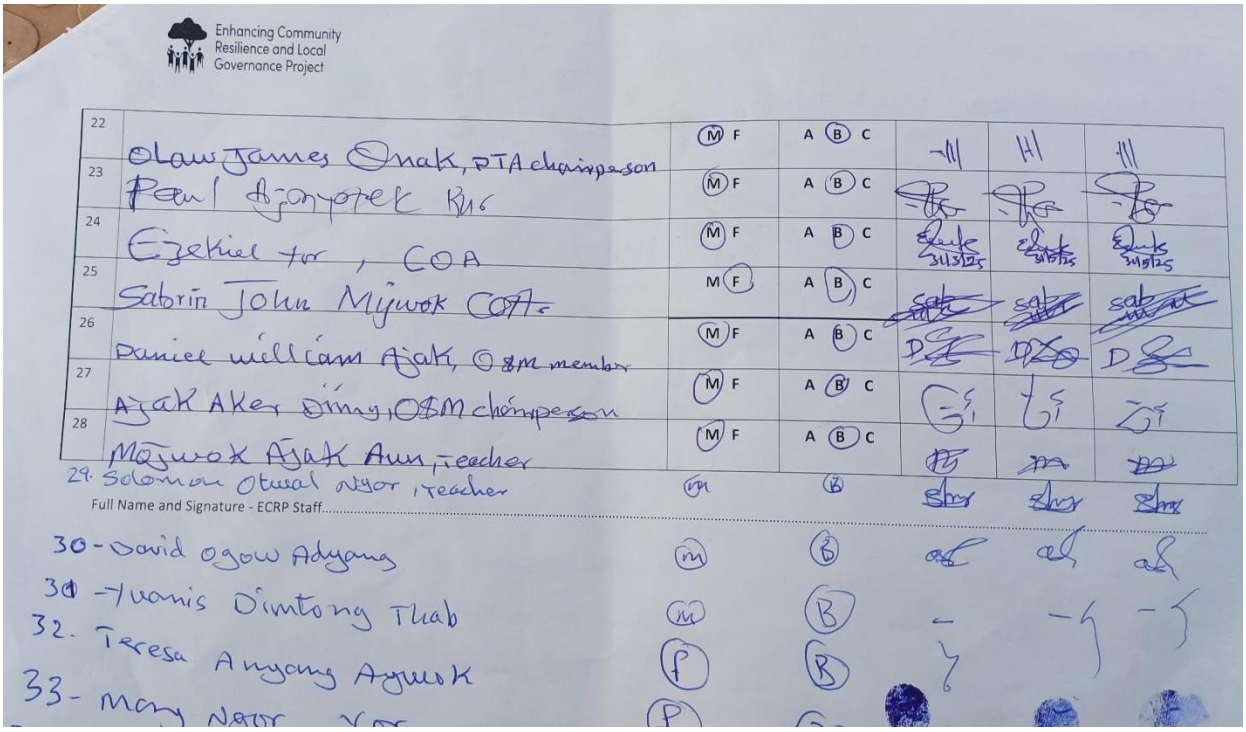

Enhancing Community Resilience and Local Governance Project

22	Olaw James Onak, PTA chairperson	M F	A B C	-III	HI	-III
23	Paul Ajongotek Kuc	M F	A B C			
24	Ezekiel Tor, COA	M F	A B C			
25	Sabrin John Mijwok COA	M F	A B C			
26	Daniel William Ajak, O&M member	M F	A B C			
27	Ajak Aker Diing, O&M chairperson	M F	A B C			
28	Mijwok Ajak Aun, Teacher	M F	A B C			
29	Solomon Otwal Nyor, Teacher	M	B			

Full Name and Signature - ECRP Staff.....

30 - David Ogow Adyang

31 - Ivanis Dimtong Thab

32. Teresa Anyang Agwok

33 - Mary Nyor

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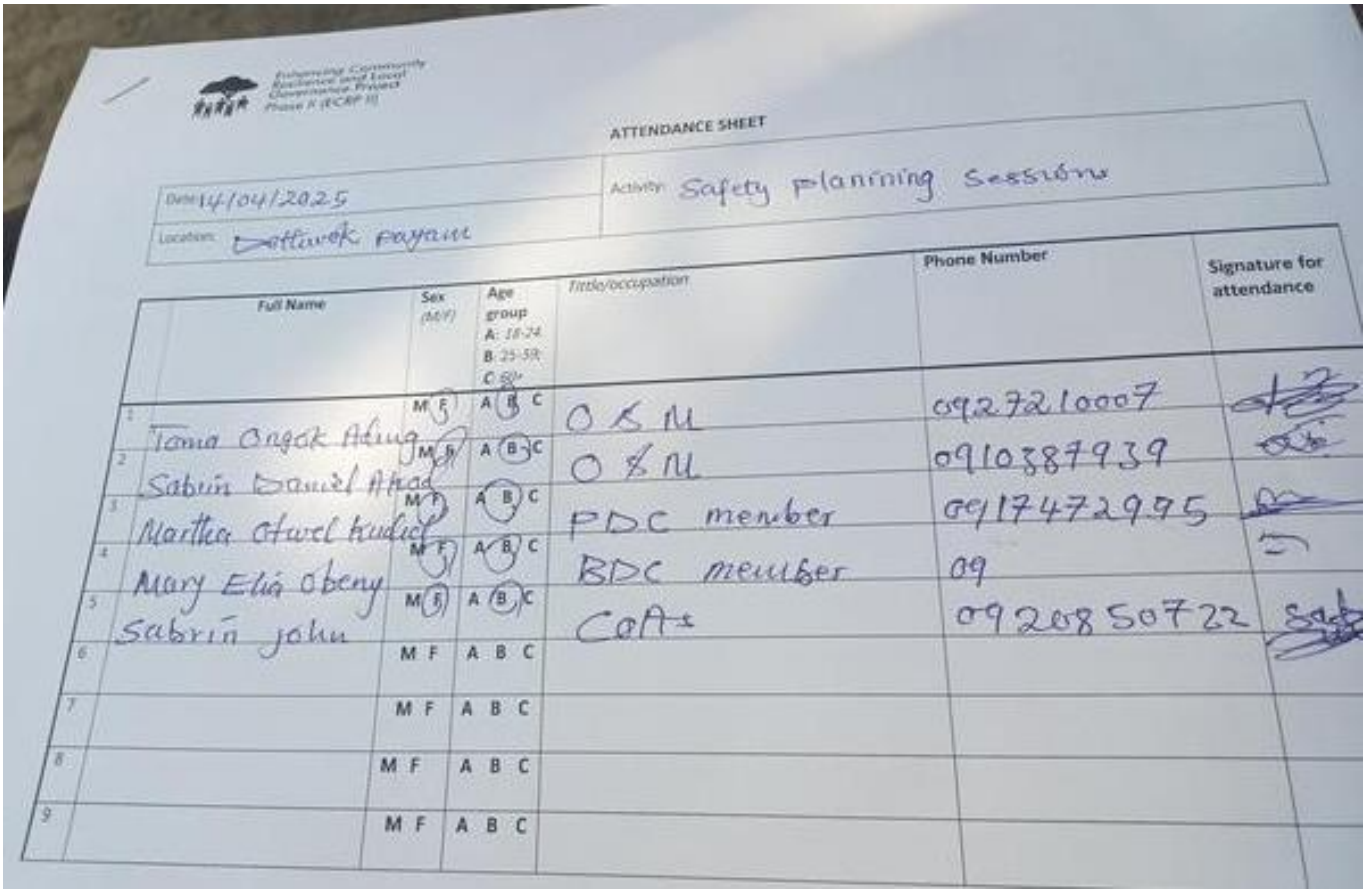


Enhancing Community Resilience and Local Governance Project Phase II (ECRP II)

ATTENDANCE SHEET

Date: 14/04/2025 Activity: Safety planning Sessions

Location: Dattiwok Fayam

	Full Name	Sex (M/F)	Age group A: 18-24 B: 25-59 C: 60+	Title/occupation	Phone Number	Signature for attendance
1	Tama Ongok Aling	M F	A B C	O & M	0927210007	
2	Sabin Daniel Akol	M F	A B C	O & M	0910387939	
3	Martha Atwel Kudiel	M F	A B C	PDC member	09174729 95	
4	Mary Elia Obeny	M F	A B C	BDC member	09	
5	Sabrin John	M F	A B C	CoA's	0920850722	
6		M F	A B C			
7		M F	A B C			
8		M F	A B C			
9		M F	A B C			

ANNEX 5: CHANCE FINDS PROCEDURE

This procedure was developed in accordance with the mandate of the Ministry of Youth, Culture and Sports (Directorate of Archives and Antiquities) of protecting and preserving both tangible and intangible cultural heritage records of South Sudan and the requirements of the World Bank's ESS 8 (To protect cultural heritage from the impacts of project activities and support its preservation, to address cultural heritage as an integral aspect of sustainable development, to promote meaningful consultation with stakeholders regarding cultural heritage and to promote the equitable sharing of benefits from the cultural heritage).

