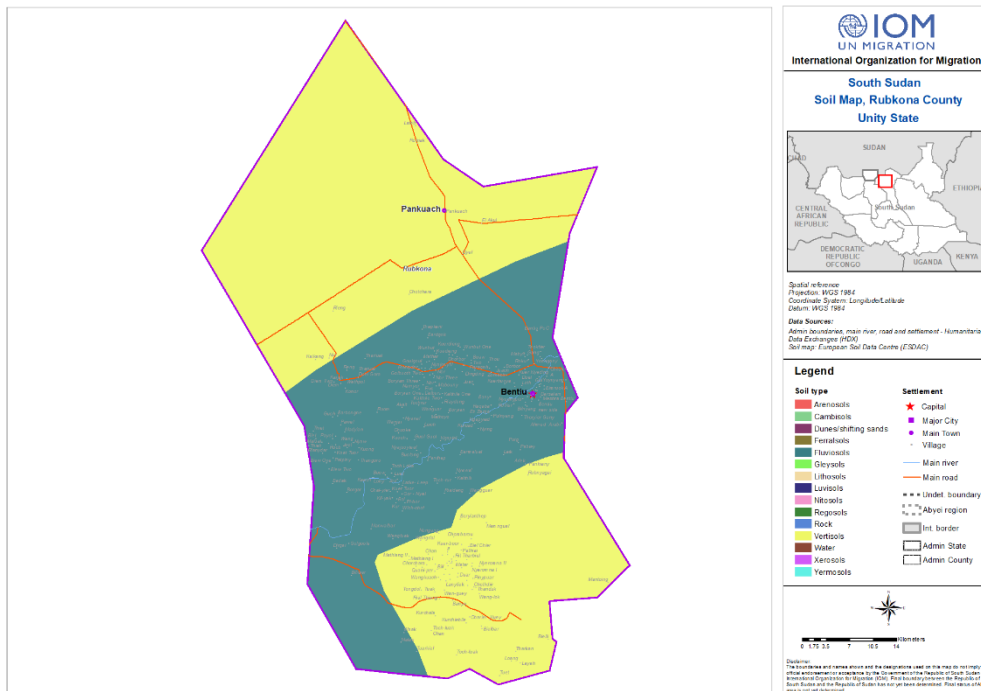




Enhancing Community  
Resilience and Local  
Governance Project  
Phase II (ECRP II)

# ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP) FOR ENHANCING COMMUNITY RESILIENCE AND LOCAL GOVERNANCE PROJECT (ECRP) II (P177093)

## Immediate Flood Mitigation Measures for Rubkona County *[ Dike construction, Rehabilitation & Drainage System Works in Rubkona County ]*



JULY 2024

## DOCUMENT CONTROL

**DOCUMENT TITLE:** Environmental and Social Management Plan (ESMP) for the Immediate Flood Mitigation Measures for Rubkona County (*construction, Rehabilitation & Drainage System Works in Rubkona County*), South Sudan under the Enhancing Community Resilience and Local Governance Project (ECRP) II (P177093).

**TYPE OF PROJECT:** Community Disaster Risk Management Infrastructure sub-project (*construction, Rehabilitation & Drainage System Works in Rubkona County*)

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## EXECUTIVE SUMMARY

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 improve access to services, strengthen flood resilience, and enhance institutional capacity for local service delivery and integrated disaster risk management at the national and local levels. It is under this project that the proposed sub-projects have been prioritized and will be implemented under ECRP II. The environmental and social Screening process was conducted in July 2024.

### **Affected Environment:**

The proposed sub-project will be implemented in Rubkona County. The Immediate Flood Mitigation Measures for Rubkona County include *construction, rehabilitation & drainage system works*. The proposed sub-projects will be considered as brown field sub-projects noting that the proposed works will be rehabilitated at sites that are occupied by existing sub-projects except for the proposed new dike that is 7.7km long. This ESMP is designed to inform the proposed Immediate Flood Mitigation Measures works in Rubkona. The ESMP is designed to inform the works by identifying potential environmental and social risks and impacts associated with the proposed works and provides mitigation measures, monitoring, performance indicators, estimated costs for implementation, and responsible institutions. Further, the ESMP provides specific environmental and social mitigation measures to be observe and apply during the construction/rehabilitation works. In addition, the ESMP provides a Grievance Redress Mechanism (GRM) for guidance of stakeholders on how they can raise grievances or provide feedback involved in the construction of dikes. It is expected that the County Management Committees will apply the ESMP for the management of the Immediate Flood Mitigation Measures infrastructure that will be put in place the conclusion of the project.

### **Interested and affected parties**

The communities in Rubkona County are the main interested and affected parties (I&AP). While the affected communities support the Immediate Flood Mitigation Measures for Rubkona County (*construction, Rehabilitation & Drainage System Works in Rubkona County*), the communities' request that the measures be swiftly executed before the rise in water levels and onset of the flooding periods which usually start end of August. The primary cause for this is to ensure that their existing infrastructure is protected and to enable them to return to and resettle in reclaimed areas. Furthermore, the communities are seeking to decongest the currently occupied locations.

### **Policy Requirements and overall approach**

As required by the project, the proposed sub-projects were subjected to Environmental and Social Screening prior to the development of this ESMP. This ESMP was developed before implementing the proposed sub-projects in compliance with the project's Environmental and Social Management Framework (ESMF) requirements. The project noted existing gaps within the current legal framework governing environmental and social safeguarding in South Sudan. The ESMF, the Environmental and Social Commitment Plan (ESCP), the Stakeholder Engagement Plan (SEP) and other environmental and social instruments prepared for ECRP-II are the basis for the development of this ESMP. This ESMP was developed following an elaborate process that involved technical experts and the involvement of stakeholders at all stages of the process.

### **ES impacts:**

The major impacts that have been identified include employment creation, occupational health and safety risks, spread of infectious diseases, public health and safety risks, environmental (air, water and land) pollution, waste management issues, disturbance of flora and fauna habitats and disruption of ecosystem services. Most of the impacts will be temporary and short-lived except for the unavoidable release of GHGs from the fuel combustion. The hierarchy of mitigation informed mitigation measures that have been proposed in this ESMP and these included:

<b>Mitigation Hierarchy focus</b>	<b>Practical Steps to be undertaken</b>
Anticipate and avoid	<ul style="list-style-type: none"> <li>-Design considerations and incorporation of components to avoid the release of certain pollutants</li> <li>-Selective procurement of materials.</li> <li>-Design and Optimize processes in a bid to limit or avoiding waste generation</li> <li>-Focusing on the sound management of waste by embracing the Reduce, Reuse, and Recycle waste management approach,</li> <li>-ES Education, awareness raising, and capacity building of hospital staff involved in the generation of medical waste</li> </ul>
Risk/Impact minimization/reduction	<ul style="list-style-type: none"> <li>-Adoption of pollution abatement technologies to minimize and reduce pollution risk and impact to ensure compliance of the proposed Sub-project to set standards.</li> <li>-Development and Implementation of Standard operating Procedures, work instructions, and guidance documents</li> <li>-Education, awareness raising and capacity building of beneficiaries.</li> <li>-Establishment of systems to monitor and control impacts, hazards, and risks</li> </ul>
Compensation approaches	<ul style="list-style-type: none"> <li>-Establish a small compensation plantation at a selected site</li> </ul>

At all stages of the sub-project implementation, the hierarchy of controls will be used to ensure a safe working environment and the sound management of occupational hazards and risks. This will include taking steps to eliminate risks and when this is impossible, other measures will be used. For instance, engineering controls will be used in situations when the hazard cannot be eliminated, and this can be coupled with the use of administrative controls. In worst case scenarios, the provision of adequate PPE will be opted for to ensure employees are protected from the hazard.

**Ecological impacts:**

***Vegetation distribution***

The vegetation type that will be most affected in some sections is the flooded grassland that will be in areas that construction and rehabilitation 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 sub-project implementation, grasslands will appear in sections of the reclaimed land, and this will support livestock keeping in the area.

**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 dikes and this will result in a reduction in the population of floodplain fish mainly to local communities.

**Socioeconomic impacts:**

### ***Human life***

The proposed sub-projects are earmarked for the protection of current existing infrastructure that will protect the communities and save lives. The Immediate Flood Mitigation Measures for Rubkona County will have a net positive impact in Rubkona. Protecting the population in Rubkona 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 sub-projects in the county.

### ***Human health***

The expected rise in human population and livestock densities attracted by the proposed Immediate Flood Mitigation Measures for Rubkona County and the associated increased waste generation and related issues will further exacerbate the exposure to disease transmitted from contaminated standing water. Due to lack of adequate ablution facilities in the targeted sub-project area, the situation is expected to worsen.

### ***Domestic livestock health***

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

### ***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 sub-project is expected to protect the only existing water treatment plant in Rubkona County, and this will ensure that more than 13,000 people will continue to have access to safe drinking water.

### ***Human habitation and flood disaster reduction***

The proposed sub-projects 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.

All the identified stakeholders were in support of the proposed sub projects. The raised issues, which included the need to ensure compliance with legal requirements in terms of national laws. Comments were also submitted stating that the sub-projects will contribute to key infrastructure and are needed to improve the livelihoods of communities in targeted areas. The identified socioeconomic benefits exceed costs of the anticipated negative impacts such that the affected communities are predicted to become economically and socially better off with the proposed sub-projects than without. The project should ensure the involvement of local communities in all decisions and implementation of plans for management of floods in Rubkona County.

## ACRONYMS AND ABBREVIATIONS

BDCs:- Boma Development Committees	14
CERC:- Contingency Emergency Response Component	15
CRS:- Coordinate Reference System	33
E&S:- Environmental and Social	15
ECRP I:- Enhancing Community Resilience and Local Governance Project Phase I	15
ECRP II:- Enhancing Community Resilience and Local Governance Project Phase II	14
ESMF:- Environmental and Social Management Framework	15
ESMP:- Environmental and Social Management Plan	15
ESS:- Environmental and Social Safeguarding	29
FM:- Financial Management	15
GoSS:- Government of South Sudan	30
GPS:- Global Positioning System	33
IOM:- International Organization for Migration	14
KML: Keyhole Markup Language	33
LGB:- Local Government Board	14
M&E:- Monitoring and Evaluation	15
MoFP:- Ministry of Finance and Planning	15
O&M:- Operation and Maintenance	14
PDCs:- Payam Development Committees	14
PDO:- Project Development Objective	14
PHCC:- Public Health Care Centre	20
PHCU:- Public Health Care Unit	20
PMU:- Project Management Unit	15
TPM:- Third-Party Monitoring	15
WB:- World Bank	32
WHO:- World Health Organisation	32

# I. CHAPTER 1

## A. 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 countries. 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 the vulnerabilities of at-risk communities in the target counties.

##### **Subcomponent 1.3: Operations and Maintenance (O&M).**

The ECRP-II envisions implementing a variety of O&M approaches based on type of infrastructure, the socioeconomic character of project communities, and demographic features of locations.

#### **Component 2. Institution Strengthening**

The component supports the participatory planning process for the identification of sub-projects to be financed under Component 1, monitoring of the construction of sub-projects, 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 crisis and major disease outbreaks of public health importance during the implementation of the project, in accordance with 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, strengthen institutions for resilient and sustainable development.

**Principle 2:** Coordination and leveraging 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 sub-project interventions and different conflict and social dynamics.

**Principle 4:** Focus on sustainability and community-centric development approaches, including by 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. Furthermore, designs and building infrastructure consider the use of locally available materials, parts and labor in construction and maintenance.

**Principle 5:** Ensure appropriate evidence-based O&M approaches are deployed in project communities taking demographic, socio-economic, and sub-project 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 disaster by addressing the root causes of climate change through 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.

### **IMMEDIATE FLOOD MITIGATION MEASURES FOR RUBKONA COUNTY (*construction, Rehabilitation & Drainage System Works in Rubkona County*)**

The proposed sub-projects 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 sub-projects. In compliance with the project Environmental and Social Management Framework (ESMF), all proposed sub projects 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 shows that the sub-projects 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.

## II. CHAPTER 2

### A. SUB-PROJECT DESCRIPTION

#### (I) Sub-Project location

The Sub-projects are earmarked to be implemented in Unity State, Rubkona County, See Figure 1 below. Rubkona county hosts the state capital, Bentiu. It is a central hub for trade, communication, and program interventions in Unity. Rubkona also has the largest internally displaced persons (IDP) camp in the country, accommodating around 120,000 people. It borders Pariang County to the north, Koch County to the south, Mayom County to the west, and Guit County to the southeast. The Bahr El Arab River, part of the Nile River system, flows through the county from east to west toward Mayom County and is partially navigable. The county consists of floodplains and becomes inundated or inaccessible during the rainy season.

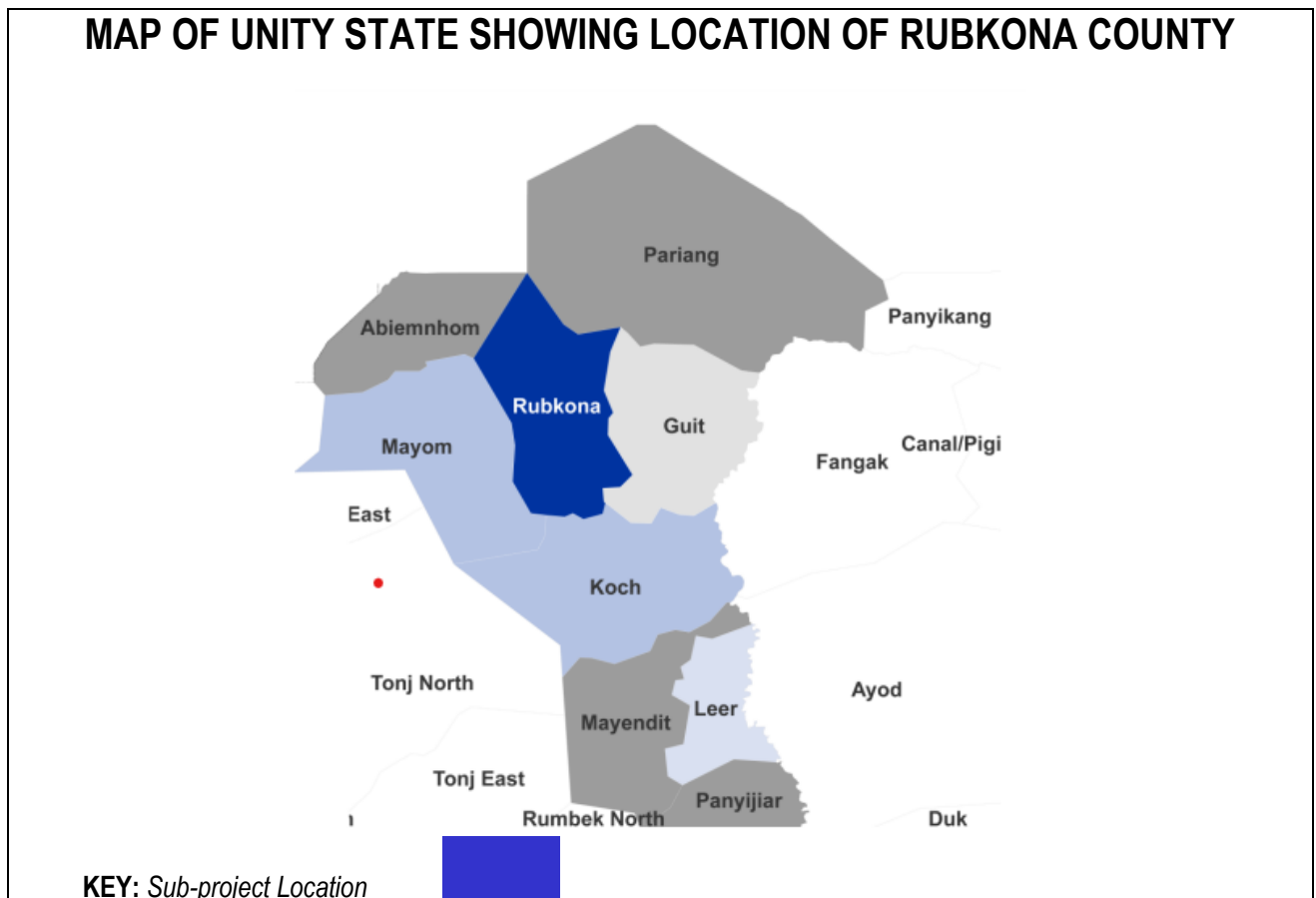


Figure 1: Location of Rubkona county in Unity State

**(II) General overview of the sub-projects**

The proposed sub-projects focus on the Immediate Flood Mitigation Measures for Rubkona County (*construction, Rehabilitation & Drainage System Works in Rubkona County*). The proposed sub-projects in Rubkona County, Unity State lie at 399m above sea level (9°16'47.1"N and 29°46'41.9"E). Though Rubkona county comprises eight (8) payams, the sub-project will be targeting Rubkona and Panhiany Payams. Both Payams are secured with dikes constructed during previous floods (2022) and are in many locations in dilapidated conditions in need of urgent rehabilitation. Total network of Rubkona can be mainly categorized as follows:

- |    |                                |           |                                     |
|----|--------------------------------|-----------|-------------------------------------|
| 1. | <b>Rubkona Payam dikes</b>     | – 10.5 Km | <b>Part of the Scope of ECRP II</b> |
| 2. | <b>Bentiu (Panhiany) dikes</b> | – 26Km    | <b>Part of Scope of ECRP II</b>     |
| 3. | IDP camp area dikes            | – 5.5 Km  | Works taken by IOM CCCM             |
| 4. | Military barrack area dikes    | – 3.16Km  | Works taken by UNMISS               |

Accordingly, the total length of all the dikes in Rubkona county is around 45 Km. The sub-projects targeted dike rehabilitation under ECRP II will cover 36.5km of the total length in Rubkona county. The rehabilitation of the dikes has been prioritised in the county with various partners taking different areas as follows; dikes in IDP camp areas will be rehabilitated by IOM's Camp Coordination and Camp Management unit (CCCM) while dikes in the military barracks area and the airport will be rehabilitated by UNMISS (United Nations Mission in South Sudan). The rest will be rehabilitated under the purview of the ECRP II project. The dikes prioritized under ECRP II will protect key infrastructure and key social services in Rubkona County which include the market, drinking water treatment plant, schools, health facilities and religious centres among others. The Rubkona Market section on the western side of Rubkona town will protect the main market and the main road between Bentiu and Rubkona. The Rubkona County HQ and Shilak sections safeguard the settlements and administrative centres from the flood water on the eastern side of the town. The total length of the dike rehabilitation will be appropriately 36.5km and a total of 44,764 people are expected to benefit from the proposed sub-project. See Table 1 below for the breakdown of each sub-project and the number of beneficiaries.