This procedure is included as a standard provision in the implementation of ECRP II Public Works contracts to ensure the protection of cultural heritage (Archaeological and Historical Sites). All Implementing Partners as well as sub-contractors and implementers will be required to observe this procedure as documented hereafter.

Excavation in sites of known archaeological interest will be avoided, including sites where ESS8 would require FPIC due to impacts on cultural heritage. Where this is unavoidable, prior discussions must be held with the concerned officers from the Ministry of Youth, Culture & Sports in order to undertake pre-dike construction excavation or assign an archaeologist to log discoveries as dike construction proceeds. Where historical remains, antiquity or any other object of cultural or archaeological importance are unexpectedly discovered during dike construction in an area not previously known for its archaeological interest, the following procedures should be applied:

Stop dike construction activities.

- Delineate the discovered site area;
- Secure the site to prevent any damage or loss of removable objects. In case of removable antiquities or sensitive remains, a full-time guard should be present until the responsible authority takes over;
- Notify the responsible foreman/archaeologist, who in turn should notify the responsible authorities, the concerned officers from the Directorate of Archives and Antiquities and local authorities (within less than 24 hours);
- Responsible authorities are in charge of protecting and preserving the site before deciding on the proper procedures to be carried out;
- An evaluation of the finding will be performed by the concerned officers from the Ministry of Youth, Culture & Sports in the Directorate of Archives and Antiquities. The significance and importance of the findings will be assessed according to various criteria relevant to cultural heritage including aesthetic, historic, scientific or research, social and economic values;

- Decision on how to handle the finding will be reached based on the above assessment and could include changes in the project layout (in case of finding an irrevocable remain of cultural or archaeological importance), conservation, preservation, restoration or salvage;
- Implementation of the authority decision concerning the management of the finding;
- Dike construction work can resume only when permission is given from the concerned officers from the Ministry of Youth, Culture & Sports after the decision concerning the safeguard of the heritage is fully executed;

In case of delay incurred in direct relation to archaeological findings not stipulated in the contract (and affecting the overall schedule of works), the contractor may apply for an extension of time. However, the contractor will not be entitled for any kind of compensation or claim other than what is directly related to the execution of the archaeological findings works and protections.

Within the Kodok scope, the unofficial cemetery south of the Kodok River (identified in The design engineer drawing SSDRR-ARP-FA-XX-DR-IN-10001) is treated as a known sensitive feature. The standard Chance Finds Procedure above applies to any further archaeological, cultural or burial feature encountered during ground disturbance works along the 14.6 km dike alignment, the 8 km drainage corridor or any borrow pit area. The work exclusion buffer at the cemetery will be set in coordination with the Shilluk traditional authorities under the Reth's office (ESS7 protocol). Halt-work-and-report timeframe: works must cease immediately on encountering a chance find, the IOM Safeguarding Officer notified within 4 hours, and resumption of works only after written clearance from the Safeguarding Officer in consultation with the relevant authorities.

ANNEX 6: SCREENING REPORT

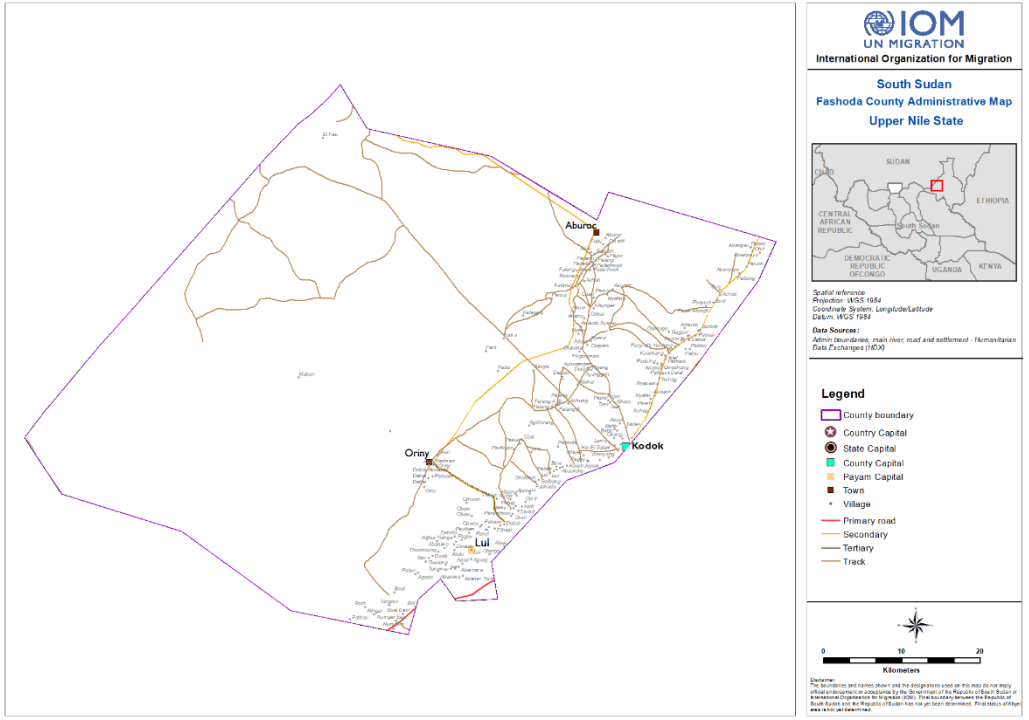
ES screening for Flood Risk Mitigation Subprojects

SECTION A: GENERAL INFORMATION

	Environmental and Social Screening Report - ECRP II
Subprojects are screened for their inherent social and environmental risks regardless of planned mitigation and management measures. It is necessary to identify potential inherent risks in the event that mitigation measures are not implemented or fail. This means that risks should be identified as if no mitigation or management measures were to be put in place.	
SECTION A: General Information	
Date of screening	January 2026
Subproject title	Kodok Dike Upgrading (R28) - upgrading of the 14.6 km existing IFMM dike around Kodok Town
Subproject component	1.2
Implementing Agency	IOM
Proposed subproject budget	
Proposed subproject duration	6 Months
ES Screening Team Leader and Contact Details	GADA Brian – Environmental and Social Specialist
ES Screening Team Members	WODEBO Desta: - DRM Lead Engineer MOJWOK Sabrin: - Community Outreach Assistant CLAUDIO Lilian: - Gender GBV Specialist DHAL Abolich:- NOO OiC Upper Nile State
Program/Site/Subproject location	Kodok Town Payam, Fashoda County, Upper Nile State
Subproject Description.	**Construction of dikes and drainage network in Fashoda, Kodok Town**

Describe subproject activities in detail showing activities that interact directly with the host biophysical, social, cultural environments. Attach drawings, maps and pictures where available (planning, construction, operation and decommissioning where necessary). ***NB: Should be at most 2 pages***	The Enhanced Community Resilience and Local Governance Project (ECRP), currently in its second phase (ECRP II), is aimed at enhancing basic service delivery and strengthening local governance in South Sudan. Managed by the Ministry of Finance and Planning (MoFP), with funding from the World Bank, ECRP II operates in 17 counties across the country. It focuses on improving community access to essential services, promoting government ownership, enhancing gender inclusivity, engaging youth constructively, and integrating flood risk reduction, Operation & Maintenance (O&M), and disaster risk management (DRM) capacity building. Implemented by the International Organization for Migration (IOM), the project prioritizes DRM interventions in counties severely affected by floods and drought, including Fashoda county. In Fashoda county, comprising four (4) Payams, county authorities formulated disaster risk management committees being spearheaded by commissioner and Payam officials. ECRP II team together with the county officials held a one-day DRM workshop on 16th July ,2024. During the meeting with county officials, county commissioner, county officials and representatives at payams levels expressed satisfaction with the decisions undertaken by UN agencies to act on impending flood catastrophes and emphasized the urgency of the immediate measures to be undertaken. The team (IOM-ECRP engineer and community engagement team) guided the participant on identification of feasible immediate DRM infrastructures to protect community, infrastructure and livelihoods ahead of the anticipated floods considering impact, value for money and environmental social safeguard concerns. The following criteria were shared to the authorities to guide the selection/proposal of potential infrastructures /measures. 1. Project location, identifying whether it falls within IOM's area of operations, 2. Would the mitigation measures protect the community and existing infrastructure from the expected flood hazard? 3. Would they mitigate adverse socio-economic impacts? 4. Value for money, 5. Viability of project implementation within available resources, 6. Can the projects be assessed, designed, and implemented within a short timeline? 7. Are projects located where no other organizations are engaged?