Table 1: Number of beneficiaries per sub-project

No	Sub-project	No of Beneficiaries
1	Rehabilitation of the existing dikes in Rubkona Payam	20,074
2	Rehabilitation of dikes at Rubkona Water Treatment Plant	13,112
3	Rehabilitation of existing dikes in Panhiany Payam	11,578
<b>TOTAL</b>		<b>44,764</b>

The photos below show the extent of the flooding and dike locations in Rubkona town. The surrounding land is vegetative, albeit submerged by floodwaters. The lines indicate the location of existing dikes.

The land surrounding the existing dikes in Rubkona town is partly swampy, dominated by plants such as sedges (papyrus), reeds, and numerous grasses. It is gentle sloping west-east direction with varying altitudes of 398 to 400m above sea level. Other spots only showed an altitude difference of one metre. Rubkona town lies north of the River Bahr el Ghazal which is a significant contributor of flood waters to Rubkona town after it burst its banks. Its water volume is primarily from the tributaries in South Sudan. However, there are observations by State and County officials that some of the River Nile burst its banks south of Bentiu at Panijiar County. Hence the land surrounding Rubkona town is susceptible to siltation from the River Bahr el Ghazal and surface run-offs which culminated into persistent floods. The soils of the town in Rubkona town are largely clay soils mainly the vertisols and Fluviosols commonly known

as the Black Cotton Soils (BCS). They have low water holding capacity, impermeable, highly compressible - expands so fast when it's wet and in the dry season contracts with cracks under high temperatures. There is no protected ecosystem around Rubkona town. Hence the does not transverse any sensitive ecosystem nor a settlement. Instead, they will be shielding the town and its infrastructure from floods. Figure 2 & Figure 3 show the location of dikes in Rubkona county.

This ESMP has been developed to cover all the sub-projects that have been subjected to ES Screening (see Annex 8 for details) and have been approved by PMU under the Immediate Flood Mitigation Measures for Rubkona County. As the project continues to progress, this ESMP will be regularly updated to feed in the environment and social findings of other Immediate Flood Mitigation Measures (IFMM) that will be screened in other targeted areas.

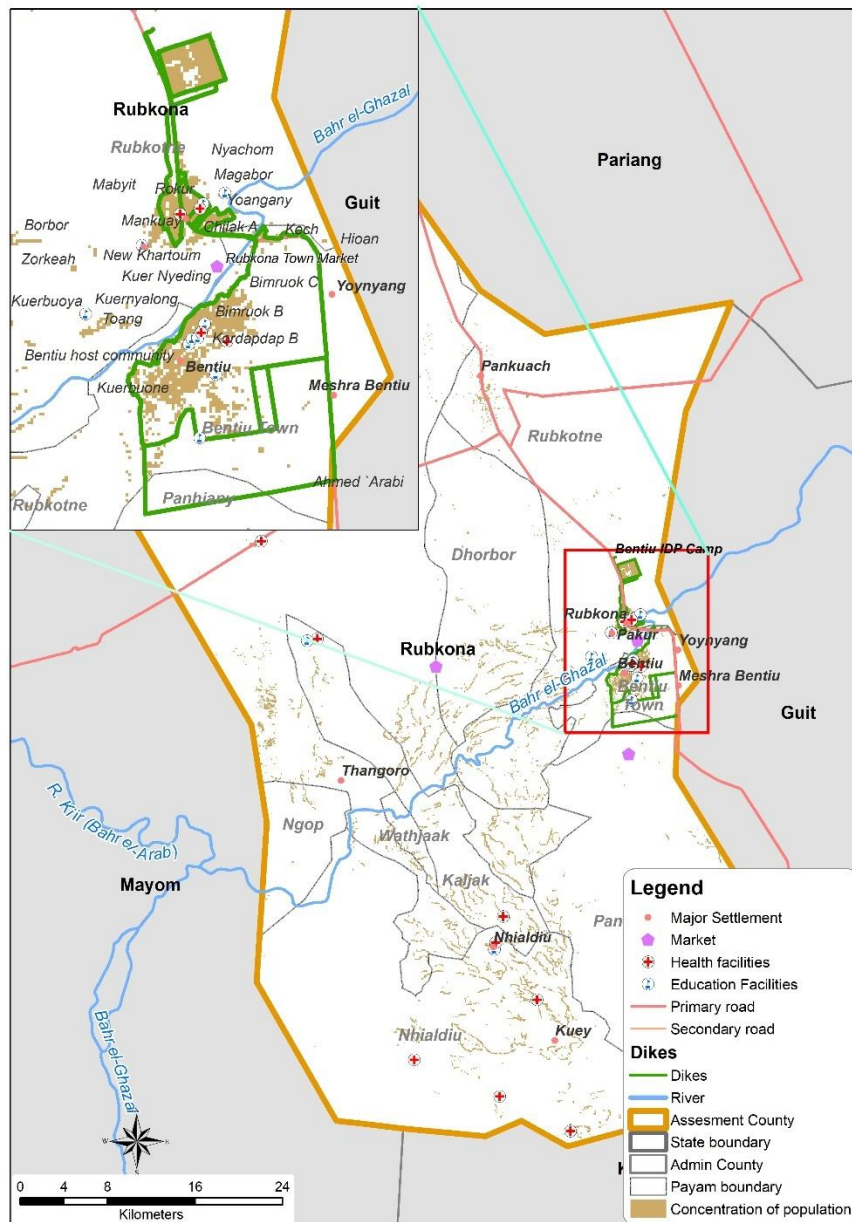


Figure 2: Sub-Project location map.

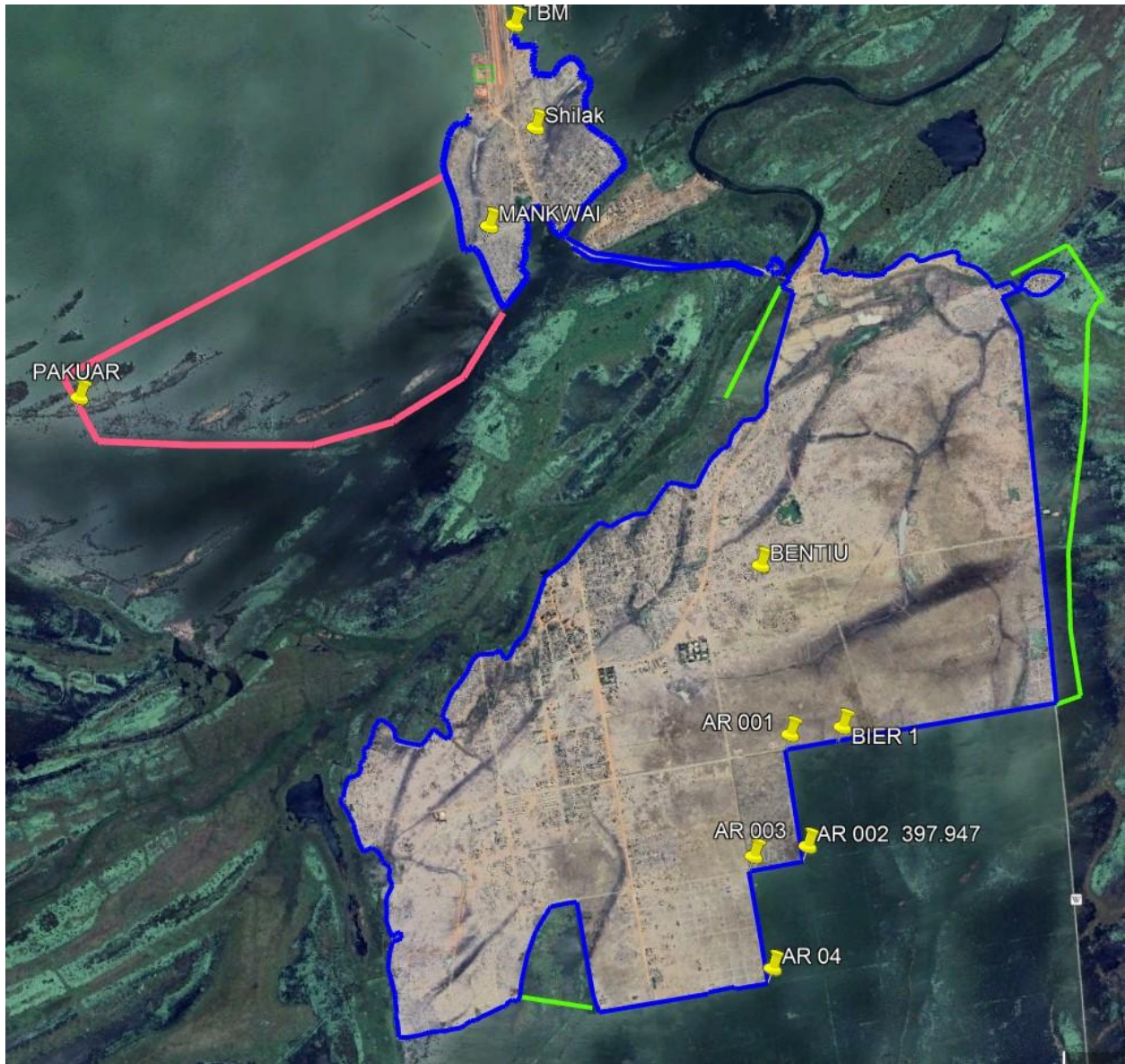


Figure 3: Overview of dikes in Rubkona county

### (III) Scope of Work

The proposed scope of work will include construction and rehabilitation dikes throughout Rubkona county. The works are targeted to reinforce the existing sections of the dikes by increasing the base and crest height to ensure that the dikes will be able to contain the expected floods based on available data. Based on information obtained by the engineers during baseline assessments, the current height of dikes ranges between 1.5 and 2.2m and the average free board is about 0.7-0.8m. The 2024 floods are expected to be much worse compared to the previous floods. Based on this available information, a decision to increase the crest of the dikes has been made. The proposed sub-projects seek to raise the crest of the dikes at least 1.5m above the highest previous recorded flood level to ensure safety. Additionally, the crests will be widened to at least 2m and at most 0-4.5m to withstand erosion from heavy rainfall and high-water pressures.

a) **Rehabilitation of dikes**

The rehabilitation will feature a 1:1 slope on the dry side (habitable side) and a 1:2.5 slope on the wet side (retained water) for filling. To prevent damage to the 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 4 shows the cross-sectional drawing of the dike design.

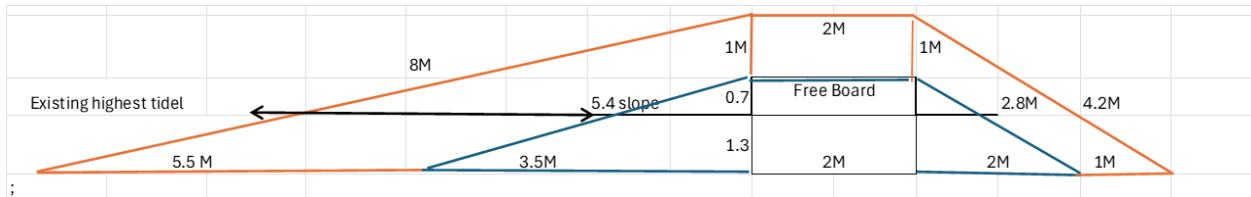
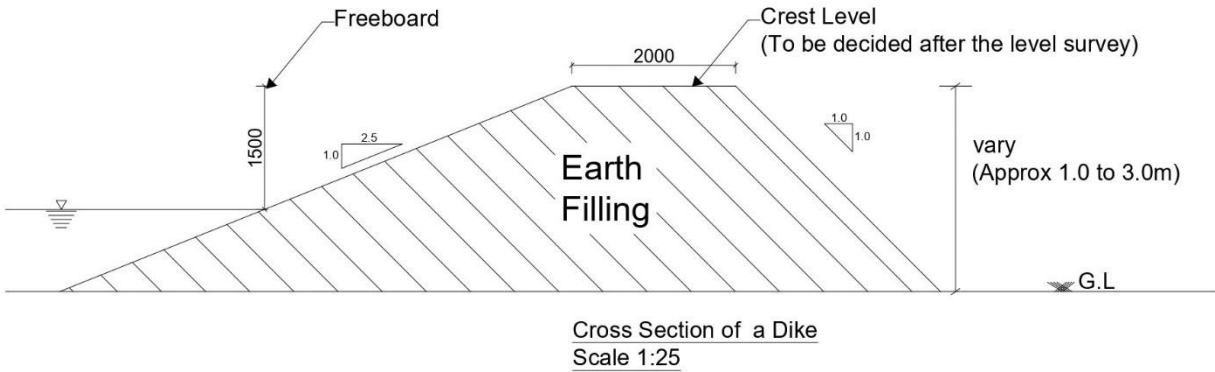


Figure 4: Typical Cross Section of the dike

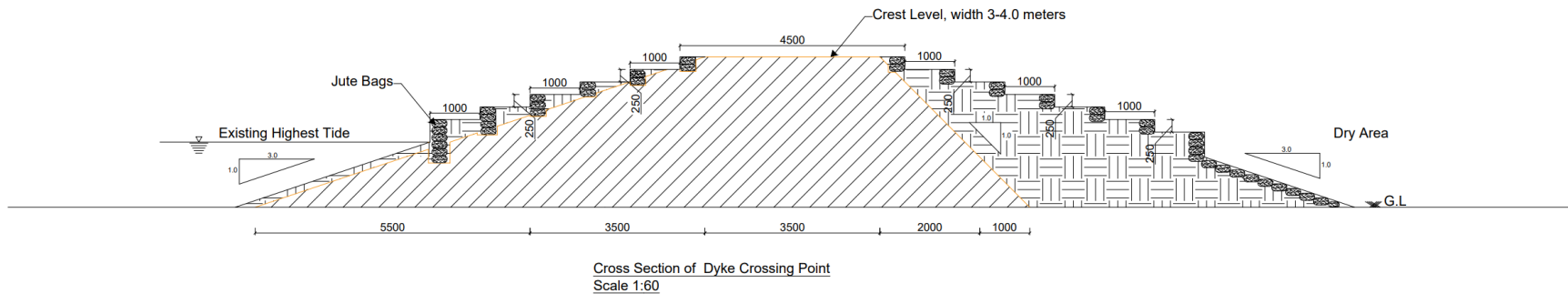


Figure 5: Dike Crossing Point<sup>1</sup>

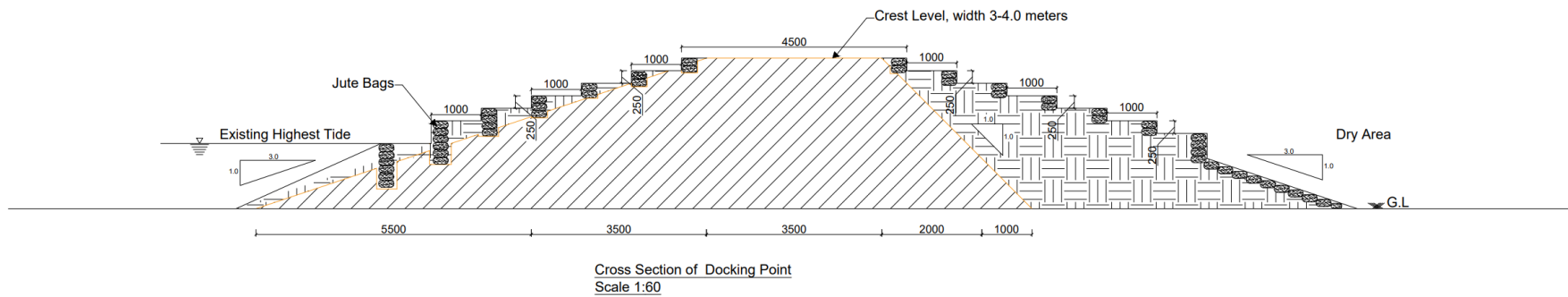


Figure 6: Dike Docking Point<sup>2</sup>

<sup>1</sup> Refer to Annex 5

<sup>2</sup> Refer to annex 5

The scope may also involve managing the natural water flow and encroachment on other land use. These considerations include public right to property, minimum dimensions of dikes required to maintain soil stability, settlement, seepage, permeability and erosion, and the availability of rehabilitation materials and construction equipment.

#### b) New Construction

The proposed sub-project will also target the construction of 7.7 km long encircling an area of 3.5 sq km from Makuach to Pakur. Developing this 3.5 sq km of land will enable the resettlement of IDPs and provide space for agricultural cultivation. Former residents displaced by the flooding are expected to be resettled in this reclaimed area. The proposed will encompass four major water outflow points from the main river/stream, mitigating the flood threat to the area. Water levels at these spillway points range from 0.5 meters deep to an average of 0.2 to 0.3 meters in other submerged areas. Infrastructure such as roads, schools, and water points can be renovated and restored for use after the area is reclaimed. Currently following abandoned structures can be seen in Pakur area,

- a) Pakur Primary school
- b) Pakur secondary school
- c) Mobile Health clinic temporary building at Pakur
- d) Two water tanks

The new dike will follow the same design as proposed for the rehabilitation works. The new dike will have a 1:1 slope on the dry side (habitable side) and a 1:2.5 slope on the wet side (retained water) for filling. The maximum height of the new dike will be 2.5 meters. The design is meant to prevent damage to the 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.

#### c) Construction of Drainage system at Nyuenpiu and Dera areas.

The drainage networks in the Nyuenpiu area and along the dikes are all obstructed by sediment and non-functional. Additionally, it has been observed that many sections of the drainage network are narrow and may not accommodate sufficient flow volume. Furthermore, there are no culverts installed along the perimeter for community access, posing a risk of injury or drowning when crossing the drainage channels.