	Based on the above-mentioned criteria, the participants identified upgrading of the existing IFMM dike around Kodok Town (14.6 km) as a key priority for the Fashoda DRM 2026 portfolio, alongside the Kodok River and the Internal Drainage Rehabilitation in Kodok Town. Under ECRP II, IOM will use a contractor-based approach to implement the above projects by following all the standard construction procurement processes.



Location of Kodok town in Fashoda County in Upper Nile State

Categorize subproject Activities into List A, List B , List C or List D. Refer to subproject Description and Project Categories under section C of this screening format.	**List B the project has moderate environmental or social risks and/or impacts. IOM will put up appropriate management and mitigation measures for all the identified risks or impacts.**

Potential Environmental/Social Risks Impacts of Subprojects

Risk Category *(Please check each line appropriately. At this stage, questions are answered without considering magnitude of impact – only yes, no or I don't know are applicable answers)*	Yes	No	Don't know	If these risks ('yes's) are present, refer to:	Comment
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts					
Is an Environmental and/or Social Assessment required?	☒	☐	☐	ESMF	All subprojects under ECRP II are subjected to ES screening to allow IOM to identify possible Environmental and Social risk to determine which environmental and social management tool to develop to ensure sustainable project implementation.
Is there a risk of subproject beneficiaries not getting the subproject benefits?	☐	☒	☐	Stakeholder Engagement Plan (SEP), Grievance Redress Mechanisms (GRM)	The proposed dike section shall enclose the entire population and their infrastructures within the premises.
Is there a risk of lack of monitoring of the subproject activities due to remoteness of location and insecurity?	☐	☒	☐	Security Management Plan (SMP)	IOM shall deploy an engineer on ground for the supervision of the work.
Is there a risk that the subproject benefits may not reach truly vulnerable populations?	☐	☒	☐	Stakeholder Engagement Plan (SEP)	
Is there a risk that activities may be influenced by other groups?	☐	☒	☐	Stakeholder Engagement Plan (SEP)	All the stakeholders of the project are engaged inclusive of all youth groups.
Is there a risk that the selection of any location/beneficiaries in the activity will lead to a conflict?	☒	☐	☐	Security Management Plan (SMP)	There is only the risk of conflict of interest from few individuals when the selection criteria of the workers

				Grievance Redress Mechanisms (GRM)	or casual labor are not properly explained and if the contractor brings people all from outside.
Does the activity pose a security risk for local staff?	☐	☒	☐	Security Management Plan (SMP)	
Is there a risk that the subproject activity will further facilitate disputed authority structures or will cause an increase in local disputes?	☐	☒	☐	Stakeholder Engagement Plan (SEP)	
Is there any risk of the subproject activity to natural habitat, Nile Basin, or SUDD Wetland?	☒	☐	☐	ESMF	The infrastructure network is close to the riverbank therefore it may affect some natural habitat for aquatic animals.
ESS 2: Labour and Working Conditions					
Does any subproject activity include any of the known labor rights /ESS 2 non-compliance risks in South Sudan risk of child and forced labor use?	☐	☒	☐	Labor Management Procedures (LMP) Occupational Health and Safety Plan (OHS)	The community is aware of child labor.
Does the subproject include a construction component?	☒	☐	☐	Labor Management Procedures (LMP) Following documents yet to be prepared: C-ESMP Occupational Health and Safety Plan (OHS)	The scope of work will include: • Sitting • Excavation
Does the subproject include labour-intensive activities?	☐	☒	☐	Labor Management Procedures (LMP)	The activity is executed with earth moving equipment (Excavator)
Does the subproject include or influence primary agricultural activities?	☐	☒	☐	Labor Management Procedures (LMP) Occupational Health and Safety Plan (OHS)	

Will the subproject require a larger contractor workforce?	☐	☒	☐	Labor Management Procedures (LMP); Occupational Health and Safety Plan; (OHS), C-ESMP	The project is a small-scale project.
Is there a security risk for subproject Workers?	☐	☒	☐	Security Management Plan (SMP)	The site is surrounded by households living in the area as well there are existing structures where workers can be accommodated.
Is there a risk that the subproject facilities cause OHS issues?	☒	☐	☐	Occupational Health and Safety (OHS) management Plan	The sub project activities will include the following key aspects: ● Excavation of trench with moving machine. ● Dust by moving vehicles transporting materials. ● Noise during machine operation. ● Chemicals during servicing of hydraulic machines. ● Lifting during machine repair.
Is there a risk of labour induced in migration?	☐	☒	☐	Labor Management Procedures (LMP)	
Is there a risk of lacking OHS for workers at the construction site?	☒	☐	☐	Occupational Health and Safety management Plan (OHS) Pest Management Plan (PMP) (yet to be prepared)	Contractors may not follow OHS Plan
Is there a risk of delayed payment of workers?	☒	☐	☐	Labor Management Procedures (LMP	Contractors may not pay workers on time due to delay of payment by client

Is there a risk that workers are underpaid?	☒	☐	☐	Labor Management Procedures (LMP)	Contractors may not follow LMP Plan
Is there a risk that women will not be employed?	☐	☒	☐	Labor Management Procedures (LMP) GBV Action Plan	Women and men are equally participating in community activities.
Is there a risk that provision of contracts causes conflicts?	☒	☐	☐	Security Management Plan (SMP) Grievance Redress Mechanisms (GRM)	If contracts awards criteria are not brought to the understanding of stakeholders.
ESS 3: Resource Efficiency and Pollution Prevention Management					
Will the subproject result in the production of solid waste? (Directly by the subproject or by workforce)	☒	☐	☐	Following documents yet to be prepared: Waste Management Plan, based on *WBG Environmental, Health, and Safety General Guidelines* Pest Management Plan (PMP), C-ESMP	Solid waste will be produced e.g., bags of used cement, off-cuts, debris from demolition works
Will the subproject result in the production of toxic or hazardous waste? (e.g., used oils, inflammable products, pesticides, solvents, pharmaceutics, industrial chemicals, ozone depleting substances)	☒	☐	☐		Waste from paint, anti-termites, and wood preservatives will be generated.
Will the subproject result in the generation of dust and noise?	☒	☐	☐	Following documents yet to be prepared: C-ESMP	Noise from operation of earth moving equipment. Dust produced from material mixing; demolition works and movement of trucks bringing material to site
Will the subproject result in soil erosion?	☐	☒	☐	Following documents yet to be prepared: C-ESMP	

Will the subproject produce effluents (wastewater)?	☒	☐	☐	Following documents yet to be prepared: C-ESMP, Waste Management Plan	Wastewater will be produced from cleaning of tools on site.
Will the subproject result in increased levels of vibration from construction machinery?	☐	☒	☐	Following documents yet to be prepared: C-ESMP	No use of heavy-duty construction machinery will be used
Will the subproject produce air pollution? (e.g. significant greenhouse gas emissions, dust emissions and other sources)	☒	☐	☐	Following documents yet to be prepared: C-ESMP	Air pollutants will be released from various sub project activities which include: • Demolition and mixing of materials will result in the generation of Particulate Matter (PM_{10}, $PM_{2.5}$) Vehicles to be used will generate exhaust gasses and fumes.
Will the subproject disturb any fauna and flora?	☒	☐	☐	Following documents yet to be prepared: C-ESMP	Because of unusual noise and smell of gases from the excavator, some wild animals may migrate.
Will the subproject result in polluted irrigation water?	☐	☒	☐		
Will the subproject affect the surface or groundwater in quantity or quality? (e.g., discharges, leaking, leaching, boreholes, etc.)	☐	☒	☐		
Will the subproject require use of chemicals? (e.g. fertiliser, pesticides, paints, etc.)	☒	☐	☐	Following documents yet to be prepared: C-ESMP Waste Management Plan	The following chemicals (in terms of the Globally Harmonized System for classification and labelling of chemicals) will be used: Paints, anti-termites, and wood preservatives