Therefore, as part of the targeted subprojects, the current drainage system will undergo rehabilitation, including the addition of new drainage where needed, to effectively collect rainwater accumulation and divert it to soak pits in lower-lying areas. This initiative aims to prevent flooding in the area during heavy rains, thereby safeguarding the lives and properties of residents. Additionally, the Primary Health Care Units (PHCU), schools, water points, public institutions, settlements, and roads in the area will benefit from this project. Covering the dikes with sandbags mitigates erosion and increases the durability of the surface for community access points and boat or canoe docking locations. The Sub-projects will consider the existing community crossing points to ensure that the design of these areas will incorporate gentle slopes and increased reinforcements to increase their resistance to erosion.

#### d) Community access points

The proposed works will take into consideration the existing community routes. The analysis of these routes informed the location of community access points (crossing points and docking points). The sub-projects sought to ensure that the infrastructure is integrated into existing community lifestyle and livelihoods. The interventions seek to enhance community access and protection from floods post implementation. Figure 7 shows the identified community access points that will be designed to ensure the safety of communities and their animals as well as ensuring the protection of the integrity of the dikes.

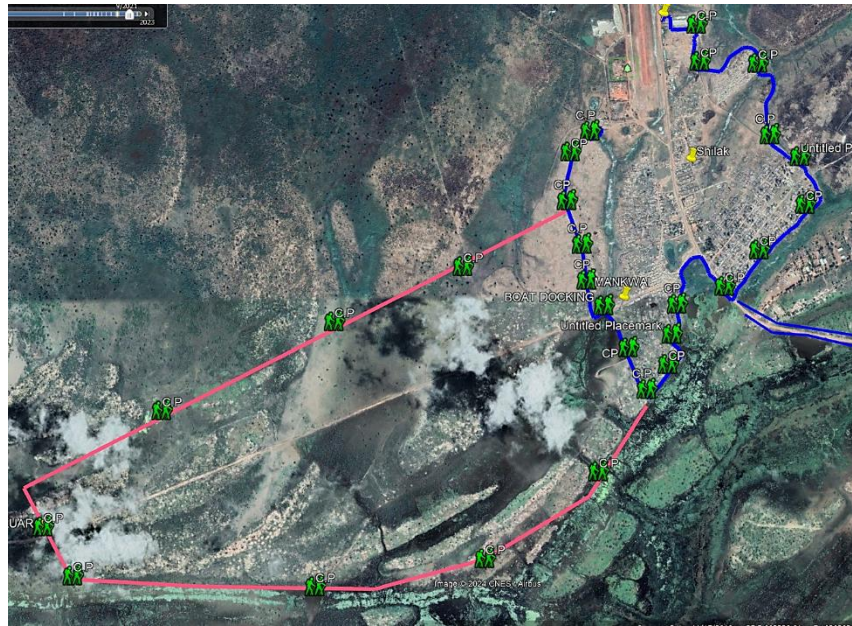


Figure 7: Identified Crossing points based on community routes

**e) Existing Infrastructure on the ground**

During the development of the ESMP, photos of the existing infrastructure were captured, and typical examples are presented below.



**A central drainage water collection point equipped with a pumping station managed by IOM working with local community**



**Sections of community areas with flooded drainage canals**

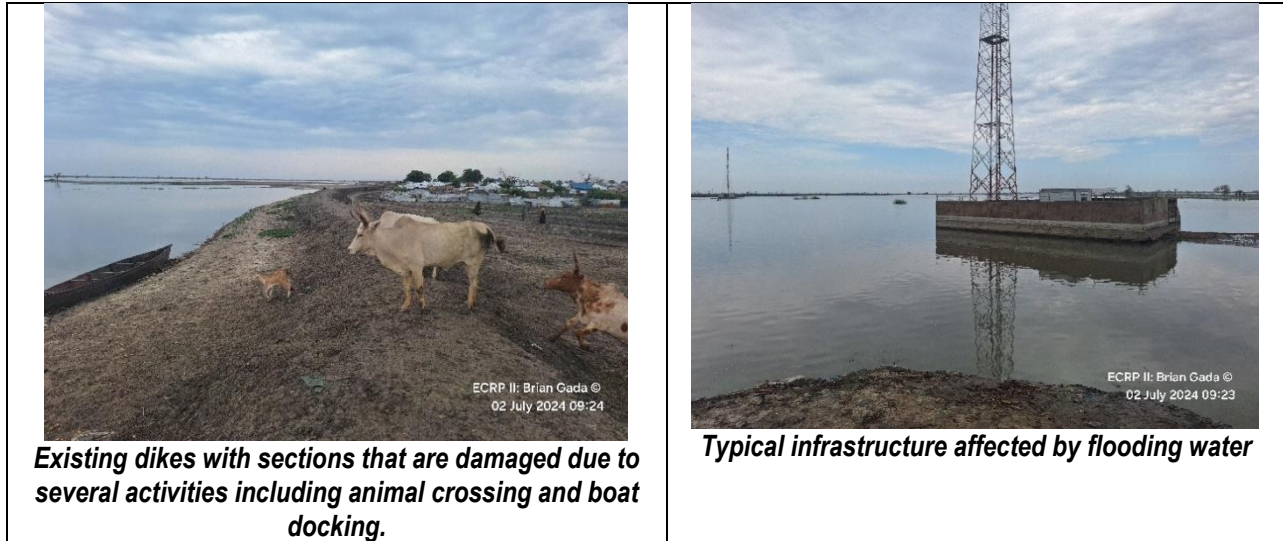


Figure 8: Photo grid of existing infrastructure in Rubkona County

#### **(IV)Laboratory Analysis of materials**

The soil characteristics of available rehabilitation material from the designated borrow pit 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 inhibits 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.

**(V)Schedule of work**

Table 2: Proposed workplan

**WORK PLAN**

ASSESSMENT (ES AND DIKE TECHNICAL ASSESMENT)	
ES INDUCTION AND LEVEL SURVEY	
SETTING OUT MOBILISATION OF MACHINE	
INITIAL DIKE CONSTRUCTION / BASE FORMATION	

AURGUMENTING AND SHAPPING	
PUMPING OUT OF WATER	
EXCAVATION OF DRAINAGES AND CULVERT INSTALLATION	
MURRUM DUMPING	
GRADING AND COMPACTING	

	July	Aug				Sept				October			
	week 4	week 1	week 2	week 3	week 4	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8
Rehabilitation Of Existing Dike In Rubkona													
Resources: 3 Excavators, 5 Dump Trucks													
Construction Of New Dike from Rubkona To Pakur													
Resources: 4 Excavators													
Resources: 4 Excavators													
Rehabilitation Of Existing Dike In Panhany Payam (Bentiu)													
Resources: 6 Excavators													
Rehabilitation Of Existing Dike In At Water Treatment Plant (2 Excavators) 5 Dtrucks													
Resources: 2 Excavators, 5 Dump Trucks													
Construction Of Drainage System At Nyuenpiu And Dera Areas 2 Excavators													
Resources: 2 Excavators													

### **(VI) 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 sub-projects 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 sub-project's rehabilitation and maintenance.
- Develop detailed specific mitigation measures with relevant costs implications that will need to be achieved during and after rehabilitation of sub-projects.
- Specify responsibilities and institutional arrangement 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 rehabilitation of sub-projects and ensuring inclusion of environmental and social requirements into tender documents,
- continuing management, monitoring and evaluation of the environmental and social performance of the sub-projects.
- 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.

### III. CHAPTER 3

#### A. STUDY METHODOLOGY

The ESMP study was conducted following a multifaceted 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 sub-project 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. Consultations took place starting 1 June until 31 July 2024. The ESMP has been prepared in accordance with 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 Environmental and Social laws of the Government of South Sudan. Focus was put on understanding the sub-project background, technology and processes, implementation modalities, and operations in view of proactively identifying potential significant environmental and social risks. Furthermore, environmental, and social baseline information was obtained using mixed methods which included 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 process below:

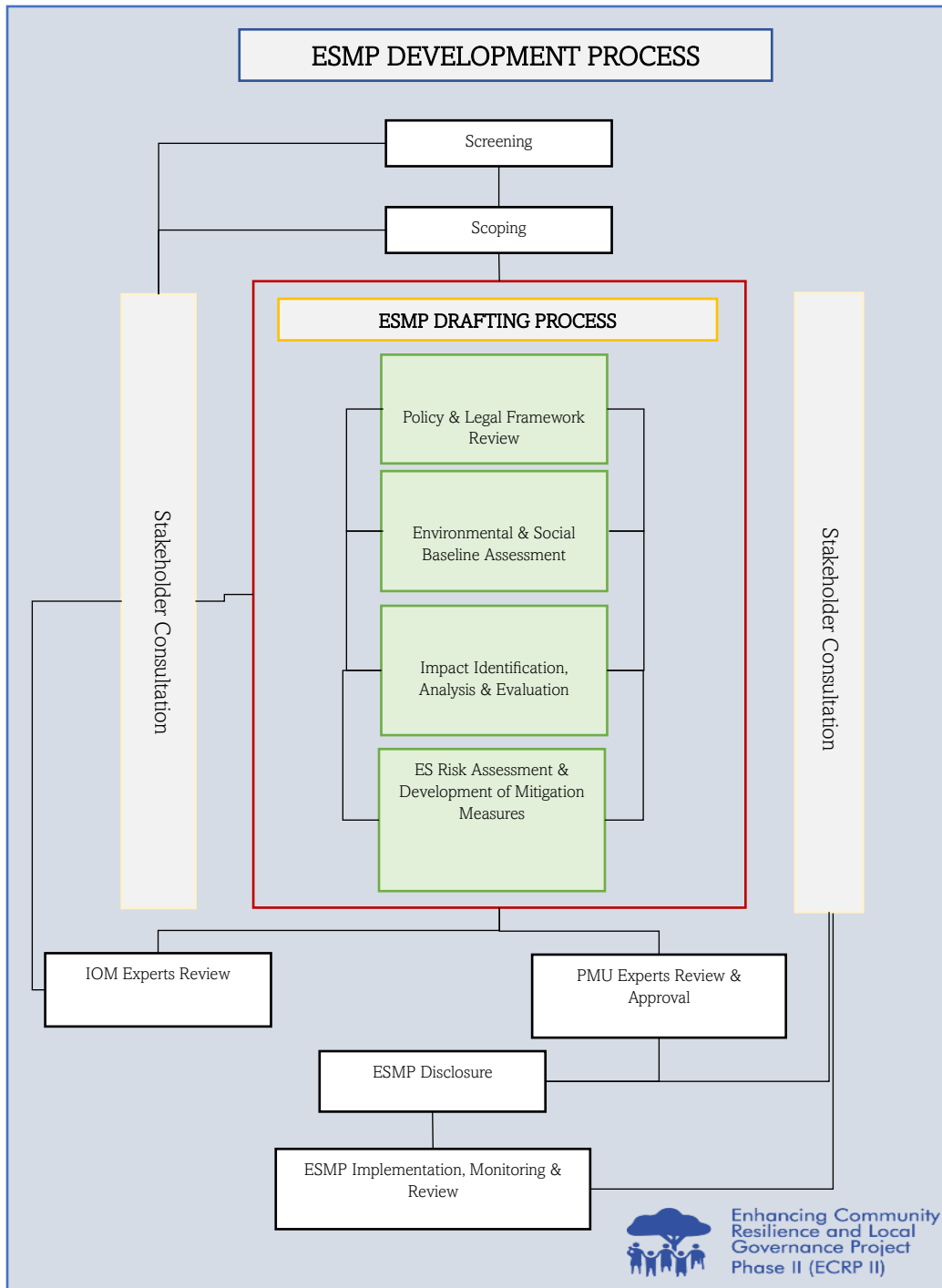


Figure 9: Overview of the ESMP Development process

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 was not limited to the review of:

- ECRP I Environmental and Social Reports for similar sub-projects
- 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
- World Health Organisation (WHO) Incinerator guidelines
- Multilateral Environmental agreements
- ECRP I literature on s in Rubkona and other counties
- Available ECRP II screening reports and associated documents
- 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 Rubkona County between 1 June and 10 July 2024. The purpose of undertaking the site visits was to gain an appreciation of the sub-project 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 sub-project. 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 include: (1) Field observations, (2) Checklists and Matrices, (3) Consultations and public participation and (4) Use of geo-spatial and temporal analysis techniques.

### **(IV) 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.

#### **(V) 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 main 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.

#### **(VI) 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 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.

## IV. CHAPTER 4

### A. STAKEHOLDER CONSULTATION

During the preparation of this ESMP, stakeholder consultation was carried out between June and July 2024. These consultations were a build up to a series of other consultations that had been conducted in the past during the project preparation phase, engagement with communities under Capacity Building activities, in particular the training of PDCs. The focus of the consultations was to ensure the broad group of stakeholders were consulted at the planning and early stages of the project and their concerns, feedback and input 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).

#### (I) 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 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 3: 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 sub-project locations. The community engagement and consultation meetings which were mainly group discussion were important since it allowed people to own the projects and enhances project survival and trust between government, project implementers, donors and beneficiary community.

## (II) Summary of stakeholder Consultation

Table 3: Table: Stakeholder Mapping

ENGAGEMENT LEVEL	PROJECT ACTIVITY	PROJECT STAKEHOLDERS INVOLVED
National Government	-Project introduction -Formation of National Technical Working group	- Ministry of Finance & Planning (MoFP) - Local Government Board (LGB) - Ministry of Gender, Child, and Social Welfare (MoGCSW) - Relief and Rehabilitation Commission (RRC)
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 Sub-project 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

### (III) Summary Responses from Stakeholder Consultation

A review of the proposed sub-project was undertaken through engagement with PDC, BDC and county local authorities. In conjunction with the local government authority in Rubkona County, the ECRP II staff surveyed and consulted beneficiary populations from 1 June to 20 July 2024. The engagements were led by the County PDRMC and the conclusion was that the rehabilitation of s remained a key priority in the county drawing lessons from how the s that were constructed under ECRP I managed to protect the county from floods in the previous year. The construction of the new will also help to reclaim 3.5km<sup>2</sup> of land that had been lost due to flood water. The government officials, humanitarian organizations and other parties on the ground, they indicated that the primary purpose of flood management in Rubkona town is to drain out water from residential settlements, government premises, markets and community livelihood areas, notably vegetable gardens and surrounding pastures to the town. The land reclamation will help decongest homesteads and area at high risk of contracting communicable diseases.

The area affected by the flood is about an area 35km in radius from Rubkona town, extending into the surrounding rural areas. Hence, both upstream and downstream villages are submerged by flood waters, but their conditions have not been fully assessed due to limited access from the town outwards as roads are cut off by floods. As could be observed, the current structure of the s in Rubkona County will not withstand the upcoming rainy season. The proposed rehabilitation entails expanding the dikes and increasing its crest to the desired height. Since the floodwaters meandered from the River Bahr el Ghazal, the impact on the river's ecological functions and water flows shall be determined by a further hydrological study on the composition of the downstream riverbed.

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	National Level -Project Development	Government stakeholders expect the project to improve the protection of the people of South Sudan in the targeted areas especially from the flood. This includes ensuring that the infrastructure and facilities such as drinking water points, education facilities and health facilities, and community facilities are protected	The project staff noted the expectations of the government.  The project staff will continue to engage with government

S/N	ENGAGEMENT LEVEL AND ACTIVITY	ISSUE RAISED/FEEDBACK RECEIVED	FEEDBACK PROVIDED/RESOLUTION
		Involvement of the Government in the review and finalization of designs created was received as an initiative that allowed government input to be captured in the individual sub-projects.	stakeholders at various stages.
2	<p><b>State Level</b></p> <p>-Project introduction</p>	<p>State officials emphasized the need for construction and rehabilitation 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.</p> <p>High expectations on the project since it's a government project. The county also anticipates benefiting directly from it.</p>	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.
3	<p><b>County Level</b></p> <p>-Project introduction</p>	<ol style="list-style-type: none"> <li>i. County government officials demanded enhanced involvement of officials in the implementation. For instance, ensuring their participation on the site assessments and handovers.</li> <li>ii. The PDRMC requested training and capacity building to capacitate them to execute their function.</li> </ol>	<p>The project is already ensuring this. Participation of government officials is ensured in all the processes</p> <p>This has been addressed the design harmonization workshops conducted in Juba.</p> <p>The project team explained that the training of the PDRMCs will be covered under ECRP II and there is an O&amp;M component that will provide the benefiting communities with some level of capacity and equipment to maintain infrastructure that will be established by the project.</p>

S/N	ENGAGEMENT LEVEL AND ACTIVITY	ISSUE RAISED/FEEDBACK RECEIVED	FEEDBACK PROVIDED/RESOLUTION
4	<p>Payam and Boma Level</p> <p>-Payam entry and Boma Entry meetings</p> <p>-Identification and reactivation of BDC</p>	<p>The PDCs/BDCs requested the rehabilitation of s 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.</p>	<p>- The project team explained that the focus is to ensure that the works are completed before the flooding period.</p>

#### (IV) Summary of Feedback obtained during consultations (County/Payam/Boma Level)

The communities emphasised that the proposed sub-projects remain a key priority for them. They indicated that under ECRP I the dikes that were constructed saved the town and the lives of the people of Rubkona. Hence, more work needs to be done on the dikes to ensure that the communities are further protected from the flood.

Government officials who are part of the PDRMC alluded that the land that will be used for the implementation of the proposed sub-projects will be part of the government reserve and belongs to the government. Such land will voluntarily be donated to the project by the government for the purposes of constructing infrastructure that will save lives.

In support of the new dike, the stakeholders highlighted that people are returning from Khartoum which has led to the over crowding of the Rubkona County. Hence the earmarked dike will eventually lead to the reclamation of land that will help in the decongestion of the county.

The CDRMC confirmed that have received training under the project and they pledged that they will actively provide support to the implementation of the subprojects including management of the communities and engagement of relevant local people.