Is there any risk of accidental spill or leakage of material?	☒	☐	☐		Fuel that may be stored on site for small equipment may be accidentally spilled.
Will the subproject require (during execution or after completion) significant amounts of water, energy, materials, or other natural resources?	☐	☒	☐	ESMF	
ESS 4: Community Health and Safety					
Is there any risk of increased GBV/SEA cases due to labor influx?	☒	☐	☐	GBV/SEA Action Plan Labor Management Procedures (LMP	Since men and women are going to work together there are risks of GBV cases and there should be awareness on GBV among the community and contractors involved.
Is there any risk of spread of communal diseases due to labor influx?	☐	☒	☐	Labor Management Procedures (LMP); C-ESMP	
Is there a security risk to the community triggered by subproject activities?	☐	☒	☐	Security Management Plan (SMP)	
Does the subproject have the potential to upset community social dynamics?	☒	☐	☐	Stakeholder Engagement Plan (SEP) Grievance Redress Mechanisms (GRM)	Female workers may delay at construction that might cause GBV against her by the husband
Will the subproject include payments or cash transfers among the community/workers?	☒	☐	☐	Stakeholder Engagement Plan (SEP) Grievance Redress Mechanisms (GRM)	During payment of local staffs and procurement of local materials for construction
Will the subproject expose community members to physical hazards on the subproject site?	☒	☐	☐	Following documents yet to be prepared: C-ESMP	Excavations pose safety risks to the community as injuries of both people and livestock can occur. Fall protection barriers, Hazard tapes and informing the community about the excavations must be done in a timely manner.
Will the subproject pose traffic and road safety hazards to the people?	☒	☐	☐	Following documents yet to be prepared: C-ESMP	There will be increased movement at the site

Is there a possibility that the subproject activities contaminate drinking water sources i.e. open wells?	☐	☒	☐	Following documents yet to be prepared: Waste Management Plan; C-ESMP	
Is there a possibility that the subproject activities cause spread of pathogens and other pollutants (e.g. latrines)	☐	☒	☐	Following documents yet to be prepared: Waste Management Plan; C-ESMP	
Will the subproject contribute to the spread of disease (e.g. health facilities)?	☐	☒	☐	Following documents yet to be prepared: Waste Management Plan	
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement					
Will the subproject lead to physical displacement (relocation, loss of residential land, or loss of shelter)	☐	☒	☐	See negative list	
Is the subproject located in a conflict area, or has the potential of social problems which may cause social conflicts, for instance, land tenure and access to resources issues (e.g. a new road providing unequal access to a disputed land)?	☐	☒	☐	Stakeholder Engagement Plan (SEP) Grievance Redress Mechanisms (GRM)	
Would the subproject potentially discriminate against women and girls based on their gender vulnerability, especially their participation in subproject implementation and/or access to the opportunities and benefits of the subproject?	☐	☒	☐	Stakeholder Engagement Plan (SEP) Grievance Redress Mechanisms (GRM)	
Is there a risk that the associated subproject activities lead to economic displacement (loss of land, assets, or access to assets leading to loss of income sources or other means of livelihood) to any of the stakeholders?	☐	☒	☐	See negative list	
Will the subproject lead to disputes over land ownership?	☐	☒	☐	ESMF	The land belongs to the government.
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources					
Will the subproject affect sensitive areas such as habitats, wetland areas?	☐	☒	☐	ESMF	
Is there a risk that the subproject causes ecological disturbances?	☐	☒	☐	ESMF	

Is there a risk that the subproject causes changes in landform and habitat, habitat fragmentation, blockage or migration routes, water consumption and contamination?	☐	☒	☐	ESMF	
Is there a risk that the subproject causes loss of precious ecological assets?	☐	☒	☐	ESMF	
Does the subproject involve harvesting or depletion of natural resources (e.g. forest, fisheries, etc)?	☐	☒	☐	ESMF	
Can the subproject cause disruption of wildlife migratory routes?	☐	☒	☐	ESMF	
Can the subproject introduce alien species or GMOs?	☐	☒	☐	ESMF	
Can the subproject impact ecosystems upon which communities rely for food, water, fibres or other basic needs, including cultural and spiritual needs?	☐	☒	☐	ESMF	
Is the subproject likely to cause soil erosion, siltation or degradation?	☒	☐	☐	ESMF	When it rains before backfilling excavated foundation and poor management of debris.
Is the subproject located directly on river embankments?	☒	☐	☐	ESMF	Construction shall be done along the riverbank to mitigate spilling of floods from the main river.
Will construction, operation or decommissioning of the subproject involve physical changes, such as topography or land use (e.g. construction camps, housing, etc.)?	☒	☐	☐	ESMF	Demolition of infrastructures or agricultural farmlands in the proposed network shall happen for the benefit of rescue of population assets.
ESS 8: Cultural Heritage					
Will the subproject be located in or close to a site of cultural value, any archaeological or naturally important site?	☐	☒	☐	Chance Find Procedures (ESMF)	The proposed subprojects area is not known for cultural or natural remains.
Is the subproject site known to have the potential for the presence of cultural and natural heritage remains?	☐	☒	☐		

Will the subproject adversely impact the intangible cultural heritage? This includes practices, representations, expressions, knowledge, and skills including, objects, artifacts, and cultural spaces?	☐	☒	☐		
Is there a risk that the subproject will have negative impacts on movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance?	☐	☒	☐		
ESS 10: Stakeholder Engagement and Information Disclosure					
Is there a risk that the subproject fails to incorporate measures to allow meaningful, effective and informed consultation of stakeholders, such as community engagement activities?	☐	☒	☐	Stakeholder Engagement Plan (SEP)	Series of stakeholder engagement have been carried out and frequent consultation will continue
Is there a historical exclusion of disabled persons in the area?	☐	☒	☐	Stakeholder Engagement Plan (SEP)	
Are women likely to participate in decision-making processes in regard to the subproject?	☒	☐	☐	Stakeholder Engagement Plan (SEP)	Women are part of BDCs. The BDCs form part of the key decision- making administrative structures in the area in terms of the Local Governance Act.
Is there a risk that exclusion of beneficiaries leads to grievances?	☒	☐	☐	Stakeholder Engagement Plan (SEP) Grievance Redress Mechanisms (GRM) – see ESMF	There is a GRM box selected with the BDCs where Stakeholders and communities can channel their complaints/ grievances.
Is there a risk that the subproject component will have poor access to beneficiaries?	☐	☒	☐	Stakeholder Engagement Plan (SEP) Grievance Redress Mechanisms (GRM) – see ESMF	
Will the Covid-19 outbreak hamper proper stakeholder engagement and information disclosure?	☐	☒	☐	WB and FGS guidance and regulations on Covid-19	
Is there a risk that the subproject activities will not provide affected parties with accessible and inclusive means to raise issues and grievances, including provision to respond and to manage such grievances?	☐	☒	☐	Stakeholder Engagement Plan (SEP) Grievance redress Mechanism (GRM)	

Is there a risk that appropriate project information on environmental and social risks and impacts will not be disclosed to stakeholders in a timely, understandable, accessible and appropriate manner and format?	☐	☒	☐	Stakeholder Engagement Plan (SEP) Grievance redress Mechanism (GRM)	

SECTION B: SUMMARY OF THE SCREENING PROCESS

E&S SCREENING	RESULTS AND RECOMMENDATION			
Screening Results: Summary of Critical Risks and Impacts Identified	**Risk/Impact**	**Individual Risk**	**Impact Rating**	**Mitigation**
	Occupational Health and safety	medium	medium	IOM to have an occupational, health and safety management in place. Dust protection masks for concrete batching teams and all necessary appropriate PPE shall be provided for working teams. Development and implementation of HIV/AIDS, Gender/GBV, PSEA/H awareness programmes for workforce and community. Ensure provision of potable water and ablution facilities for workers
	Gender mainstreaming	Medium	High	Gender mainstreaming during recruitment and allocation of work packages
	Recurrent natural disasters	Medium	Medium	Design and construction of robust and resilient dike structures which can withstand anticipated floods.
	Social Conflict	medium	high	Inclusive planning of labour-based works with specific gender inclusion strategies. Stakeholder engagement in planning.
	Dust Pollution	Low	Low	Provision of appropriate safety clothing for workforce including dust masks, a watering down schedule will also be provided
	Solid Waste	Medium	Medium	Availing bins for refuse segregation and collection

E&S SCREENING	RESULTS AND RECOMMENDATION			
	Sustainability	Medium	Medium	Involve the beneficiaries and community leadership in all project related work. Support capacity building on dike infrastructure management. Establish and train the PDRMCs, & CDRMCs
	Screening Result (see Table 7: Subprojects Risk Level for further details)			**Summary of Screening Result Justification**
	No further ES Assessment required.			
	No further ES Assessment required but requires simple ESMP.			
	Detailed ESMP and/or RAP or VLD. Done internally.			ES Screening results revealed that most of the impacts are moderate but require mitigation measures to ensure that the potential impacts are minimised. A detailed ESMP will be drafted and implementation of the ESMP should be done religiously for compliance to the applicable project standards, national laws and regulations.
	Detailed ESMP and/or RAP. Contracted to Consultancy.			
	ESIA and/ or RAP required. Contracted to consultancy.			
Is Additional Assessment Necessary?	Yes			No

ES Screening Conducted by

ES Screening Team Leader and Contact Details	GADA Brian – Environmental and Social Specialist
ES Screening Team Members	WODEBO Desta: - DRM Lead Engineer MOJWOK Sabrin: - Community Outreach Assistant CLAUDIO Lilian: - Gender GBV Specialist DHAL Abolich:- NOO OiC Upper Nile State

Recommended by Project Manager: \BARTOLONI Alexander

Approved by PMU: MANYOK Sammuel (Senior Social Development Specialist)

John Matata ELUZAI (Senior Environmental Safeguards Specialist)

ANNEX 7: REPORT FORMAT

Summary of Key E&S Aspects during the Reporting Period

Project Status, E&S Incidents, E&S Changes, E&S Initiatives

Project Status

- Provide a brief description of any new developments in relation to operations and facilities over the reporting period.

E&S Incidents

- Please provide a summary of all the notifiable E&S incidents.

Please expand or collapse the table where needed.

Date	Incident description	Class	Reports sent to lenders	Corrective action / remedial plan	Status of Corrective Action

E&S Changes

- Please provide a summary of all the notifiable E&S changes.

- Please expand or collapse the table where needed.

Date	Change description	Reports sent to lenders	Implementation status

Improvements/initiatives regarding E&S performance

- Briefly describe improvements/initiatives implemented during the reporting period on the management of E&S aspects (e.g. energy/water savings, sustainability reports, waste minimization, etc.)

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

E&S Impact / Risk Assessment

- Have any supplemental environmental, social, health and safety impact/risk studies been conducted during the reporting period? (Please provide copies).

E&S Regulatory Reporting, Permits and Supervision

- Please list any environmental reports submitted to the South Sudan authorities.

☐ Copies attached with this report ☐ Copies available upon request

- Please summarize South Sudan authority monitoring and inspections.

Management of contractor (IOM and others)

- Please illustrate with a chart or table on the contractor's organizational structure to manage environment, health and safety, labor and social aspects during the reporting period. Please name the individuals in the contractor who hold responsibility for environmental, social, health and safety, human resources, security performance and give their contact information.

Compliance with Environmental and Social Management Plans

- The status of the ESMP implementation should be described and any issues that remain outstanding should be detailed.

ESS2. Labor and Working Conditions

Human Resources Management

- Have IOM and other contractors changed/updated their Human Resource (HR) policy and procedures, HR manual, and Health & Safety (H&S) procedures, during the reporting period?

☐ Yes ☐ No

If yes, please provide details.

- Provide the following information regarding the workforce:

	# community workers	# direct workers	# Female direct workers	Turnover	# Contracted workers
Previous year					
Reporting year					

- List the worker-related court cases and describe their status.

Occupational Health and Safety

- Describe the main changes implemented in terms of Occupational Health and Safety (OHS) during the reporting period, e.g. revision of the OHS management procedures, action plans for technical improvements, leading/lagging indicators used/introduced, identification of hazards, new controls, etc.

- Please attach Health & Safety audit reports available for the reporting period.

☐ Copies attached with this report ☐ Copies available upon request ☐ Not Available

Accident Statistics Monitoring

Report total numbers for each parameter	This reporting period			Last reporting period (not cumulative		
	Community workers	Direct workers	Contracted workers	Community workers	Direct workers	Contracted workers
Total number of workers						
Total manhours worked annual						
Total number of lost times occupational injuries						
Total number of lost workdays due to injuries						
Lost time injury frequency						
Vehicle collisions						

- Provide details for the non-fatal lost time injuries during this reporting period.

contractor/ Subcontractor employees?	Total workdays lost	Description of injury	Cause of accident	Corrective measures to prevent reoccurrence

- Provide details for fatal accidents during this reporting period, if any, (and provide copies of accident investigation and respective corrective plan).

Date of Accident	Type of Accident	Description of Accident	# of Fatalities	Preventive measures taken after the incident

OHS Training

- Describe Health and Safety training programs carried out in the reporting period.

Date	Type of audience	Description of training (and duration)	Number of attendees

Workplace Monitoring

- Please provide a copy of any Workplace Monitoring reports developed for the reporting period.

ESS3. Resource Efficiency and Pollution Prevention

Environmental Monitoring

- Provide a copy of environmental monitoring data reports for this reporting period, collected consistent with the ESMPs for the subprojects.

- Briefly describe environmental mitigation measures implemented during the reporting period to comply with E&S requirements.

Resources Efficiency: Energy and Water

- Provide data on energy and water consumption during the reporting period. If the data requested are available in another format, they can be submitted instead.

- Describe the concessionaires' resources efficiency measures/efforts being implemented to minimize fuel, energy, and water consumption.

Hazardous and non-Hazardous Waste

-Provide detailed information about the generated amount of hazardous and non-hazardous waste and its disposal system.

- Erosion Control, Slope Stability and Reinstatement.

- Please describe status and actions implemented in terms of erosion control, slope stability, and reinstatement within the project's footprint and area of influence.

ESS4 Community Health, Safety and Security

Community Health and Safety

- Please list and describe any initiatives implemented in relation to community health and safety during the reporting period.

- Please provide the list and description of the actions, the expected or actual dates of implementation, progress/status, results obtained. You can use a tabular format (as below) or provide the information as an attachment of the report.

Issues	Mitigation Measures	Expected or Actual Date of Implementation	Results/Current Status

- During the reporting period, have any emergency drills been conducted with participation of the local authorities, public emergency organizations or local communities? Are the communities aware of the emergency response plans?

Accident Reporting

- Provide details for the non-fatal casualties, involving third parties, during this reporting period.

Date of Accident	**Type of Accident**	Description of Accident	# of People Injured	Preventive measures taken after the incident

- Provide details for fatal accidents during this reporting period (and provide copies of accident investigation and respective corrective plan).

Date of Accident	**Type of Accident**	Description of Accident	# of fatalities	Preventive measures taken after the incident

GBV/SEA and Child Protection Action Plan

- Please provide an update on the status and progress of the actions as defined in the GBV/SEA Action Plan.

You may attach relevant monitoring reports.

ESS5 Land Acquisition and Involuntary Resettlement

- Report any activities guided by the Resettlement plan

- Have any specific instruments in regard to land and resettlement been prepared in the reporting period

- Report on the implementation of specific land-related instruments (e.g. RAPs)

- Report any activities that are using voluntary land donations and assess compliance with the protocol

- **Provide summary of voluntary land donations**

ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

Biodiversity Management

- Please report on the mitigation measures included in the ESMF and ESMPs.

- As needed, using the table below describe any new activities or expansions that have increased the project footprint into new areas of habitat during the reporting period.

New activity/expansion	Total area covered	Habitat type

ESS7 IP/SAHUTLUC

- List any information dissemination and consultation events vis-à-vis land donors that have been undertaken to fulfil free, prior and informed consent (FPIC) in land donations.

- List any cultural issues identified in subprojects, corrective actions, and lessons learned for future projects.

ESS8 Cultural Heritage

- Report if chance find procedures have been applied if not, please indicate Not Relevant.

ESS 10 Stakeholder Engagement and Information Disclosure

Stakeholder Engagement, Public Consultation and Disclosure

- List any stakeholder engagement events, including public hearing, consultation and disclosure, liaison with non-governmental organizations, civil society, local communities on E&S.

Date	Participant(s)	Formats of Interaction	Issues Discussed	Contractor response/ Agreement reached (attach minutes if any)	Actions Taken (if any)/ Remarks

Grievance Mechanism and Court Cases

- Report the number and type of requests and/or grievances received from project affected people / local communities / local organizations.

- How many have been resolved and how many are pending? (Please attach a log of the grievance redress registry.

Report the number and type of court cases on E&S grounds, if any (Please attach a log of all court cases and their status).