In support to the rehabilitation of the dikes around the water treatment plant, the women representatives indicated that there is already a shortage of safe drinking water in Rubkona. Hence the water treatment plant needs to be protected such that the women will continue to have access to safe drinking water. Already, the stakeholders pointed out that there are water conflicts due to scarcity of the precious resource and some family end up taking water from the rivers. If the water treatment is not protected and is damaged, the anticipate that the rate of water conflicts will increase. Water reticulation pipes were damaged and any further damage on the water treatment plant will deprive the Rubkona community of safe drinking water.

The communities highlighted that the height of the dikes should be increased. The point was raised by the government official from ministry of water. He based his submission on the information that they have already received as a ministry on the level of water that is expected this year.

## (V)Stakeholder Engagement Plan (SEP)

Table 5: Stakeholder engagement plan

PROJECT STAGE	LIST OF STAKEHOLDERS	TOPICS OF ENGAGEMENT	METHODS OF ENGAGEMENT	RESPONSIBILITY/ FREQUENCY
<b>PREPARATION</b>	<ul style="list-style-type: none"> <li>- Ministry of Finance &amp; Planning (MoFP)</li> <li>- Local Government Board (LGB)</li> <li>- Ministry of Gender, Child, and Social Welfare (MoGCSW)</li> <li>- Relief and Rehabilitation Commission (RRC)</li> <li>- State Governor</li> <li>- State Minister, State Ministry of Local Government (SMoLG)</li> <li>- Director General (DG) SMoLG &amp; Law Enforcement (LE)</li> <li>- State Minister of Physical Infrastructure</li> <li>- DG, State Ministry of Physical Infrastructure</li> <li>- State Minister of Health</li> <li>- DG State Ministry of Health</li> <li>- Minister of Education</li> <li>- DG State Ministry of Education</li> <li>- County Commissioner</li> <li>- Executive Director - MoFP and/ LGB</li> <li>- County Commissioner</li> <li>- Executive Director</li> <li>- Departmental Heads</li> <li>- PDRMC</li> <li>- PDC</li> <li>- Paramount Chief</li> <li>- RRC Representative at county level</li> </ul>	<ul style="list-style-type: none"> <li>- Need of the project</li> <li>- Planned activities.</li> <li>- E&amp;S principles, Environment and social risk and impact management/ESMP</li> <li>- Grievance mechanisms (GM)</li> <li>- Health and safety impacts</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinated meetings,</li> <li>- Disclosure of written project related information</li> <li>- Grievance mechanism</li> <li>- Emails</li> </ul>	<ul style="list-style-type: none"> <li>- IOM</li> <li>- PMU</li> </ul>
	<ul style="list-style-type: none"> <li>- Local community leadership (Payam/Boma Chief, Headman, Councillor)</li> <li>- Vulnerable Groups</li> <li>- Local community people</li> </ul>	<ul style="list-style-type: none"> <li>- Need of the project</li> <li>- Planned activities.</li> <li>- E&amp;S principles, Environment and social risk and impact management/ESMP</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinated public meetings,</li> <li>- FGDs</li> <li>- separate meetings specifically for women and vulnerable.</li> </ul>	<ul style="list-style-type: none"> <li>- IOM</li> <li>- PMU</li> </ul>

PROJECT STAGE	LIST OF STAKEHOLDERS	TOPICS OF ENGAGEMENT	METHODS OF ENGAGEMENT	RESPONSIBILITY/ FREQUENCY
	<ul style="list-style-type: none"> <li>- Organised community groups</li> <li>- Surrounding communities</li> <li>- Health Facility Staff</li> </ul>	<ul style="list-style-type: none"> <li>- Grievance mechanisms (GM)</li> <li>- Health and safety impacts</li> </ul>	<ul style="list-style-type: none"> <li>- Disclosure of written information</li> <li>- Grievance mechanism</li> </ul>	
	<ul style="list-style-type: none"> <li>- NGOs</li> <li>- Pressure groups.</li> <li>- Religious groups</li> <li>- Other Civic Organizations</li> </ul>	<ul style="list-style-type: none"> <li>- Need of the project</li> <li>- E&amp;S principles, Environment and social risk and impact management/ESMP</li> <li>- Grievance mechanisms (GM)</li> <li>- Health and safety impacts</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinated public meetings, separate meetings specifically for women and vulnerable</li> <li>- Disclosure of written information</li> <li>- Grievance mechanism</li> </ul>	<ul style="list-style-type: none"> <li>- IOM</li> <li>- PMU</li> </ul>
<b>CONSTRUCTION PHASE</b>	<ul style="list-style-type: none"> <li>- Ministry of Finance &amp; Planning (MoFP)</li> <li>- Local Government Board (LGB)</li> <li>- Ministry of Gender, Child, and Social Welfare (MoGCSW)</li> <li>- Relief and Rehabilitation Commission (RRC)</li> <li>- State Governor</li> <li>- State Minister, State Ministry of Local Government (SMoLG)</li> <li>- Director General (DG) SMoLG &amp; Law Enforcement (LE)</li> <li>- State Minister of Physical Infrastructure</li> <li>- DG, State Ministry of Physical Infrastructure</li> <li>- State Minister of Health</li> <li>- DG State Ministry of Health</li> <li>- Minister of Education</li> <li>- DG State Ministry of Education</li> <li>- County Commissioner</li> <li>- Executive Director - MoFP and/ LGB</li> <li>- County Commissioner</li> <li>- Executive Director</li> <li>- Departmental Heads</li> <li>- PDRMC</li> <li>- PDC</li> <li>- Paramount Chief</li> <li>- RRC Representative at county level</li> </ul>	<ul style="list-style-type: none"> <li>- Permits and associated conditions.</li> <li>- Required set standards.</li> <li>- Project progress update</li> <li>- Any challenges faced during construction.</li> <li>- Overview of the status of ES issues (Reports to be submitted to Ministry of Environment &amp; Forestry)</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinated meetings,</li> <li>- Email communication.</li> <li>- Documented Telephonic engagement</li> </ul>	<ul style="list-style-type: none"> <li>- IOM</li> <li>- PMU</li> </ul>

PROJECT STAGE	LIST OF STAKEHOLDERS	TOPICS OF ENGAGEMENT	METHODS OF ENGAGEMENT	RESPONSIBILITY/ FREQUENCY
	<ul style="list-style-type: none"> <li>- Local community leadership (Payam/Boma Chief, Headman, Councillor)</li> <li>- Vulnerable Groups</li> <li>- Local community people</li> <li>- Organised community groups</li> <li>- Surrounding communities</li> <li>- Health Facility Staff</li> </ul>	<ul style="list-style-type: none"> <li>- Progress of project implementation</li> <li>- Challenges faced on implementation.</li> <li>- Overview of the status of ES issues (Reports)</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinated Meetings</li> <li>- Focus group discussions</li> <li>- Documented Telephonic engagement</li> </ul>	<ul style="list-style-type: none"> <li>- IOM</li> <li>- PMU</li> </ul>
	<p><b>PROJECT AFFECTED PARTIES.</b></p> <ul style="list-style-type: none"> <li>- Affected households.</li> <li>- Health Care facility Staff</li> <li>- Residents at the Hospital</li> </ul>	<ul style="list-style-type: none"> <li>- Progress of project implementation</li> <li>- Planned activities.</li> <li>- Anticipated Hazards, Impacts, Risks and Aspects of oncoming activities</li> <li>- Recommended mitigation and preparedness required for PAPs to do.</li> <li>- Challenges faced on implementation.</li> <li>- Overview of the status of ES issues (Reports)</li> </ul>	<ul style="list-style-type: none"> <li>- Face to face meetings</li> <li>- Direct telephonic</li> </ul>	<ul style="list-style-type: none"> <li>- IOM</li> <li>- PMU</li> <li>- Contractors</li> </ul> <p><i>(Weekly; more frequently as and when necessary)</i></p>
	<ul style="list-style-type: none"> <li>- Religious and other Civic groups</li> </ul>	<ul style="list-style-type: none"> <li>- Progress of project implementation</li> <li>- Challenges faced on implementation.</li> <li>- Overview of the status of ES issues (Reports)</li> </ul>	<ul style="list-style-type: none"> <li>- Meetings</li> <li>- Email communication.</li> <li>- Documented Telephonic engagement</li> </ul>	<ul style="list-style-type: none"> <li>- IOM</li> <li>- PMU</li> </ul> <p><i>(Monthly; more frequently as and when necessary)</i></p>
	<ul style="list-style-type: none"> <li>- Interested Parties</li> </ul>	<ul style="list-style-type: none"> <li>- Progress of project implementation</li> <li>- Challenges faced on implementation.</li> <li>- Overview of the status of ES issues (Reports)</li> <li>- Feedback from PAPs and other stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>- Meetings</li> <li>- Email communication.</li> <li>- Documented Telephonic engagement</li> </ul>	<ul style="list-style-type: none"> <li>- IOM</li> <li>- PMU</li> </ul> <p><i>(Monthly; more frequently as and when necessary)</i></p>
	<ul style="list-style-type: none"> <li>- Ministry of Finance &amp; Planning (MoFP)</li> </ul>	<ul style="list-style-type: none"> <li>- Permits and associated</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinated Meetings</li> </ul>	<ul style="list-style-type: none"> <li>- Beneficiary/Health Care</li> </ul>

PROJECT STAGE	LIST OF STAKEHOLDERS	TOPICS OF ENGAGEMENT	METHODS OF ENGAGEMENT	RESPONSIBILITY/ FREQUENCY
<b>OPERATIONAL PHASE</b>	<ul style="list-style-type: none"> <li>- Local Government Board (LGB)</li> <li>- Ministry of Gender, Child, and Social Welfare (MoGCSW)</li> <li>- Relief and Rehabilitation Commission (RRC)</li> <li>- State Governor</li> <li>- State Minister, State Ministry of Local Government (SMoLG)</li> <li>- Director General (DG) SMoLG &amp; Law Enforcement (LE)</li> <li>- State Minister of Physical Infrastructure</li> <li>- DG, State Ministry of Physical Infrastructure</li> <li>- State Minister of Health</li> <li>- DG State Ministry of Health</li> <li>- Minister of Education</li> <li>- DG State Ministry of Education</li> <li>- County Commissioner</li> <li>- Executive Director - MoFP and/ LGB</li> <li>- County Commissioner</li> <li>- Executive Director</li> <li>- Departmental Heads</li> <li>- PDRMC</li> <li>- PDC</li> <li>- Paramount Chief</li> <li>- RRC Representative at county level</li> </ul>	<ul style="list-style-type: none"> <li>conditions.</li> <li>- Required set standards.</li> <li>- Overview of the status of ES issues (Reports to be submitted to Ministry of Environment &amp; Forestry)</li> </ul>	<ul style="list-style-type: none"> <li>- Reports</li> </ul>	<p>Facility Administrator</p> <p><i>Monthly/Quarterly/as and more frequently as and when necessary</i></p>
	<ul style="list-style-type: none"> <li>- Local community leadership (Payam/Boma Chief, Headman, Councillor)</li> <li>- Vulnerable Groups</li> <li>- Local community people</li> <li>- Organised community groups</li> <li>- Surrounding communities</li> <li>- Health Facility Staff</li> </ul>	<ul style="list-style-type: none"> <li>- Challenges faced.</li> <li>- Future Plans</li> </ul>	<ul style="list-style-type: none"> <li>- Meetings</li> <li>- Reports</li> <li>- Telephonic engagement</li> </ul>	<ul style="list-style-type: none"> <li>- Beneficiary/Health Care Facility Administrator</li> </ul> <p><i>Monthly/Quarterly/as and more frequently as and when necessary</i></p>
	<p><b>PROJECT AFFECTED PARTIES.</b></p> <ul style="list-style-type: none"> <li>- Affected households.</li> </ul>	<ul style="list-style-type: none"> <li>- Operational schedule and challenges</li> </ul>	<ul style="list-style-type: none"> <li>- Meetings</li> <li>- Reports</li> <li>- Telephonic engagement</li> </ul>	<ul style="list-style-type: none"> <li>- Beneficiary/Health Care Facility Administrator</li> </ul>

PROJECT STAGE	LIST OF STAKEHOLDERS	TOPICS OF ENGAGEMENT	METHODS OF ENGAGEMENT	RESPONSIBILITY/ FREQUENCY
	<ul style="list-style-type: none"> <li>- Health Care facility Staff</li> <li>- Residents at the Hospital</li> </ul>	<ul style="list-style-type: none"> <li>- Planned activities.</li> <li>- Anticipated Hazards, Impacts, Risks and Aspects of oncoming activities</li> <li>- Recommended mitigation and preparedness required for PAPs to do.</li> <li>- Overview of the status of ES issues (Reports)</li> </ul>		<i>Monthly/Quarterly/as and more frequently as and when necessary</i>
	<ul style="list-style-type: none"> <li>- Religious and other Civic groups</li> </ul>	<ul style="list-style-type: none"> <li>- Challenges faced on implementation.</li> <li>- Overview of the status of ES issues (Reports)</li> </ul>	<ul style="list-style-type: none"> <li>- Meetings</li> <li>- Reports</li> <li>- Telephonic engagement</li> </ul>	<ul style="list-style-type: none"> <li>- Beneficiary/Health Care Facility Administrator</li> </ul> <i>Monthly/Quarterly/as and more frequently as and when necessary</i>
	<ul style="list-style-type: none"> <li>- Interested Parties</li> </ul>	<ul style="list-style-type: none"> <li>- Operational issues</li> <li>- Required set standards.</li> <li>- Overview of the status of ES issues (Reports to be submitted to EMA as part of Quarterly reporting requirements)</li> <li>- Feedback from PAPs and other stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>- Meetings</li> <li>- Reports</li> <li>- Telephonic engagement</li> </ul>	<ul style="list-style-type: none"> <li>- Beneficiary/Health Care Facility Administrator</li> <li>- <i>Monthly/Quarterly/as and more frequently as and when necessary</i></li> </ul>
<b>DECOMMISSIONING PHASE</b>	<ul style="list-style-type: none"> <li>- Ministry of Finance &amp; Planning (MoFP)</li> <li>- Local Government Board (LGB)</li> <li>- Ministry of Gender, Child, and Social Welfare (MoGCSW)</li> <li>- Relief and Rehabilitation Commission (RRC)</li> <li>- State Governor</li> <li>- State Minister, State Ministry of Local Government (SMoLG)</li> <li>- Director General (DG) SMoLG &amp; Law Enforcement (LE)</li> <li>- State Minister of Physical Infrastructure</li> <li>- DG, State Ministry of Physical Infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>- Site management Plans</li> <li>- Detailed ESMP</li> <li>- Permits and associated conditions.</li> <li>- Required set standards.</li> <li>- Overview of the status of ES issues Reports to be submitted to Ministry of Environment &amp; Forestry.</li> </ul>	<ul style="list-style-type: none"> <li>- Meetings</li> <li>- Reports</li> <li>- Telephonic engagement</li> </ul>	<ul style="list-style-type: none"> <li>- Beneficiary/Health Care Facility Administrator</li> </ul> <i>Monthly/Quarterly/as and more frequently as and when necessary</i>

PROJECT STAGE	LIST OF STAKEHOLDERS	TOPICS OF ENGAGEMENT	METHODS OF ENGAGEMENT	RESPONSIBILITY/ FREQUENCY
	<ul style="list-style-type: none"> <li>- State Minister of Health</li> <li>- DG State Ministry of Health</li> <li>- Minister of Education</li> <li>- DG State Ministry of Education</li> <li>- County Commissioner</li> <li>- Executive Director - MoFP and/ LGB</li> <li>- County Commissioner</li> <li>- Executive Director</li> <li>- Departmental Heads</li> <li>- PDRMC</li> <li>- PDC</li> <li>- Paramount Chief</li> <li>- RRC Representative at county level</li> </ul>			
	<ul style="list-style-type: none"> <li>- Local community leadership (Payam/Boma Chief, Headman, Councillor)</li> <li>- Vulnerable Groups</li> <li>- Local community people</li> <li>- Organised community groups</li> <li>- Surrounding communities</li> <li>- Health Facility Staff</li> </ul>	<ul style="list-style-type: none"> <li>- Planned activities.</li> <li>- E&amp;S principles, Environment and social risk and impact management/ESMP</li> <li>- Grievance mechanisms (GM)</li> <li>- Health and safety impacts</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinated meetings.</li> <li>- Reports</li> </ul>	<ul style="list-style-type: none"> <li>- Beneficiary/Health Care Facility Administrator</li> </ul> <p><i>Monthly/Quarterly/as and more frequently as and when necessary</i></p>
	<p><b>PROJECT AFFECTED PARTIES.</b></p> <ul style="list-style-type: none"> <li>- Affected households.</li> <li>- Health Care facility Staff</li> <li>- Residents at the Hospital</li> </ul>	<ul style="list-style-type: none"> <li>- Site management Plans</li> <li>- Planned activities.</li> <li>- E&amp;S principles, Environment and social risk and impact management/ESMP</li> <li>- Grievance mechanisms (GM)</li> <li>- Health and safety impacts</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinated meetings.</li> <li>- Reports</li> </ul>	<ul style="list-style-type: none"> <li>- Beneficiary/Health Care Facility Administrator</li> </ul> <p><i>Monthly/Quarterly/as and more frequently as and when necessary</i></p>
	<ul style="list-style-type: none"> <li>- Religious and other Civic groups</li> </ul>	<ul style="list-style-type: none"> <li>- Planned activities.</li> <li>- E&amp;S principles, Environment and social risk and impact management/ESMP</li> <li>- Grievance mechanisms (GM)</li> <li>- Health and safety impacts</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinated meetings.</li> <li>- Reports</li> </ul>	<ul style="list-style-type: none"> <li>- Beneficiary/Health Care Facility Administrator</li> </ul> <p><i>Monthly/Quarterly/as and more frequently as and when necessary</i></p>
	<ul style="list-style-type: none"> <li>- Interested Parties</li> </ul>	<ul style="list-style-type: none"> <li>- Site management Plans</li> <li>- Planned activities.</li> </ul>		<ul style="list-style-type: none"> <li>- Beneficiary/Health Care Facility Administrator</li> </ul>

PROJECT STAGE	LIST OF STAKEHOLDERS	TOPICS OF ENGAGEMENT	METHODS OF ENGAGEMENT	RESPONSIBILITY/ FREQUENCY
		<ul style="list-style-type: none"> <li>- E&amp;S principles, Environment and social risk and impact management/ESMP</li> <li>- Grievance mechanisms (GM)</li> <li>- Health and safety impacts</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinated meetings.</li> <li>- Reports</li> </ul>	<ul style="list-style-type: none"> <li>- <i>Monthly/Quarterly/as and more frequently as and when necessary</i></li> </ul>

## V. CHAPTER 5

### A. ENVIRONMENTAL AND SOCIAL BASELINE

#### (I) Land Cover

Rubkona County is in Unity State. The county is largely covered by different forms of vegetation with most parts of the county 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 and closed forests in both the northern and the southern part of the county. Some relatively small herbaceous wetlands are also available within the county surrounding the river Bahr el-Gazal. Even though Rubkona county is dominated by plants such as sedges (papyrus), reeds, and numerous grasses, the earmarked sub-projects do not transverse any sensitive ecosystem and protected ecosystem around Rubkona county. The land cover map below provides the spatial distribution of landcover types in Rubkona County.