ANNEX 8: GRIEVANCE REPORT FORM

Reference No: _____

Details of Complainant:

Full name: _____

❑ I wish to raise my grievance anonymously

❑ I request not to disclose my identity without my consent Contact

_____

❑ **By Mail:** Please provide mailing address:

_____

Gender of Complainant:

Age of Complainant:

❑ By Telephone: _____

❑ By Email _____

Preferred Communication: ❑, ❑, ❑ English

❑ One time incident/grievance Date ____/_____/

❑ Happened more than once (how many times) _____

❑ On-going (currently experiencing problem)

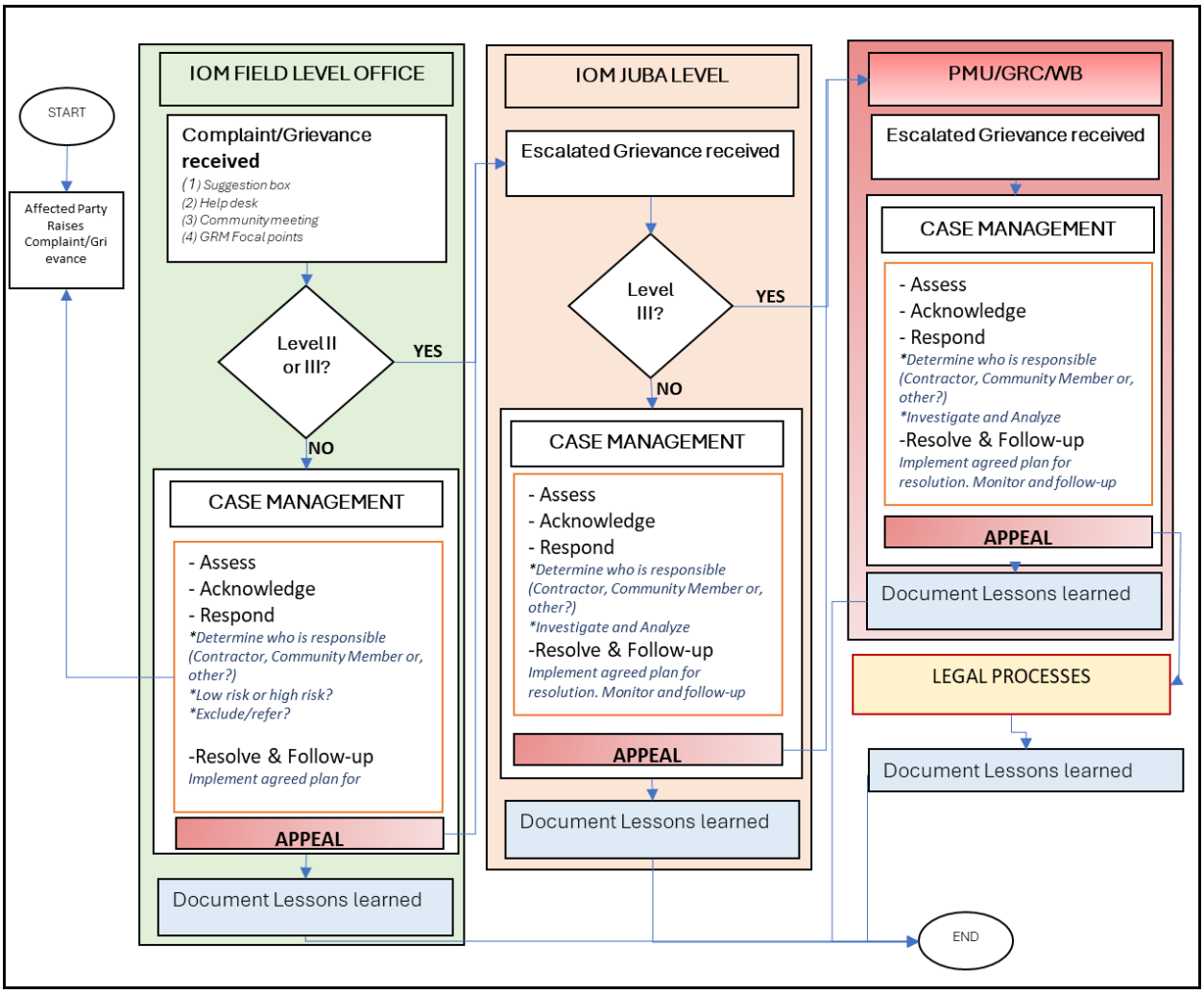
Description of Incident or Grievance:

Location of grievance:

What happened? Where did it happen? Who did it happen to? What is the result of the problem?

What would you like to see happen to resolve the problem?

ANNEX 9: GRIEVANCE CASE MANAGEMENT



ANNEX 10: LAND ACQUISITION DOCUMENTS

Land and Site Verification Record (field verification, 7 June 2026)

Field verification of the alignments and sites was carried out on 7 June 2026 by the E&S Safeguards Consultant (Giorgi Kobaladze), the IOM National E&S Safeguards Assistant (Moses Obale Nicholas) and the IOM Kodok Field Engineer (ISMAIL Nyikay Guwd), by walkover of the full project footprint with direct observation of land use, tenure, crops, structures, economic activity and sensitive receptors. The findings against ESS5 are set out below.

Site / receptor	What was inspected	ESS5 finding
Dike alignment (R28)	Full 14.6 km IFMM dike loop around Kodok Town, including the crest and both slopes.	Runs on the existing public dike reserve. No houses, permanent structures or standing crops on the footprint. No physical displacement. Community use of the crest for movement and livestock continues.
Drainage alignment (R29)	An 8 km internal drainage corridor walked, including the main channel route, connection points and the discharge line toward the Kodok River and the White Nile.	Follows the existing drainage line and road reserve. No occupied plots or permanent structures within the working width. No economic displacement.
Culverts and wing walls	The two gated culvert locations on the dike and the ten wing wall positions along the main channel were inspected.	All within the dike and channel reserve. No private land taken. No structures affected.
Catchments and water-retaining areas	The catchments draining to the town and the low-lying water-retaining areas behind the dike were inspected.	Public and community land. Seasonal grazing and rain-fed cultivation occur in the wider area but not on the footprint. Access not restricted.
Borrow areas and haffir	The authorised Lemo and Debor borrow plots and the Lemo haffir conversion site inspected against	Both plots covered by the signed form, authorised use confirmed on the ground. Haffir conversion uses

Site / receptor	What was inspected	ESS5 finding
	the October 2024 Land Use Form (ECRP/ESS-F007).	the same authorised Lemo plot. No new land required.
Cemetery	The cemetery visited and its position relative to the dike alignment established on the ground.	Sensitive feature under ESS8. Works exclusion buffer set in coordination with the Shilluk traditional authorities. The chance-find procedure applies. No graves on the dike footprint.
Kodok Port and docks	The port, the dock and the river-access points inspected, with the Port Union engagement on record.	Public river-transport infrastructure. No port land taken. Operations continue during construction subject to the traffic and access arrangements.
Sensitive receptors	All sensitive receptors near the works walked and their positions noted: Seven Days School, Kodok hospital, World Vision hospital, the World Vision compound, places of worship, water points, and the households nearest the dike.	None require land take. These are the receptors named in the ESMMP dust and community-safety monitoring. Nearest households are adjacent to, not on, the dike reserve.
Wider environment	The White Nile and Kodok River interface, the floodplain, wetland margins and vegetation along the alignment are inspected as the biodiversity and hydrological baseline check.	No protected or formally designated site on the footprint, consistent with the IBAT screening. Riverine interface noted for the ESS6 and downstream-monitoring measures.

The works are confined to existing public reserves and authorised borrow plots. No physical displacement arises and no economic displacement was identified along the alignments or at the sites. The cut-off date for identification of land and assets is 7 June 2026.

Any land voluntarily ceded for the works is handled as voluntary land donation under the ECRP II Resettlement Policy Framework (Section 7.5 and Annex 6). For each donation the voluntariness tests

are applied and documented: the donor is appropriately informed, the donor is able to refuse and gives the land free of coercion, the donation does not reduce the donor's remaining holding below the threshold needed to maintain livelihood, no person is physically displaced, and the donation does not affect any third party. A donor who declines is not penalised and the works are realigned where practicable. Donations are recorded on the Land Use Form (ECRP/ESS-F007), and any grievance on a donation is handled through the project Grievance Redress Mechanism with review by persons not affiliated to the implementing agency. Should any economic displacement be identified during implementation, it is addressed under the Resettlement Policy Framework before the affected works proceed.

The land acquisition and tenure documents supporting this ESMP are attached separately. The collection comprises:

(a) October 2024 Land Use Form (ECRP/ESS-F007), authorising the use of two 200 m by 200 m plots at Lemo and Debor villages for the original IFMM dike works and associated borrow operations. Signatories: Teresa Akij Bol (BDC Chairperson Lemo); Denyguang Ajyang (Boma Chief Lemo); John Othow Pedeit (BDC Chairperson Debor); Chul Ayul Along (Boma Chief Debor); line ministry signatory John Mijiwok Aywal (14 October 2024); validated by Alessio Akamy Bauo (State Ministry for Physical Infrastructure, Malakal, 16 October 2024).

ANNEX 12: STAKEHOLDER CONSULTATION FORMS

ATTACHED SEPARATELY

The stakeholder consultation forms supporting Chapter 4 of this ESMP are attached separately. The collection comprises:

(a) The 14 sessions consultation records covering 5 formal meetings, 3 community meetings, 4 Focus Group Discussions, and 2 Key Informant Interviews, conducted in Kodok Town on 4 February 2026 and in Malakal on 24 February 2026.

(b) ECRP II ECRP/ESS-F005 Stakeholder Consultation Form for the Kodok Port Management Association, signed by Obunying Aluthpiny on 3 March 2026. Brian Gada is named ESS Reviewer.

(c) ECRP II ECRP/ESS-F005 Stakeholder Consultation Form for the Traders of Fashoda County.

(d) Consolidated stakeholder engagement documentation package.

Source files in IOM records: ES_Stakeholders_Engagement_and_consultation_notes.pdf; FASHODA_ES_Stakeholders_Engagement_form_with_Port_union.pdf; FASHODA_ES_Stakeholders_Engagement_form_with_Trade_union.pdf; Stakeholder_Engagement.pdf.

ANNEX 13: BORROW PIT MANAGEMENT PLAN

1. Introduction

- This Borrow Pit Management Plan (BPMP) sets out the environmental and social management requirements for the identification, operation, monitoring and closure of borrow pits used to source construction materials for the Fashoda DRM 2026 subprojects in Kodok Town, Upper Nile State. The BPMP applies to all borrow pits authorised for use by IOM and the Contractor under this ESMP and is consistent with the ECRP II Environmental and Social Management Framework (ESMF, 2023), the World Bank ESF (in particular ESS1, ESS3, ESS4 and ESS6), and applicable South Sudan environmental and land legislation. Borrow pit operation, monitoring, and closure follow this Plan and the site-specific risk and mitigation measures set out in Chapter 6 of this ESMP.

2. Site Selection Criteria

Borrow pits shall be selected by the Contractor with technical approval from the IOM Engineer and review by the IOM Safeguarding Officer. The following minimum criteria apply:

- Located no less than 5 km and not more than 7 km from the works site to balance haul-cost efficiency with community-disturbance buffer requirements.
- Sited on land covered by an executed Land Use Form (ECRP/ESS-F007) with documented signatory from Boma Chief, Payam Administrator, and Line Ministry as applicable.
- At least 100 m from any permanent watercourse, wetland, cultural heritage feature, school, health facility, or religious institution.
- Outside any area identified by Shilluk traditional authorities under the Reth's office as a sensitive cultural or burial ground (ESS7 / ESS8).
- Free of unexploded ordnance per UNMAS clearance certification where available, with EORE briefing for all personnel.

3. Operation Phase

During active extraction the Contractor shall:

- Maintain extraction within the authorised pit footprint and to a maximum depth agreed with the IOM Engineer based on groundwater table observations.
- Implement dust suppression by water spraying during dry season works.
- Restrict operating hours to daylight hours, with no night-time operation unless authorised in writing.

- Maintain a daily extraction log with volume, weather, and any incidents recorded.
- Strip and stockpile any topsoil separately for use in eventual rehabilitation or for the alternative-end-use pathway.

4. Slope Stability

Pit side slopes shall be maintained at a maximum gradient of 1:2 (vertical to horizontal) during active extraction and regraded to 1:3 at closure to prevent collapse and allow safe access for any future use. Slope stability is reviewed weekly by the Contractor's OHS Focal Point and reported in monthly progress reports.

5. Drainage

The pit shall be drained passively where the local topography permits or actively pumped during the wet season to maintain a safe working condition. Discharge shall not be directed to permanent watercourses without sedimentation treatment. Where active dewatering is required, water quality is monitored by the Contractor and reported monthly.

6. Erosion Control

Vetiver grass planting along the pit perimeter and on exposed batters is the preferred erosion control measure, consistent with The design engineer drawing SSDRR-ARP-FA-XX-DR-IN-10202 and the dike-corridor approach used elsewhere in the project. Where vetiver is not practical, jute matting or gabion treatments per The design engineer drawing SSDRR-ARP-FA-XX-DR-IN-10211 may be substituted with IOM Engineer approval.

7. Borrow Pit to Haffir Conversion at Lemo

For the Lemo borrow pit (200 m by 200 m, authorised under the October 2024 Land Use Form ECRP/ESS-F007), the closure pathway follows the Alternative End Uses option of conversion to a community haffir per IOM design and Brian Gada's confirmation on 17 May 2026.

7.1 Site preparation for conversion:

- Regrade internal slopes to a maximum of 1:3 to prevent collapse and allow safe access.
- Compact the pit floor to reduce seepage and improve water retention.
- Construct perimeter berms to prevent inflow of contaminated runoff.
- Establish controlled inlet channels to capture rainwater or floodwater without causing erosion.

- **7.2 Water quality and ecology management:**
  - Separate livestock watering points from human-use zones using fencing or designated access ramps.

- Vegetation management around the pond margins to remove small water-filled depressions that support mosquito larvae.
- Encourage water movement where feasible to prevent stagnation.
- Optional biological vector control using larvae-eating fish such as Tilapia, documented to reduce mosquito larvae by over 90 percent in comparable applications.

- **7.3 Community safety:**
  - Perimeter fencing using natural materials or posts and rails (community-owned and maintainable).
  - Warning signage in local Shilluk languages around the pond perimeter.
  - Gentle access ramps for supervised water collection.
- **7.4 Handover and operation:**
  - The community transfers to PDRMC ownership with documented handover protocol.
  - Annual safety inspection by the Boma Chief and PDRMC.

8. Reporting

Borrow pit operations are reported by the Contractor to the IOM Safeguarding Officer monthly using the standard ECRP II Report Format at Annex 7. Reports shall cover extraction volume, depth, geometric status, slope condition, dewatering activity, water quality monitoring results (where applicable), incidents, community engagement, and progress against the decommissioning pathway.

9. Decommissioning Phase

Pit closure follows one of two pathways: (i) full rehabilitation - regrade slopes to 1:3, replace stockpiled topsoil, revegetate, restore approximate original land use; or (ii) Alternative End Uses pathway - where the pit is converted to a beneficial community asset such as a haffir, fishpond, or fodder reserve in agreement with the community and the Line Ministry. The preferred end state for the Lemo borrow pit is conversion to a community haffir per Section 7 above. Decommissioning of any pit shall be documented with an as-built drawing, before and after photographs, and a signed handover certificate from the Boma Chief and the IOM Engineer.

ANNEX 14: TRAFFIC MANAGEMENT PLAN

1. Purpose and Scope

This Traffic Management Plan (TMP) sets out the arrangements for managing vehicle, pedestrian and livestock movement during construction works on the Fashoda DRM 2026 subprojects in Kodok Town. The Plan applies to all Contractor vehicles and IOM-managed transport associated with the Kodok IFMM Dike Upgrading, the Internal Drainage Rehabilitation, and the Gated Culverts works. The TMP is to be read together with the ECRP II Driver Code of Conduct at Annex 15.

2. Traffic on the existing IFMM dike road during upgrading works

The existing IFMM dike road around Kodok Town is the primary haul route for the 14.6 km dike upgrading works. The road carries community traffic, pedestrians, livestock, and is the only land access to several boma centres during the wet season. During active works:

- Traffic management signage to be installed at each 1 km marker along the construction corridor, in English and pictographic format for community comprehension.
- Active work zones to be physically demarcated with reflective barriers and warning tape.
- Two-way community traffic to be maintained where geometrically possible; where single-lane working is required, flagman control to be deployed.
- Night-time operations on the dike road are prohibited unless authorised in writing by the IOM Engineer and notified to the Payam Administrator in advance.

3. Access to construction sites via Kodok Port and the Kodok Airfield

Two principal logistics arrival routes are used for the Fashoda DRM 2026 scope:

- Kodok Port: barge arrivals of bulk materials (gabion stone, cement, reinforcement, timber) and fuel. Port operations coordinated with the Kodok Port Management Association (engagement documented at Annex 12 - Stakeholder Consultation Forms). Onward transport from port to sites by road, with port access roads cleared of pedestrian and livestock traffic during active loading and unloading windows.
- Kodok Airfield: limited use for personnel rotations and time-sensitive small-equipment arrivals. Airfield access road shared with community traffic; speed restriction to 20 km/h applies along the 2 km approach corridor.

4. Speed limits at community proximity zones

Maximum operating speeds for all project-managed vehicles:

- 40 km/h on open dike sections away from settlements.