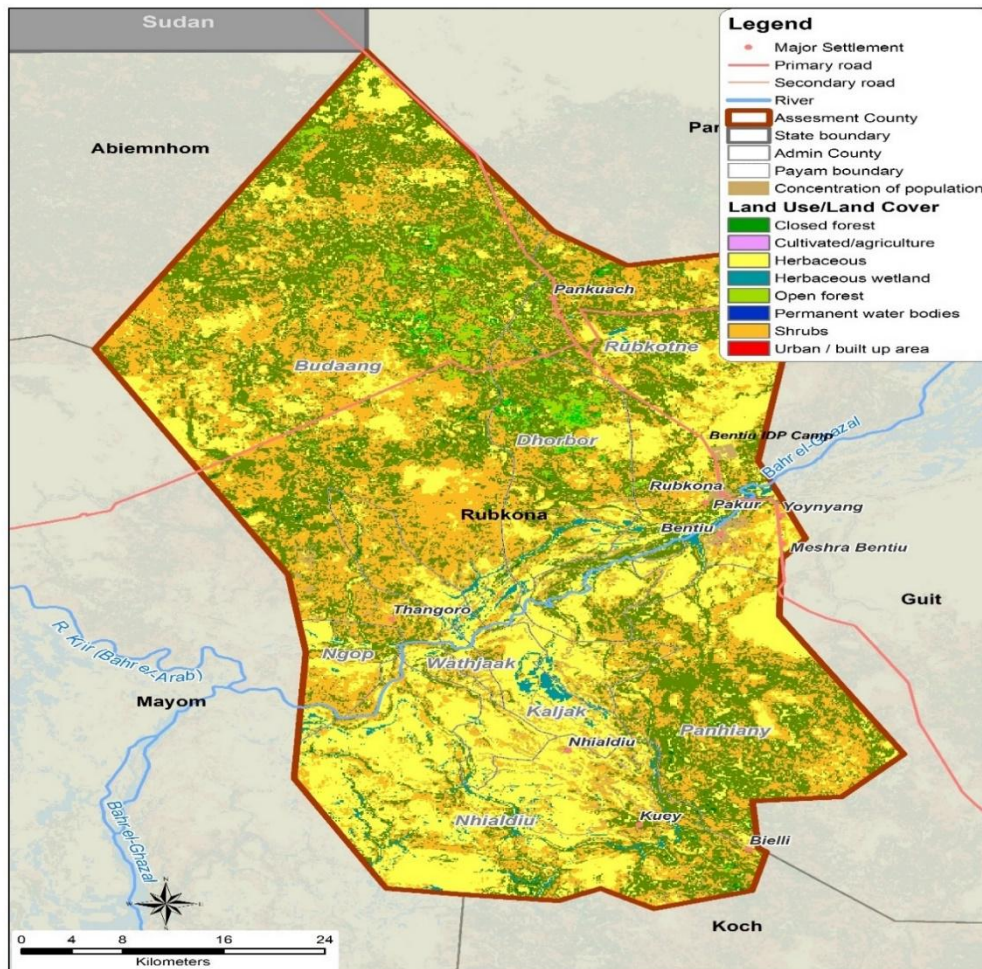


Figure 10: Land Cover map.

(II) Geology

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

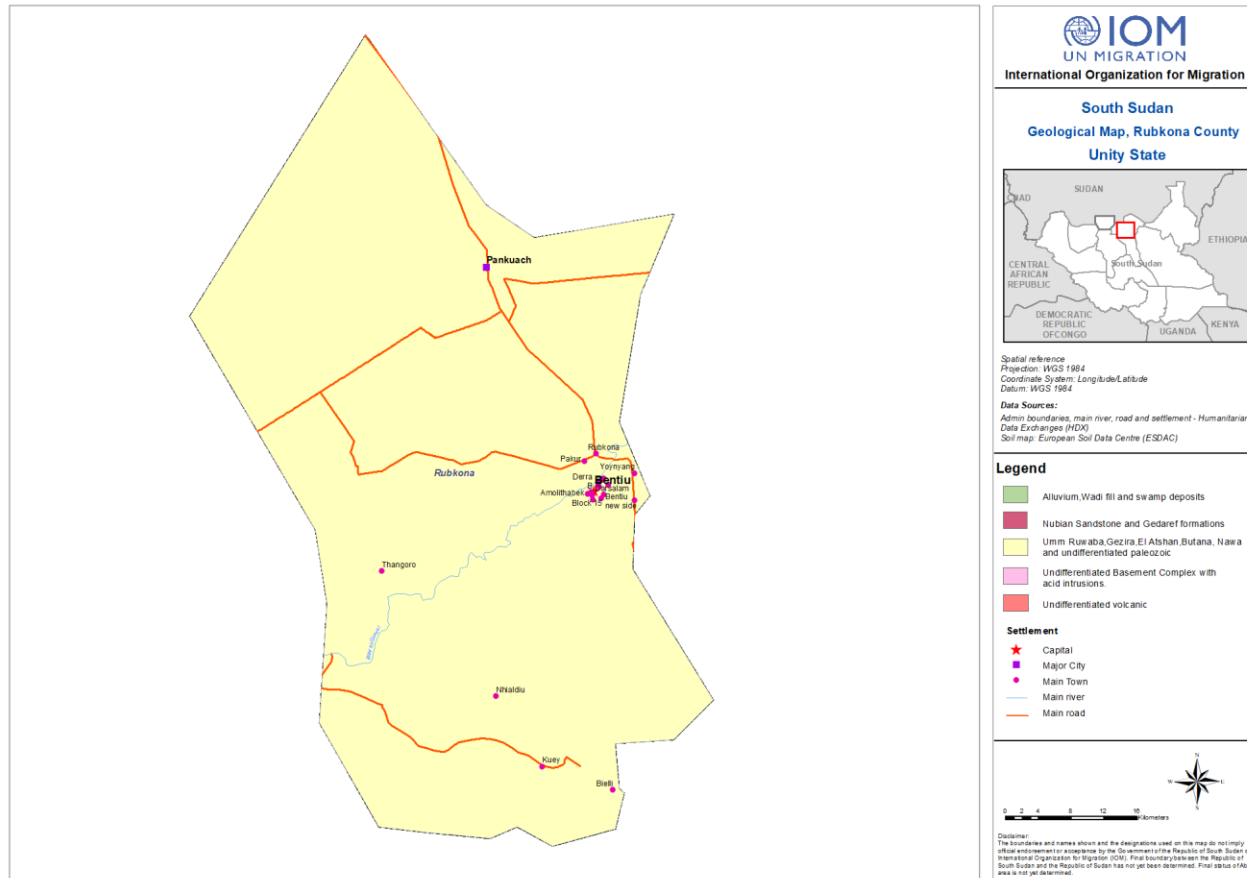


Figure 11: Geological Map of Rubkona County

### (III) Topography and Soils

Rubkona county has a relatively flat topography, with typical heavy clay. The major soil types are the Vertisols and the Fluviosols. Figure 12: Soil Map Shows the distribution of soil types in South Sudan across the targeted States. Vertisols are blending heavy clay soils which 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.

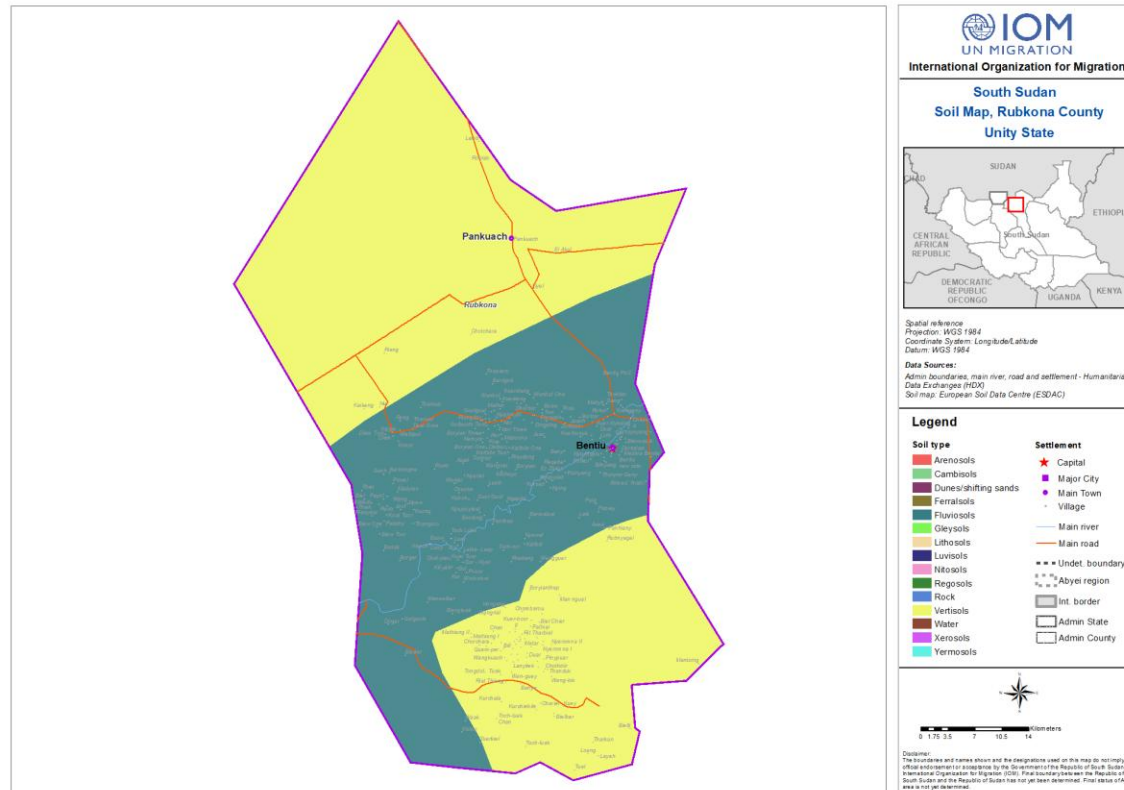


Figure 12: Soil Map

#### (IV) Hydrology

Rubkona county has one major river that passes through the county, river Ba Wetlands are a common feature of the flat plain areas west and east of the Nile and the existing road system traverses them on countless occasions, often over causeways or raised roadbeds that were also expensive to build, and which have disrupted the wetland ecosystem. The predominance of wetlands is vitally important as part of the land-use strategy among the agro-pastoralist society which retreats to them during the long dry season to sustain their cattle with fresh fodder and water. Wetlands also serve an important ecological function as well, absorbing the run-off from occasionally torrential rainstorms, storing it and slowly releasing it later in the season regulating the flow of many streams and watercourses. Figure 13 shows the major rivers of South Sudan.

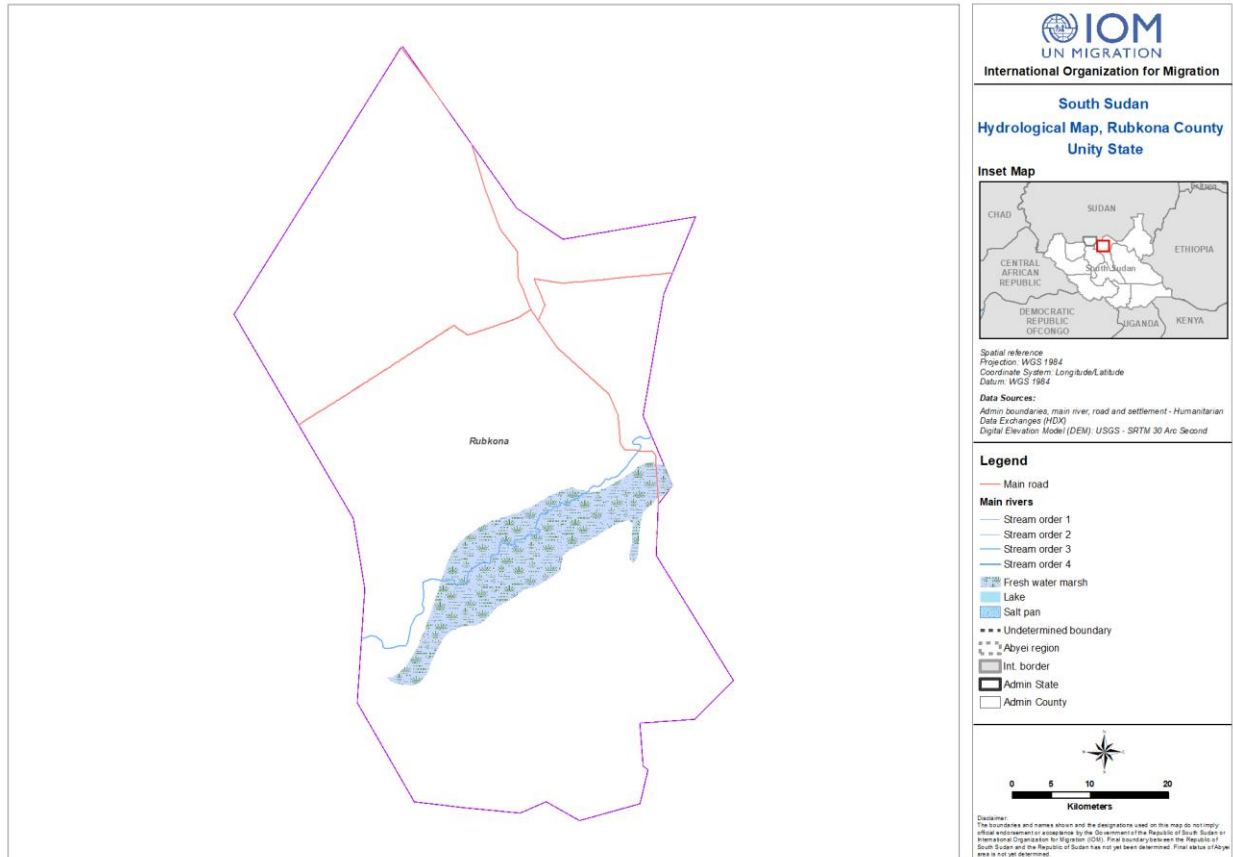


Figure 13: The riverine system in South Sudan

## **(V) Socio-Economic Environment**

The county can be divided into two risk zones—high and low—in terms of conflict risk. The northern border is a high-risk zone due to cattle raiding with neighbouring Pariang and Sudan's Southern Kordofan, while the rest of the county is considered low risk. Inaccessibility is primarily caused by natural calamities and conflicts. Most parts of the county become inaccessible during the rainy season. Additionally, cattle raiding in the northern areas renders some regions inaccessible, often during the dry season. Poor road networks also make cattle camps difficult to access, even in the dry season.

Further, the Panakuach/ Payangany triangle between Rubkona, Unity and Pariang, Ruweng has been a contested area and hotspot for inter-communal violence between the Leek Nuer and Dinka Ruweng. This area is notable for its high-quality oil production in the Unity oil fields. It is also agriculturally abundant and generates significant revenue from merchants entering South Sudan from Sudan. These resources make it economically important to both sub-national governments and the national government.

### **a) General Socio-Economic setting**

Rubkona residents traditionally practice agro pastoralism, supplementing their diets with fishing and foraging. However, this mix of livelihoods varies by payam. For instance, many residents of Nhialdiu Payam primarily depend on livestock rearing and fishing. In 2021, about 20% of households in Rubkona County engaged in farming, with a gross cereal yield of 0.5 tonnes per hectare (FAO/WFP 2022). The main crop is maize, with smaller quantities of groundnut, sorghum, and vegetables also being cultivated on a very limited scale.

Food security projections in November 2022 classified Rubkona County at Emergency (IPC Phase 4) levels of food insecurity, continuing the trend from 2021. Projections for the first half of 2023 indicate that at least 25% of the county's population is expected to rely on humanitarian food assistance for over 50% of their caloric needs during this period.

### **(b) Infrastructure & Services**

The largest markets are in Bentiu and Rubkona towns, populated by traders from Darfur, the Nuba Mountains, and other regions. Development levels vary across the county, with Bentiu and Rubkona towns having more advanced infrastructure and services. Rubkona County has 48 primary schools of which only 12 are operational, with eight (8) of them being private institutions. The rest have been abandoned due to floods that displaced people from rural areas to Rubkona and Bentiu, where a massive dike erected by IOM protects against flooding. The county has a total of nine (9) secondary schools, eight (8) of which are private and located in the former POC, and one public school in Rubkona town. There are currently no Early Childhood Development centres in the county. The former IDP camp has more privately owned schools than the town, all established by humanitarian agencies supporting education at the onset of the crisis in 2014.

Rubkona County was reported to have 23 health facilities including 19 functional health facilities, among them six (6) PHCUs, 10 PHCCs, and three (3) hospitals. This equates to approximately 0.26 PHCUs per 15,000 people and 1.46 PHCCs per 50,000 people, making Rubkona among the 10 counties with the lowest ratios of PHCUs per person in South Sudan, according to WHO data.

The county has acute protection needs, including GBV and child protection services, with over 50% of the population requiring these services according to the 2020 HNO. Additionally, OCHA identified Rubkona as having some of the highest WASH needs in the country in 2020.

Bentiu's former PoC site, established after the conflict outbreak in 2013, remains the largest IDP site in South Sudan. The county has also seen one of the highest numbers of returnees, including IDPs returning from other parts of the

county. Following the outbreak of fighting between the Sudan Armed Forces and the Rapid Support Forces in Sudan in April 2023, a total of 20,321 people fleeing the conflict in Sudan were registered at the Panakuach border crossing, an area disputed by Rubkona County and the Abiemnhom and Pariang counties in the Ruweng Administrative Area (UNHCR/IOM 2023). The largest markets are in both Bentiu and Rubkona towns, populated by traders from Darfur, the Nuba mountains and other foreign locales. The level of development varies across the county, with Bentiu and Rubkona towns having higher levels of infrastructure and services.

### (c) Current and proposed Land Use<sup>3</sup>

South Sudan is still impacted by land laws formulated before its secession from the 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.

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

The proposed sub-projects in Rubkona 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 sub-projects. Proposed sub-projects will not be implemented in contested areas, especially in the Panakuach/ Payangany triangle.

### (VI) Demographic profile

The proposed sub-projects will be implemented in Unity state, which is predominantly inhabited by the Nuer ethnic group. Nuer is a sub-group of Nilotes who share similar ethno-linguistic ancestry with the Dinka, Shilluk, and Anyuak sub-groups. The Nuer practice agro-pastoralism – growing a limited variety of food crops, keeping large herds of cattle, and are also engaged in fishing. Based on 2024 projections, Unity state's population will be over 600,000 people. However, this figure does not consider the recent influx of returnees and refugees.

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<sup>3</sup> The information in this section is derived from an assessment on land governance by IGAD, found here: <https://land.igad.int/index.php/countries/40-countries/south-sudan#:~:text=More%20than%2090%20percent%20of,of%20pastoralists%20in%20the%20world.>

## **(VII) Cultural Heritage**

Cultural heritage provides continuity in tangible and intangible assets within communities. Its transverses from one generation to the other covering the past, present, and future of communities. In most communities, people identify with cultural heritage as a reflection and expression of their constantly evolving values, norms, beliefs, knowledge, and traditions. Cultural heritage is important as a source of valuable scientific and historical information, as an economic and social asset for development, and as an integral part of people's cultural identity and practice.

The Rubkona county is largely dominated by the Nuer people who form the Nilotic ethnic group. Within the Nuer people, cattle have historically been of the highest symbolic, religious and economic value. Cattle are particularly important in their role as bride wealth, where they are given by a husband's lineage to his wife's lineage. Culturally, the exchange of cattle ensures that the children will be considered to belong to the husband's lineage. The Nuer people have their livelihoods centred on cattle keeping. The ethnic group is known to sometimes resort to horticulture especially when their cattle are threatened by disease. In most instances, when they are faced with harsh weather and climatic conditions, the Nuer move around to ensure that their livelihood is safe. They tend to travel when heavy seasons of rainfall come to protect the cattle from disease.

During the assessment, no artifacts of cultural significant, shrines or archaeological remains were identified in the targeted sub-project areas. However, should there be any chance finds 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.

## VI. CHAPTER 6

### IMPACT IDENTIFICATION AND EVALUATION

#### Impact Analysis and Management/Mitigation Measures

##### 6.1 Positive impact of the sub-projects

##### 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 sub-projects

###### Human life

The proposed sub-projects are earmarked for the protection of current existing infrastructures that will protect the communities and save lives. The existing dykes 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 sub-projects in the county.

###### Mitigation/enhancement Measures

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

###### Domestic livestock health

It is likely that the dykes 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

###### 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 sub-projects is 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 sub-projects 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.
- Formation of O&M committees.

## 6.2 Adverse Impact of the sub-projects

### 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 sub-projects are executed near surface watercourses.

#### Planning/ Designing Potential damages to the existing infrastructure and facilities

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

##### *Mitigation measures*

- 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 planning stage.
- Limitation of degree of channel modification on maintenance.

### 6.2.2. Construction/ Phase

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

#### 6.2.2.2 Environmental impact and risk of the sub-projects

##### **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 nuisance 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.
- 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.

### **Swampy/Wet Areas**

Likely, Negative, Short to medium term, localised, moderately significant (within the project context) dike construction and material extraction, and machinery movement will be under taken in some water logged areas which may present a risk of equipment sinking, exposure to biological hazards, including vector-borne diseases, and venomous wildlife

#### *Mitigation Measures*

- Teams should conduct pre-task risk assessment including the assessment of areas targeted for the day prior to the deployment of equipment.
- Machines should work in pairs to ensure that they can rescue each other in the event of incidents
- Training of staff on working in swampy areas and how to react in the event of an emergency.
- Workers to be given insect repellents
- Provision of adequate PPE to protect workers from the water.

### **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.
- 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.

### **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 sub-

projects implementation, grass lands will appear in sections of the reclaimed land, and this will support livestock keeping in the area.

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

#### **Fisheries potential**

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

#### *Mitigation/enhancement Measures*

- Ensure the footprint of the sub-projects 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.

#### *Mitigation/enhancement Measures*

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

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

#### **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 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;
- 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 location 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 water body.
- 

#### **Land degradation.**

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

The extraction of materials e.g. soil from embankments, 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.

#### **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.

#### **Environmental Liabilities**

The excavation of materials and the backfilling of borrow pits should be done according to the national laws and the requirements of the World Bank ESF, project ESCP as read together with the project ESF.

#### **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 area of burrow pit, work ways along the dike section.

#### **Equipment and personnel drowning**

*Likely Negative, Short to Medium-term, localised, significant*

The operation of equipment in potentially swampy areas may lead to equipment and personnel drowning.

#### *Mitigation Measures*

- Proper planning before execution of tasks
- Route assessment to be done to assess the risks prior to the full deployment of equipment
- In most difficult areas, equipment to work in pairs

### **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.

#### *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.

### **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*

- 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*

The implementation of sub-projects 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.

### **Chance Finds**

*Likely, Negative, Short to medium term, localized.*

The implementation of the sub-projects 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.
- 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. 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 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 sub-projects. 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.
- 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. accidents at burrow pits, UXOs, and mines**

The implementation of the sub-projects will result in the establishment of borrow pits that will present a risk to the community.

#### *Mitigation measures*

- 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.

### **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 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 counseling addressing systemic factors that can influence individual behavior 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.

## **6.2.3. Operation Phase**

The sub-projects assessed include brown field and greenfield sub-projects. The magnitude of the proposed sub-projects is small to medium, and their environmental and social footprint is not big. Thus, it is anticipated that the implementation of the sub-projects 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**

#### **Adverse effects on fisheries and other aquatic resources**

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

Adverse effects on fisheries and other aquatic resources by disruption of migratory routes, deterioration of habitat and changes water quality (e-g sediment load) leading to reduce to productivity of riverine.

#### **Mitigation measures**

-Incorporation of fishery management

#### **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., si-nomadic herding) with planned developments, to ensure substantial ground watering possibilities in valley during dry season.

#### **Flooding problems created downstream should be incorporated.**

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

#### **Mitigation measures**

-Protection of natural overflow areas downstream.

-Creation of overflow basins.

-Implement emergency preparedness measures (see section 8).

#### **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).

### 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 sub-projects

#### *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 sub-projects 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. 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 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 sub-projects. 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

## 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 public out.
- A concerns/complains register must be made and follow ups done on each complain.
- 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 navigate the White Nile through the county, linking Malakal and Renk.

## 6.2.4. Decommission Phase

### 6.2.4.1 Environmental impact and risk

#### 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.

#### **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.

##### *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*

The implementation of sub-projects 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.

### **Chance Finds**

*Likely, Negative, Short to medium term, localized.*

The implementation of the sub-projects 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.
- 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. 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 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 sub-projects. 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.
- 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. accidents at borrow pits, UXOs, and mines**

The implementation of the sub-projects will result in the establishment of borrow pits that will present a risk to the community.

### *Mitigation measures*

- Fence the quarry site to prevent people and livestock trespass.
- Installation of hazard warning signs.
- Awareness raising initiatives.
- Rehabilitate the borrow pit to the extent possible.

## **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 public out.
- A concerns/complains register must be made and follow ups done on each complain.  
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 counseling addressing systemic factors that can influence individual behavior 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.

## VII. CHAPTER 7

### ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN (ESMMP)

Table 6: ESMMP Summary Table

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)
<b>PRE-CONSTRUCTION/REHABILITATION STAGE</b>									
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), CCCM, UNMISS, & 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 construction legislation of South Sudan	Acquire construction permit Provide Water management guidelines if sub-projects are executed near surface watercourses.	ECRP II, CCCM, UNMISS, & another Contractor	Before starting work	Document review, Audits and inspections	Number of permits acquired, and awareness meetings held on construction	Monthly	ECRP II, CCCM, County Dike Management Committee, PMU	At the start of the sub-projects	5000
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, CCCM, UNMISS, & Contractors	Continuously during planning phase	Inspections	Number of site inspections	Weekly	Contractor and County Dike Management Committee, PMU, UNMISS	Continuous throughout project implementation	

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)
<b>PRE-CONSTRUCTION/REHABILITATION STAGE</b>									
Poor drainage system and dike rehabilitation/cons truction planning	-Careful selection of engineering options at planning stage. -Limitation of degree of channel modification on maintenance.	ECRP II, CCCM, UNMISS, & Contractors	Continuously during planning phase	Inspections	Number of site inspections	Weekly	Contractor and County Dike Management Committee, PMU, UNMISS	At planning stage	
Occupational Health and Safety	-Pre-Task Risk assessment Adequate PPE supply, Worker Induction, -Close monitoring through inspections, and audits	ECRP II, CCCM, UNMISS, & 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, CCCMCDRMC, PMU, UNMISS	Continuous throughout project implementat ion	

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)
<b>CONSTRUCTION/REHABILITATION PHASE</b>									
Materials supplies: Soil borrow pit; disturbance of wetland edges; water quality	Use the approved quarry/ borrow pits. After exploitation ensure borrow pits are remediated.	ECRP II, CCCM, UNMISS, & other Contractors,	daily	Inspection reports	Number of site inspections	daily	ECRP II, CCCM, UNMISS County Dike Management Committee, PMU	Weekly	
Material transportation e.g. soils, sand	-Cover truck load	ECRP II, CCCM, UNMISS, & other Contractors	daily	Inspection reports	Number of site inspections	daily	Contractor and County Dike Management Committee, PMU	Weekly	
<b>Soil erosion and Loss of topsoil</b> due to access roads, quarry sites work areas and drainage system and dike construction/rehabilitation 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.	ECRP II, CCCM, UNMISS, & other Contractors	daily	Inspection reports	Number of site inspections	daily	Contractor and County Dike Management Committee, PMU	Monthly	
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,	ECRP II, CCCM, UNMISS, & other Contractors	daily	Site inspections	Number of site inspections	weekly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	

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)
<b>CONSTRUCTION/REHABILITATION PHASE</b>									
	causing temporary turbidity. - Drainage depth will be less than 2m. A properly organized waste disposal is a mandatory requirement for the Project.								
<b>Potential water and soil pollution</b> due to improper material storage, management, and usage, waste disposal, and drainage of wastewater to construction site.	<ul style="list-style-type: none"> <li>-All wastes generated during construction activities should be collected and disposed of appropriately at designated sites;</li> <li>-Undertake monitoring of the soil and water quality and devise corrective action when changes attributed to project implementation have been observed;</li> <li>-The waste management hierarchy should be followed during the 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;</li> <li>-Dispose waste material at authorised location protected from washing out, should be marked in the site plan.</li> <li>-Undertake routine preventive maintenance of motorized equipment to avoid any fuel leakage and spills;</li> <li>-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.</li> <li>-Preparing plans and procedures to respond to the discovery of contaminated media to minimize or reduce the risk to health, safety, and the environment.</li> <li>-Managing contaminated media with the objective of protecting the safety and health of occupants of the site, the surrounding community, and the environment.</li> </ul>	ECRP II, CCCM, UNMISS, & other Contractors	daily	Site inspection reports	Number of site inspections	weekly	Contractor and County Dike Management Committee, PMU	Monthly	

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)
<b>CONSTRUCTION/REHABILITATION PHASE</b>									
	-Organize and cover material storage areas; -Select areas for washing that are not free draining directly into watercourse. Installation of ecological toilettes for workers to avoid direct discharge of wastewater to water body.								
Poor maintenance and repairs and refuelling at the construction site.	-Avoid servicing and refuelling at the site.- Use protective foils during possible vehicle refuelling and maintenance at the 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.	ECRP II, CCCM, UNMISS, & other Contractors	Weekly	Site inspection reports	Number of site inspections	Weekly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	
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 construction waste from the construction site when closing the 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 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;	ECRP II, CCCM, UNMISS, & other Contractors	Daily	Implement the Construction Site Organization Plan.	Number of site inspections	Monthly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	

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)
<b>CONSTRUCTION/REHABILITATION PHASE</b>									
	<p>-Only approved drivers should be allowed to operate vehicles;</p> <p>-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.</p> <p>-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</p> <p>-Construction equipment should be maintained on site until the construction is complete to reduce on vehicle movement (taking into consideration, their security).</p>								
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.	ECRP II, CCCM, UNMISS, & other Contractors	daily	Site inspection reports	Weekly	Number of site inspections	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	

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)
<b>CONSTRUCTION/REHABILITATION PHASE</b>									
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).	ECRP II, CCCM, UNMISS, & other Contractors	Daily	Chance Find Procedures in place	Weekly	Number of cultural items found	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	
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	ECRP II, CCCM, UNMISS, & other Contractors	Weekly	Camp and construction site inspections	Number of site inspections	Weekly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	
Impacts on land use/ settlements expansion	The dikes will be constructed on public land reserves. There will be no physical displacement of any household. The county administration pledged to control encroachment as a result of settlement expansion towards the dikes.	ECRP II, CCCM, UNMISS, & other Contractors	daily	Site inspection reports	Number of site inspections	weekly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	
<b>Air quality</b> due to dust from transportation of construction materials and truck traffic and elevated levels of nitrogen oxide (NOx) and sulfur oxide (SOx) from construction	-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.	ECRP II, CCCM, UNMISS, & other Contractors	Daily	Monitoring speed limit within town	Speed and dust observations	Weekly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	

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)
<b>CONSTRUCTION/REHABILITATION PHASE</b>									
equipment exhausts	-Avoiding open burning of solid.								
<b>Minimal loss of flora and fauna</b> 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 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, biodiversity management plan should be developed, if the potential risk of project activities are insignificant, the appropriate mitigation measures should be implemented.	ECRP II, CCCM, UNMISS, & other Contractors	Weekly	Site inspection reports	Number of site inspections	Weekly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	
Noise pollution	Only limited temporary impact during excavation and embankments work. Impact can be mitigated by - Prior notice/community awareness will be undertaken for the local community members to keep them informed of what will take place/schedules of the subproject	ECRP II, CCCM, UNMISS, & other Contractors	Weekly	Site inspection reports	Number of site inspections	Weekly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	

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)
<b>CONSTRUCTION/REHABILITATION PHASE</b>									
	<p>activities so that they are able to plan accordingly;</p> <p>-Construction/rehabilitation activities will be limited to only daytime hours;</p> <p>-Noise monitoring will be undertaken within the area and at nearby sensitive receptor sites during construction/rehabilitation;</p> <p>-Using noise control devices, such as temporary noise barriers and deflectors for impact and blasting activities, exhaust muffling devices for combustion engines.</p> <p>-Avoiding or minimizing project transportation through community areas.</p> <p>-Use of well-maintained and serviced equipment that generates low noise levels will be emphasized.</p> <p>-Workers involved in construction/rehabilitation activities will be provided with requisite Personal Protective Equipment; and</p> <p>-Idling of machinery including vehicles will be prohibited unless necessary.</p>								
Solid waste like, wood, stones, plastic materials, and fuels spill from the machine.	<p>- Implement waste management hierarchy</p> <p>-Non-hazardous wastes can be managed by reusing, recycling, or can be sold to authorized collectors and recyclers and should be dispose using the South Sudan solid waste disposal facilities.</p> <p>-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</p>	ECRP II, CCCM, UNMISS, & other Contractors	Weekly	Site inspection reports	Number of site inspections	weekly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	

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)
<b>CONSTRUCTION/REHABILITATION PHASE</b>									
	<p>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;</p> <p>-Maximize the re-use of all excavated materials in the construction works.</p> <p>-Disposal of surplus material (spoil) only at designated sites approved by the responsible local authority and only by approved methods.</p> <p>-No spoil should be disposed of in wetlands, near watercourses and other important habits</p> <p>-Contract a licensed hazardous waste handler to safely transport and dispose of hazardous waste;</p> <p>-Capacitate and support licensed personnel who are involved in hazardous waste disposal and management in all aspects including financial and technical supports.</p> <p>-Identify the potential waste streams to be generated by the project activities, and how best they can be managed;</p> <p>-All wastes shall be properly disposed of in accordance with the national legislative requirements and in accordance with ESF requirements and GIIP practices.</p>								

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)
<b>CONSTRUCTION/REHABILITATION PHASE</b>									
<b>Impact on natural hydrology.</b> Disruption of hydrology of natural waterways	Develop layout plan to limit haphazard disruption of water channels	ECRP II, CCCM, UNMISS, & other Contractors	Weekly	Inspection	Inspection reports	Weekly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	
<b>Vibration risk</b> from moving of 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, CCCM, UNMISS, & other Contractors	Daily/Weekly	Inspections, Documents review	Reports, meeting minutes	Weekly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	
<b>Risk to community health and safety (ESS4)</b> 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.	ECRP II, CCCM, UNMISS, & other Contractors	Prior to the commencement of material abstraction	Inspection s, Document review, Observations	Number of Incidents	Weekly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	
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, CCCM, UNMISS, & other Contractors	weekly	Document review, Inspections	Number of Incidents	Weekly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	
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	ECRP II, CCCM, UNMISS, & other Contractors	Daily	Site inspection reports	Number of site inspections	Weekly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	