- 20 km/h within 200 m of any boma centre, market area, religious site, or water collection point.
- 10 km/h within 100 m of the Kodok primary school and Kodok health facility, and during scheduled school transit times (07:00-08:00 and 13:00-14:00).
- 10 km/h at any livestock crossing point.

Speed compliance monitored by the Contractor through vehicle GPS or daily supervisor checks and reported monthly to the IOM Safeguarding Officer.

5. Traffic warden positioning at school and hospital approaches

Trained traffic wardens to be positioned at the following locations during active works:

- Kodok primary school approach: 06:30-08:30 and 12:30-14:30 on school days.
- Kodok health facility access road: continuous coverage 07:00-18:00 during active construction.
- Kodok Town market approach: 07:00-10:00 on market days (per Payam Administrator schedule).

Wardens equipped with high-visibility vests, whistles, and STOP/SLOW paddles. Warden recruitment from the local community where possible, with training delivered by the Contractor's OHS Focal Point.

6. Livestock crossing protocols

Livestock movement across the dike road and approach corridors is a daily community activity. The following protocols apply:

- Designated livestock crossing points identified at intervals along the 14.6 km dike alignment in consultation with the Boma Chiefs and recorded with signage.
- Project vehicles to yield to livestock at all crossings; reverse approach into a livestock herd is prohibited.
- Any vehicle-livestock incident to be reported to the IOM Safeguarding Officer within 4 hours, with compensation procedure per the ECRP II GRM Guidelines if injury or loss occurs.
- Dawn and dusk movement (peak livestock activity) requires reduced vehicle frequency and extra warden vigilance.

7. Reporting

Traffic incidents (near-misses, vehicle damage, injury to person or livestock) are reported to the IOM Safeguarding Officer within 4 hours and logged in the monthly progress report. Monthly traffic monitoring data (vehicle movements, speed compliance, warden coverage) follows the standard ECRP II Report Format at Annex 7.

ANNEX 15: ECRP II DRIVER CODE OF CONDUCT

1. Purpose

This Code of Conduct sets out the minimum behavioural and operational standards required of every driver operating a project vehicle under the Emergency Crisis Recovery Programme Phase II (ECRP II). The Code applies to IOM employees, Contractor employees, sub-contractors, and any third party operating a project-managed vehicle. Signing and adherence to this Code is a condition of project assignment.

2. Driver Requirements

- Hold a valid South Sudan driving licence appropriate to the vehicle category.
- Be a minimum of 21 years of age.
- Pass a documented driving competency assessment by the Contractor or IOM transport officer prior to vehicle assignment.
- Have completed PSEA and Code of Conduct training within the last 12 months.
- Have current Explosive Ordnance Risk Education (EORE) briefing where operating in UXO-affected areas.

3. Vehicle Operation

- Conduct daily pre-trip vehicle inspection (tyres, fluids, brakes, lights, seatbelts, first aid kit, fire extinguisher, communications equipment) and record in a logbook.
- Wear seatbelt at all times when the vehicle is in motion and require all passengers to wear seatbelts.
- Observe all posted speed limits and the project speed limits set out in the Traffic Management Plan at Annex 14.
- No use of mobile telephones while driving, including hands-free, except for documented emergency contact with the IOM Safeguarding Officer.
- No driving under the influence of alcohol, narcotics, or any prescription medication that impairs driving ability.
- No night driving outside the immediate works area unless authorised in writing by the IOM Engineer or IOM Safeguarding Officer.
- Maintain safe following distances appropriate to road conditions and vehicle load.

4. Conduct Toward Community and Other Road Users

- Yield to pedestrians, livestock, and non-motorised traffic at all times.
- No use of project vehicles for personal transport or private hire.
- No transport of unauthorised passengers, including community members outside an approved community-liaison context.
- Behave respectfully and courteously toward all road users, community members, and local authorities. Use of horn restricted to safety signalling.
- No engagement in sexual exploitation, abuse, or harassment, including no transport of sex workers in project vehicles. PSEA standards apply at all times.

5. Incident and Accident Reporting

- Report all incidents (collision, near-miss, livestock contact, mechanical failure, security event) to the IOM Safeguarding Officer within 4 hours.
- Remain at the scene of any accident involving injury until authorised to depart, providing assistance within personal capacity and contacting emergency services and the IOM CASEVAC contact per Chapter 9 of the ESMP.
- Cooperate fully with any incident investigation, including provision of written statement, logbook, vehicle records, and breath/blood testing were lawful.

6. Disciplinary Consequences

Breach of this Code of Conduct constitutes a disciplinary matter under the Contractor's labour management procedures and may lead to written warning, withdrawal of driving authorisation, termination of employment or contract, referral to law enforcement, and prohibition from future engagement on ECRP II projects. Breaches involving sexual exploitation, abuse, or harassment are treated as zero-tolerance and trigger immediate escalation under the ECRP II PSEA protocol and GRM Guidelines.

7. Driver Acknowledgement

Every driver shall sign a written acknowledgement of this Code of Conduct before vehicle assignment. The signed acknowledgement is held by the Contractor's Human Resources function and made available to the IOM Safeguarding Officer on request.

ANNEX 16: IBAT BIODIVERSITY ASSESSMENT

Background

Chapter 5 of this ESMP records the commitment to a structured biodiversity assessment using the Integrated Biodiversity Assessment Tool (IBAT). IBAT is the biodiversity screening tool referenced under World Bank ESS6 and consolidates the IUCN Red List of Threatened Species (Version 2025-2), the World Database on Protected Areas (May 2026), the World Database of Key Biodiversity Areas (April 2026), and the Alliance for Zero Extinction sites into a single subscription-access platform with georeferenced query capability.

Area of Interest

The IBAT assessment used the R28 Kodok IFMM Dike Upgrading 14.6 km loop as the input geometry. A 5 km buffer was applied. The buffer envelope captures all three engineering components within the Fashoda DRM 2026 portfolio (R28 Dike Upgrading, R29 Internal Drainage Rehabilitation and Gated Culverts) together with the Lemo and Debor borrow areas authorised under the October 2024 ECRP/ESS-F007 record. The AOI geometry is provided as a KMZ file held by the IOM Safeguarding Officer.

Parameters

Site centre: 9.9°N, 32.1°E (WGS84)

Project area: 9.56 km²

Core buffer: 5 km

Precautionary buffer: 50 km

IUCN biomes: Freshwater, Terrestrial

Date of analysis: 27 May 2026

Reports

Two IBAT Proximity Reports and World Bank Group Biodiversity Risk Screen / PS6 and ESS6 Report. The reports are attached as Annex 16.2 (Proximity Report) and Annex 16.3 (PS6/ESS6 Report). Accompanying CSV data tables (species list, protected areas list, KBA list) form part of the assessment record and are held by the IOM Safeguarding Officer.

Summary of Findings

1. Designated areas: No Protected Areas, no Key Biodiversity Areas, no Alliance for Zero Extinction sites, and no World Heritage sites within 50 km of the AOI.

2. Threatened species: Forty IUCN Red List threatened species recorded within the 5 km core buffer. Three additional Critically Endangered or Endangered species within the 50 km precautionary buffer (Nile Lechwe, Sociable Lapwing, African Savanna Elephant).
3. Restricted-range species: Six Nile-system freshwater fish species recorded within the 1 km buffer.
4. PS6/ESS6 Critical Habitat preliminary classification: Potential. The classification is preliminary, based on global range polygons, and does not imply confirmed occurrence at the works site. The classification will be revisited at construction completion when site-specific observational evidence becomes available.

Data Caveats

Two range polygons in the IBAT output include the AOI but reflect historical distributions: the Northern White Rhinoceros (Ceratotherium simum ssp. cottoni) and the Northeastern Africa Cheetah (Acinonyx jubatus ssp. soemmeringii). Both subspecies are considered locally extirpated from Upper Nile State. Their listing does not indicate contemporary presence at the works footprint.

Use in this ESMP

The IBAT findings have been integrated into the Chapter 5 biodiversity baseline and into the Chapter 6 impact register, where they support the mitigation measures applied under ESS6. The species and habitat context inform the worker awareness, in-channel works timing, sediment and turbidity control, lighting, vegetation clearance, vehicle speed, waste management, and species encounter reporting measures set out in the impact register.

The Potential Critical Habitat preliminary classification will be reviewed at the construction completion stage. Should subsequent field evidence confirm Critical Habitat conditions at the works footprint, the ESMP shall be updated through the standard change management procedure.

17.1 IBAT Proximity Report

Attached separately. Licence 37275-106907. Generated 27 May 2026.

17.2 IBAT World Bank Group Biodiversity Risk Screen (PS6/ESS6)

Attached separately. Licence 37275-106908. Generated 27 May 2026.