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)
<b>CONSTRUCTION/REHABILITATION PHASE</b>									
Communicable diseases	<ul style="list-style-type: none"> <li>-Providing surveillance and active screening and treatment of workers.</li> <li>-Preventing illness among workers in local communities by:               <ul style="list-style-type: none"> <li>- Undertaking health awareness and education initiatives, for example, by implementing an information strategy to reinforce person-to-person counseling addressing systemic factors that can influence individual behavior as well as promoting individual protection, and protecting others from infection, by encouraging condom use.</li> </ul> </li> <li>-Training health workers in disease treatment.</li> <li>-Conducting immunization programs for workers in local communities to improve health and guard against infection.</li> <li>-Providing health services.</li> <li>-Providing treatment through standard case management in on-site or community health care facilities.</li> <li>-Ensuring ready access to medical treatment, confidentiality and appropriate care, particularly with respect to migrant workers.</li> <li>-Promoting collaboration with local authorities to enhance access of workers families and the community to public health services and promote immunization.</li> <li>-Community awareness campaigns.</li> <li>-Education and awareness raising workshops for staff on spread and management of communicable disease.</li> </ul>	ECRP II, CCCM, UNMISS, & other Contractors	Weekly	Site inspection reports	Number of site inspections	Monthly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	
Community health and safety risk related to Pools of water act as	<ul style="list-style-type: none"> <li>-Prevention of larval and adult propagation through sanitary improvements and elimination of breeding habitats close to human settlements</li> <li>-Elimination of unusable impounded water.</li> </ul>	ECRP II, CCCM, UNMISS, & other Contractors	Weekly	Construction Health and Safety	Number of site inspections	Monthly	County ECRP II, CCCM, UNMISS, & other	Monthly	

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)
<b>CONSTRUCTION/REHABILITATION PHASE</b>									
breeding grounds for disease and illness(mosquitoes)	<ul style="list-style-type: none"> <li>- Increase in water velocity in natural and artificial channels.</li> <li>- Considering the application of residual insecticide to dormitory walls.</li> <li>- Implementation of integrated vector control programs.</li> <li>- Promoting use of repellents, clothing, netting, and other barriers to prevent insect bites.</li> <li>- Use of chemoprophylaxis drugs by non-immune workers and collaborating with public health officials to help eradicate disease reservoirs.</li> <li>-Monitoring and treatment of circulating and migrating populations to prevent disease reservoir spread.</li> <li>- Collaboration and exchange of in-kind services with other control programs in the project area to maximize beneficial effects.</li> <li>- Educating project personnel and area residents on risks, prevention, and available treatment.</li> <li>-Monitoring communities during high-risk seasons to detect and treat cases.</li> <li>-Awareness raising campaigns.</li> </ul>			Management Plan			Contractors County Dike Management Committee, PMU		

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)
<b>CONSTRUCTION/REHABILITATION PHASE</b>									
Risk and impacts of occupational health and safety	<ul style="list-style-type: none"> <li>-The Contractor must make sure that there is a site Safety, Health &amp; Environmental Officer or appointed focal person.</li> <li>A Safety, Health and Environment awareness induction training should be conducted for both contractual and casual employees before construction commences.</li> <li>-Construction should be carried out in accordance with relevant occupational health and safety standards.</li> <li>-Integrity testing must be done before work begins on heights.</li> <li>-Workers must be trained on climbing techniques and fall protection measures.</li> <li>-Adequate PPE and tool bags must be delivered for workers and ensure workers are used PPE properly.</li> <li>-Minimum standards of provision of segregated lockable sanitary facilities for males and females where necessary.</li> <li>-Machines and Equipment must be operated only by qualified staff.</li> <li>-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;</li> <li>-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;</li> <li>-The contractor must develop workers' Health and Safety Plan for managing risk and impact associated with OHS gaps in case of accidents.</li> </ul>	ECRP II, CCCM, UNMISS, & other Contractors	Daily	Site inspection reports, Construction Health and Safety Management Plan	Number of site inspections	Monthly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Weekly	

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)
<b>CONSTRUCTION/REHABILITATION PHASE</b>									
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 construction site; adopt a 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.	ECRP II, CCCM, UNMISS, & other Contractors	Weekly	Site inspection report	Number of site inspections	Monthly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	
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 Construction Site Management Plan that incorporates good construction practice measures.	ECRP II, CCCM, UNMISS, & other Contractors	Weekly	Site inspection report	Number of site inspections	Monthly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	
Construction material leftovers after the completion of dike construction.	-Reuse/recycle leftovers. Dispose unwanted remnants in approved sites.	ECRP II, CCCM, UNMISS, & other Contractors	Weekly	Site inspection report	Amount of materials leftover after completion of work	Monthly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	

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)
<b>OPERATION AND MAINTENANCE PHASE</b>									
Handover the dikes County authorities	Provide detail product design and lecture on repair and maintenance of dikes	ECRP II, CCCM, UNMISS, & other Contractors	Once off	Dike Operation and Repair Manual	Handover report	Once off	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Once off	
Water logging along the dikes may become a breeding ground for vectors	Provide for drainage from runoff from the dike edges	ECRP II, CCCM, UNMISS, & other Contractors	Monthly	Site inspection	Report of site condition	Monthly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU,	Monthly	
Risk of vandalizing dikes	Erect crossing points for people and livestock Monitor the dikes during O&M inspections	ECRP II, CCCM, UNMISS, & other Contractors	Monthly	Site inspection	Completion report	Monthly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU	Monthly	
Adverse effects on fisheries and other aquatic resources by disruption of migratory routes, deterioration of habitat and changes water quality (e-g sediment load) leading to reduce to productivity of riverine.	Protection of reproductive sites for fish. -Incorporation of fishery management.	ECRP II, CCCM, UNMISS, & other Contractors	Monthly	Site inspection	Report of site condition	Monthly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU,	Monthly	

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)
<b>OPERATION AND MAINTENANCE PHASE</b>									
Reduction of floodplain grazing, both through ecological changes and intensified development (Irrigated agriculture).	-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., si-nomadic herding) with planned developments, to ensure substantial ground watering possibilities in valley during dry season.	ECRP II, CCCM, UNMISS, & other Contractors	Monthly	Site inspection	Report of site condition	Monthly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU,	Twice a year	
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 extent possible. -Establishment of settlements free zones, settlements with migration corridors and hunting protection areas and seasons (dry season).	ECRP II, CCCM, UNMISS, & other Contractors	Monthly	Site inspection	Report of site condition	Monthly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU,	Twice a year	
Flooding problems created downstream should be incorporated.	-Protection of natural overflow areas downstream. -Creation of overflow basins. -Implement emergency preparedness measures (see section 8)	ECRP II, CCCM, UNMISS, & other Contractors	Monthly	Site inspection	Report of site condition	Monthly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU,	Twice a year	
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 river banks 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, CCCM, UNMISS, & other Contractors	Weekly	Site inspection	Report of site condition	Monthly	ECRP II, CCCM, UNMISS, & other Contractors County Dike Management Committee, PMU,	Monthly	

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)
<b>DECOMMISSION PHASE</b>									
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	
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	
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	

<p>Potential water and soil pollution due to improper material storage, management, and usage, waste disposal, and drainage of wastewater to dike construction site.</p>	<p>-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 location 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.          Installation of ecological toilettes for workers to avoid direct discharge of wastewater to water body.</p>	<p>Government of South Sudan, Contractors and other Partners</p>	<p>daily</p>	<p>Site inspection reports</p>	<p>Number of site inspections</p>	<p>weekly</p>	<p>Government of South Sudan, Contractors and other Partners</p>	<p>Monthly</p>	
<p>Poor maintenance and repairs and refuelling at the dike construction site.</p>	<p>-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.</p>	<p>Government of South Sudan, Contractors and other Partners</p>	<p>Weekly</p>	<p>Site inspection reports</p>	<p>Number of site inspections</p>	<p>Weekly</p>	<p>Government of South Sudan, Contractors and other Partners</p>	<p>Monthly</p>	

	-Used oiled materials and agents should be managed in line with the waste management report.								
Road safety and poor traffic management risks and impact for worker and communities	<ul style="list-style-type: none"> <li>-Implementation of a traffic management system i.e. speed limits, traffic controllers, installation of signage.</li> <li>-Ensure adequate warning signs, protective fencing etc.</li> <li>-Observe and respect traffic rules.</li> <li>-Clean dike construction waste from the dike construction site when closing the dike construction site.</li> <li>-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;</li> <li>-Only approved drivers should be allowed to operate vehicles;</li> <li>-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.</li> <li>-All roads should have clear and visible signage especially in community areas, around schools and hospitals to minimize the risk. accidents;-</li> <li>-All staff should undergo an Environment, Health and Safety induction process which includes rules for safe driving, including speed limits in community areas; and</li> <li>-Dike construction equipment should be maintained on site until the dike construction is</li> </ul>	Government of South Sudan, Contractors and other Partners	Daily	Implement the Dike construction Site Organization Plan.	Number of site inspections	Monthly	Government of South Sudan, Contractors and other Partners	Monthly	

	complete to reduce on 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 contractor shall stop work and trigger the Chance Find Procedure.	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	
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	
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	
Impacts on land use/ settlements expansion	The dikes will be constructed on public land reserves. There will be no physical displacement of any household. 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	
<b>Air quality</b> due to dust from transportation of dike construction materials and truck traffic and elevated levels	-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.	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	

of nitrogen oxide (NOx) and sulfur oxide (SOx) from dike construction equipment exhausts	-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.								
<b>Minimal loss of flora and fauna</b> 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 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, biodiversity management plan should be developed, if the potential risk of project activities are insignificant, the appropriate mitigation measures should be implemented.	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	
<b>Noise pollution</b>	Only limited temporary impact during excavation and embankments work. Impact can be mitigated by - Prior notice/community awareness will be 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;	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	

	<ul style="list-style-type: none"> <li>-Construction/ activities will be limited to only daytime hours;</li> <li>-Noise monitoring will be undertaken within the area and at nearby sensitive receptor sites during construction/;</li> <li>-Using noise control devices, such as temporary noise barriers and deflectors for impact and blasting activities, exhaust muffling devices for combustion engines.</li> <li>-Avoiding or minimizing project transportation through community areas.</li> <li>-Use of well-maintained and serviced equipment that generates low noise levels will be emphasized.</li> <li>-Workers involved in construction/ activities will be provided with requisite Personal Protective Equipment; and</li> <li>-Idling of machinery including vehicles will be prohibited unless necessary.</li> </ul>								
<p><b>Solid waste</b> like, wood, stones, plastic materials, and fuels spill from the machine.</p>	<ul style="list-style-type: none"> <li>- Implement waste management hierarchy.</li> <li>-Non-hazardous wastes can be managed by reusing, recycling, or can be sold to authorized collectors and recyclers and should be dispose using the South Sudan solid waste disposal facilities.</li> <li>-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 GILP practices;</li> <li>-Maximize the re-use of all excavated materials in the dike construction works.</li> </ul>	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	

	<p>-Disposal of surplus material (spoil) only at designated sites approved by the responsible local authority and only by approved methods.</p> <p>-No spoil should be disposed of in wetlands, near watercourses and other important habits</p> <p>-Contract a licensed hazardous waste handler to safely transport and dispose of hazardous waste;</p> <p>-Capacitate and support licensed personnel who are involved in hazardous waste disposal and management in all aspects including financial and technical supports.</p> <p>-Identify the potential waste streams to be generated by the project activities, and how best they can be managed;</p> <p>-All wastes shall be properly disposed of in accordance with the national legislative requirements and in accordance with ESF requirements and GIIP practices.</p>								
<p><b>Impact on natural hydrology.</b> Disruption of hydrology of natural waterways</p>	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	
<p><b>Vibration risk</b> from moving of dike construction vehicles and machinery.</p>	<p>-Restrict vehicle movement to defined routes.- Notification communities through awareness exercises.</p> <p>-Avoiding or minimizing project transportation through community areas.</p>	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	
<p><b>Risk to community health and safety (ESS4)</b> e.g. accidents at burrow pits, UXOs, and mines</p>	<p>-Fence the quarry site to prevent people and livestock trespass.</p> <p>-Installation of hazard warning signs.</p> <p>-Awareness raising initiatives.</p> <p>-Rehabilitate the burrow pit to the extent possible.</p>	Government of South Sudan, Contractors and other Partners	Prior to the commencement of material abstraction	Inspection s, Document review, Observations	Number of Incidents	Weekly	Government of South Sudan, Contractors and other Partners	Monthly	

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	
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	
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 reinforce person-to-person counseling addressing systemic factors that can influence individual behavior 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. -Community awareness campaigns. -Education and awareness raising workshops for staff on spread and management of communicable disease.	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	

<p>Community health and safety risk related to Pools of water act as breeding grounds for disease and illness(mosquitoes)</p>	<ul style="list-style-type: none"> <li>-Prevention of larval and adult propagation through sanitary improvements and elimination of breeding habitats close to human settlements.</li> <li>-Elimination of unusable impounded water.</li> <li>- Increase in water velocity in natural and artificial channels.</li> <li>- Considering the application of residual insecticide to dormitory walls.</li> <li>- Implementation of integrated vector control programs.</li> <li>- Promoting use of repellents, clothing, netting, and other barriers to prevent insect bites.</li> <li>- Use of chemoprophylaxis drugs by non-immune workers and collaborating with public health officials to help eradicate disease reservoirs.</li> <li>-Monitoring and treatment of circulating and migrating populations to prevent disease reservoir spread.</li> <li>- Collaboration and exchange of in-kind services with other control programs in the project area to maximize beneficial effects.</li> <li>- Educating project personnel and area residents on risks, prevention, and available treatment.</li> <li>-Monitoring communities during high-risk seasons to detect and treat cases.</li> <li>-Awareness raising campaigns.</li> </ul>	<p>Government of South Sudan, Contractors and other Partners</p>	<p>Weekly</p>	<p>Dike construction Health and Safety Management Plan</p>	<p>Number of site inspections</p>	<p>Monthly</p>	<p>Government of South Sudan, Contractors and other Partners</p>	<p>Monthly</p>	
<p>Risk and impacts of occupational health and safety</p>	<ul style="list-style-type: none"> <li>-The Contractor must make sure that there is a site Safety, Health &amp; Environmental Officer or appointed focal person.</li> <li>A Safety, Health and Environment awareness induction training should be conducted for both contractual and casual employees before dike construction commences.</li> <li>-Dike construction should be carried out in accordance with relevant occupational health and safety standards.</li> <li>-Integrity testing must be done before work begins on heights.</li> <li>-Workers must be trained on climbing techniques and fall protection measures.</li> <li>-Adequate PPE and tool bags must be delivered for workers and ensure workers are used PPE properly.</li> </ul>	<p>Government of South Sudan, Contractors and other Partners</p>	<p>Daily</p>	<p>Site inspection reports, Dike construction Health and Safety Management Plan</p>	<p>Number of site inspections</p>	<p>Monthly</p>	<p>Government of South Sudan, Contractors and other Partners</p>	<p>Weekly</p>	

	<p>-Minimum standards of provision of segregated lockable sanitary facilities for males and females where necessary.</p> <p>-Machines and Equipment must be operated only by qualified staff.</p> <p>-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;</p> <p>-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;</p> <p>-The contractor must develop workers' Health and Safety Plan for managing risk and impact associated with OHS gaps in case of accidents.</p>								
Labor risks of injuries. Workers may raise their concerns (safety, discontent, maltreatment or else) through the Grievance Mechanism.	<p>-Provide PPEs; Install warning signs at the dike construction site; adopt a dike construction management plan.</p> <p>-Establishment of a worker specific grievance redress mechanism for project workers.</p> <p>-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.</p>	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	
Reduced access through the area where the works are executed.	<p>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</p> <p>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.</p>	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	

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	
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## VIII. CHAPTER 8

### 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 sub-projects in Rubkona County. 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 familiarize 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:**
  - o The nature, type and magnitude of the emergency
- **CALL:**
  - o For help by contacting the Emergency call centre (Security).
  - o The departmental emergency coordinator.
  - o The Site HSE Personnel
  - o IOM NOO
- **INVESTIGATE:**
  - o Extent of emergency and establish affected person's location.
  - o 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
- 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 alarm.

#### Designated on site Emergency Coordinator:

- a) Call firefighting team.
- b) Evacuate employees to the Assembly point if it is safe to do so
- c) Switch off all energy sources (electrical on 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 site of 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***

- a. For Road traffic accidents, 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 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 nearest approved medical facility.

## **8.3. FLOODING/ BREACH**

This emergency action plan caters for floods and breach scenarios. Although monitoring measures (including closely follow up and monitor 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.
- 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 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 sub-projects sites. Hazardous substances can be defined as any substances that has the potential to cause irreversible harm or damage to human health and the environment. At ECRP II subproject, 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**

- a) Determine what substance that has been involved in the spillages by asking what type of container the substances was 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 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 at 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.

## IX. CHAPTER 9

### 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 trainings that will be considered are presented in table below.

*Table 7: Targeted trainings for the effective implementation of the ESMP*

OBJECTIVES	ISSUES ENGAGEMENT	FOR METHOD ENGAGEMENT	OF STAKEHOLDERS/TARGET POPULATION AND AREA	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	5000
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 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	5000
Subproject Environmental and Social screening	E&S Screening	Training, On the job training	ECRP II Staff	ES Safeguarding Officer, Gender GBV Officer, Safeguarding	Prior to commencement of sub-projects	Included in staff costs

OBJECTIVES	ISSUES FOR ENGAGEMENT	METHOD OF ENGAGEMENT	STAKEHOLDERS/TARGET POPULATION AND AREA	RESPONSIBLE PERSON	TIME FRAME	BUDGET IN USD
				Assistants COAs		
Stakeholder engagement	SEP	Workshop	ECRP II Staff, Contractors	ES Safeguarding Officer, Gender GBV Officer, Safeguarding Assistants	Prior to commencement of sub-projects	4,000
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 sub-projects	10,000 USD
LMP	Labor risks	Meetings	Contractors, subcontractors, primary suppliers, workers	ES Safeguarding Officer, Gender GBV Officer, Safeguarding Assistants	Prior to commencement of sub-projects	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 sub-projects	5,000 USD
Implementation, monitoring and reporting of ESMPs	E&S risk mitigation	Workshop	Contractors, subcontractors, primary suppliers, workers	ES Safeguarding Officer, Gender GBV Officer, Safeguarding Assistants COAs	Prior to commencement of sub-projects	Included with other training costs
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	prior to construction works	5,000 USD

OBJECTIVES	ISSUES FOR ENGAGEMENT	METHOD FOR ENGAGEMENT	STAKEHOLDERS/TARGET POPULATION AND AREA	RESPONSIBLE PERSON	TIME FRAME	BUDGET IN USD
				Assistants COAs		
Provision of a safe working environment and management of OHS risks	Refresher training on provision of a safe work environment and OHS risk management	Training/workshop	ECRP II Staff, Contractors	ES Safeguarding Officer, Gender GBV Officer, Safeguarding Assistants	Prior to commencement of sub-projects	10,000

## X. CHAPTER 10

### 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 **Error! Reference source not found.** below.

*Table 8: Table Institutional arrangement for the Implementation of the ESMP*

INSTITUTION	ROLES AND RESPONSIBILITIES
PMU	<ul style="list-style-type: none"> <li>▪ Review all ESMPs documents prepared by IOM and ensure adequacy under the World Bank Safeguard policies.</li> <li>▪ Ensure that the project design and specifications adequately reflect the recommendations of the ESMPs.</li> <li>▪ Coordinate application, follow up processing and obtain requisite clearances required for the project, if required.</li> <li>▪ Prepare compliance reports with statutory requirements.</li> <li>▪ Develop, organize and deliver training program for the project staff, the contractors and others involved in the project implementation, in collaboration with IOM</li> <li>▪ Review and approve the Contractor's Implementation Plan for the environmental measures, as per the ESMF.</li> <li>▪ Liaise with the Contractors and the IOM team on the implementation of the ESMPs;</li> <li>▪ Liaise with various National government and State Government agencies on environmental and other regulatory matters.</li> <li>▪ Continuously interact with the NGOs and community groups that would be involved in the project.</li> <li>▪ Review the performance of the project through an assessment of the periodic environmental and social monitoring reports.</li> <li>▪ Provide a summary of the same to the Project Manager, and initiate necessary follow-up actions;</li> </ul>
IOM	<ul style="list-style-type: none"> <li>▪ Management, implementation, monitoring, and compliance of the ESMP, and any approval conditions, including construction supervision and performance of project staff, contractors and subcontractors.</li> <li>▪ Review of ESMP performance and implementation of correction actions</li> <li>▪ 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</li> <li>▪ Ensure effective communication and dissemination of the content and requirements of the ESMP to contractors and subcontractors.</li> <li>▪ Assisting the contractor with implementation of ESMP sub-plans.</li> <li>▪ Monitoring of ESMP performance</li> <li>▪ Ensuring compliance to all Project social commitments, including implementation of the social management plans</li> <li>▪ Report environmental performance of the Project directly to PMU.</li> <li>▪ Prepare environmental reports summarizing Project activities, as required,</li> <li>▪ Representing the Project at community meetings</li> <li>▪ Ensuring effective community liaison and fulfilling commitments to facilitate public consultation throughout the Project cycle.</li> <li>▪ Establish dialogue with the affected communities and ensure that the environmental</li> </ul>

INSTITUTION	ROLES AND RESPONSIBILITIES
Contractors	<p>and social concerns and suggestions are incorporated and implemented in the project;</p> <ul style="list-style-type: none"> <li>▪ Contractors should ensure that all their personnel or subcontractor's personnel has received proper induction. <ul style="list-style-type: none"> <li>○ and awareness arising as necessary of ESMP, health and safety management practices, and are aware of relevant site rules.</li> </ul> </li> <li>▪ 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.</li> <li>▪ Contractors will include environmental and social requirements in the procurement and contracting process including bidding documents, for potential civil works.</li> <li>▪ Relevant requirements are included in contracts and subcontracts consistent with the requirements of Environment and Social Standards (ESSs); codes of conduct are required for contractors, subcontractors, primary suppliers, and their workers.</li> <li>▪ Contractor will prepare a detailed construction-ESMP (C-ESMP) that is costed, with sufficient budget to mitigate E&amp;S risks</li> <li>▪ Contractor's commitment and compliance will be monitored in accordance to ESSs</li> <li>▪ 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.</li> <li>▪ The contractor will develop a grievance mechanism to handle concerns of their employees.</li> <li>▪ Conducting weekly HSSE Inspection and submitting the reports to IOM Site Engineer</li> <li>▪ Contractors will provide Monthly and quarterly details on contractor's oversight on environmental, social, health and safety (ESHS) performance.</li> <li>▪ Contractor shall have a Labor Management Plan (LMP), which conforms to the requirements of the LMP and Environmental Social Standards 2. ESS2</li> </ul>
IOM Field Engineer	<ul style="list-style-type: none"> <li>▪ Supervision of contractor performance of implementation of the Construction</li> <li>▪ Reporting any incidents or non-compliance with the ESMP to the CI HSSE Team</li> <li>▪ Conducting weekly HSSE inspection at the sites and Submitting reports to CI HSSE Team</li> <li>▪ Making recommendations to the CI HSSE Team regarding ESMP performance as part of an overall commitment to continuous improvement</li> </ul>
World Bank	<ul style="list-style-type: none"> <li>▪ Overall supervision and provision of technical support and guidance.</li> <li>▪ Recommend additional measures for strengthening the management framework and implementation performance.</li> <li>▪ Supervising the application and recommendations of sub- project ESMPs.</li> </ul>
General Public	<ul style="list-style-type: none"> <li>▪ Identify environmental and social issues that could derail the project and support project impacts and mitigation measures.</li> <li>▪ Assist in awareness campaigns</li> </ul>

### 9.1. ESMP Implementing schedule.

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

Table 9: ESMP Implementing schedule.

S/N	ACTIVITY	RESPONSIBILITY	SUB PROJECT IMPLEMENTATION		
			M1	M2	M3
<b>Environment and Social Management</b>			<b>M1</b>	<b>M2</b>	<b>M3</b>
	Formal Disclosure of ESMP	PMU & IOM			
	Develop Environmental/Social Requirements in Bid Documents for contractors	PMU & IOM			
	Allocate Budget for ESMP	IOM/PMU			
	Training of engineers and Contractors on the ESMP	IOM			
	Implementation of Environmental and Social Mitigation Measures	IOM			
	Supervision of pre-Construction/construction and rehabilitation /rehabilitation activities	IOM & PMU			
	Supervision of ESMP Implementation	IOM & PMU			
	Environmental and Social Monitoring and Auditing	IOM & PMU			
	Reporting on ESMP Implementation	IOM & PMU			

## 9.2 Proposed budget for ESMP implementation

The total cost for implementing this ESMP is estimated to be USD 250,000.

The table below breaks down the budget estimate and the responsibility for implementation of the ESMP.

Table 10: Proposed budget for ESMP implementation

S/N	ITEM	RESPONSIBILITY	COST ESTIMATE (USD)
1	Mitigation	IOM, Contractor, and PMU	100,000.00
2	Audits & Monitoring	IOM & PMU	100,000.00
3	Capacity Building	IOM & PMU	50,000.00
<b>Total</b>			<b>250,000.00</b>

## 9.3 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 11: 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	Weekly	IOM Safeguards Assistant/IOM

RESPONSIBILITY	TYPE OF REPORT	PURPOSE/DETAILS OF REPORTING	FREQUENCY OF SUBMISSION	SUBMIT TO:
		issues / measures		safeguards officer
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

**9.4 ESMP Disclosure**

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

*Table 12: 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

## XI. CHAPTER 11

### SUMMARY CONCLUSION AND RECOMMENDATION

#### 10.1 Conclusion

This Environmental and Social Management Plan provided in this ESMP provides the path for sustainable project implementation and management of environmental and social risks. The plan provides strategies and activities that need to be implemented so as to mitigate the negative impacts and enhance the positive impacts. Implementation timelines, responsibilities and cost estimates are also provided. The successful implementation of this ESMP is dependent on the diligence of all the stakeholders in the implementation of the provisions of this ESMP and associated systems and documents.

The major impacts that have been identified include employment creation, occupational health and safety risks, spread of infectious diseases, public health and safety risks, environmental (air, water and land) pollution, waste management issues, disturbance of flora and fauna habitats and disruption of ecosystem services. Most of the impacts will be temporary and short-lived except for the unavoidable release of GHGs from the fuel combustion. The hierarchy of mitigation informed mitigation measures that have been proposed in this ESMP.

At all stages of the sub-project's implementation, the hierarchy of controls should be used to ensure a safe working environment and the sound management of occupational hazards and risks. As discussed in this ESMP, this will include taking steps to eliminate risks and when this is impossible, other measures will be used. For instance, engineering controls will be used in situations when the hazard cannot be eliminated, and this can be coupled with the use of administrative controls. In worst case scenarios, the provision of adequate PPE will be opted for to ensure employees are protected from the hazard.

All the identified stakeholders were in support of the proposed sub-projects. The raised issues, which included the need to ensure compliance with legal requirements in terms of national laws. Comments were also submitted stating that the sub-projects will contribute to key infrastructure and are needed to improve the livelihoods of communities in targeted areas. The identified socioeconomic benefits exceed costs of the anticipated negative impacts such that the affected communities are predicted to become economically and socially better off with the proposed sub-projects than without. The project should ensure the involvement of local communities in all decisions and implementation of plans for management of floods in Rubkona County.

## **10.2 Recommendation**

It is recommended that contractors and all the stakeholders mentioned in the ESMP implement the recommendations in the environmental and social management plan with all due diligence. This is to ensure that the identified environmental and social risks are well managed and that accidents are prevented in the course of sub-project implementation. The Proponent is expected to comply with the relevant national legal and policy requirements with regard to project implementation. During the operation of the flood protection facilities, it is necessary that environmental and social regulations be strictly adhered to. The performance of the will also be monitored against the recommended mitigation measures to ensure sustainability.

## ANNEXES

## ANNEX 1: ENVIRONMENTAL AND SOCIAL REQUIREMENTS FOR CONTRACTORS

### 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 Contractor s 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 sub-project ESMPs and where necessary develop Construction Environmental and Social Management Plans (C-ESMPs) to help manage construction risks.
- c) Make sure that the C-ESMP should get approval from IOM prior to 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 plan, code of conducts (CoCs) 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.
- e) Submit a recruitment plan containing number of staff required, intended working condition, 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 worker, 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 employee are aware of E&S commitments and their responsibilities, which including 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.
- 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.

- n) Promote of sustainable consumption and utilization of natural resources focusing on the prevention of environmental pollution, and environmental degradation.
- o) report E&S performance timely (on at least a monthly basis throughout the construction phase, including mobilization, construction, and demobilization), including investigate and resolve all complaints, issues, incidents, accidents, and non-conformities.
- p) Participate 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 in accordance with 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 cancellation 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 shall take corrective action(s) for major noncompliance, including to the LMP implementation. The following are some of the major noncompliance that Contractor shall 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**

The policy, legal and administrative framework provides guidance and provisions for the protection and conservation of the environment, employees and the communities. Contractor shall 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 sub-project 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 sub-project.
- 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 sub-project 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**

For all works to be undertaken by the Contractor and/or their sub-Contractors 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 sub-project 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, in accordance with the requirements of IOM, World Bank and the Government of South Sudan<sup>4</sup>) 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 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 an 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.

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<sup>4</sup> The more stringent requirement shall apply.

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.
12. Mainstream HIV issues in the workplace by providing HIV prevention training during induction and continuously during employment through health and safety talks.

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 confined 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 sub-project activities.
- c) avoid or minimize sub-project-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 sub-project 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 throughout the sub-project 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 rehabilitation 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 sub-project 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 sub-project-affected communities during the project life cycle from both routine and non-routine circumstances.
- b) avoid or minimize community exposure to sub-project-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) 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 establishment, 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 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.

Sub-projects are implemented within communities and Contractor s 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 sub-project implemented has land donation forms and land has been voluntarily given for the purposes of the sub-project.

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-R002 Stakeholder 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 recognizes 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 a sub-project. The Contractor is obliged to establish and maintain documented information and records as evidence as follows:

- *ECRP/ESS-R001 Licenses, Permits and Authorizations Register*
- *ECRP/ESS-P006 Site rehabilitation 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 sub-project sites)*
- *ECRP/ESS-R014 Materials abstraction register (The register should capture the quantity of materials used for each sub-project site and this includes Pit sand, River sand and Water)*
- *Preservation of nationally protected and/or globally threatened species*

## 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 sub-project 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 sub-project 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:

- 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 sub-project and enable stakeholders' views to be considered in sub-project design and environmental and social performance.
- c) Promote and provide means for effective and inclusive engagement with sub-project-affected parties throughout the sub-project life cycle on issues that could potentially affect them.
- d) Ensure that appropriate sub-project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible, and appropriate manner and format.
- e) Provide sub-project-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 sub-projects, enhance sub-project acceptance, and make a significant contribution to successful sub-project design and implementation. The Contractor is obliged keep the following records:

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

**ANNEX 2: PHOTO GALLERY**



*Water Tanks not in use at Pakur area in Rubkona. 20<sup>th</sup> June 2024*



*Abandoned mobile health clinic at Pakur Rubkona, 20<sup>th</sup> June 2024*



*Abandoned Secondary School and Primary schools respectively at Pakur ,Rubkona. © IOM 20<sup>th</sup> June 2024*



*Abandoned Secondary School and Primary schools respectively at Pakur ,Rubkona. © IOM 20<sup>th</sup> June 2024*



Community members standing on the existing create looking at the flooded areas © IOM 4 July 2024



Stakeholder engagement in Rubkona, © IOM 4 July 2024



Stakeholder engagement in Rubkona, © IOM 5 July 2024



Flooded drainage channels in Panhiany Payam © IOM 3 July 2024



Stakeholder engagement in Rubkona, © IOM 3 July 2024



Stakeholder engagement in Rubkona, © IOM 3 July 2024

**Photos (Current situation) taken during a stakeholder engagement exercise during Site Assessment in Rubkona County, Unity State**

## ANNEX 3: 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 place 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.

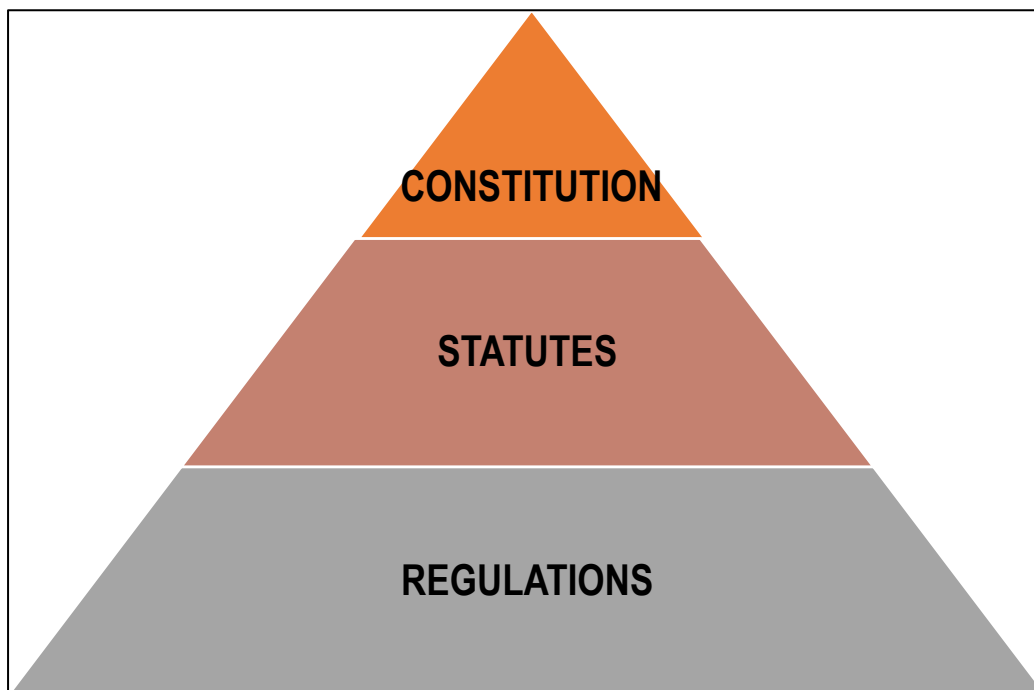


Figure 14: Hierarchy of Laws

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 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 child care 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 the 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 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 empower 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 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 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 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.
- (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 seek to promote sustainable development that is centered 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 on line ministries and includes monitoring the operations of projects and/or project activities to determining its immediate and long-term effect on the environment.

*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 sector, 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 shade 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.

*The proposed project has the potential to affect land holder. 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 sub-projects 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 the measure 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 sub-projects 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, analyze 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.*

*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.*

## **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 Sub-project 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 Sub-project 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 is 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 proposed Sub-project 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 Sub-project 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.*

### **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 Sub-project 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 Sub-project 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 Sub-project 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.

*The Contractor has the obligation to ensure compliance to the requirements of the Stockholm Convention during the 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 Sub-project 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.
- 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 Sub-project level, designs and relevant plans are developed and implemented to minimise the release of ODS emissions at all stages of the Sub-project*

## **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 enhances 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 Sub-project circumstances through adaptive risk management and stakeholder engagement.

### **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 Sub-projects, conduction of stakeholders' engagement, legal agreement between the Borrower and 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-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-Sub-projects activities. IOM and its Contractor s are obliged to adopt the mitigation hierarchy in addressing significant ES risks at all stages of the Sub-project.*

### **ESS 2: Labour and Working Conditions**

The provisions of ESS 2 are applicable to this Sub-project. This objective of this standard is to promote health and safety in the workplace; protect Sub-project 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 Sub-project workers means to raise workplace concerns.

*The proposed sub-Sub-project will involve a Contractor and thus the ESS 2 will be very relevant to the Sub-project. 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 generate 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 Sub-project implementation.

*The ESS is applicable to the Sub-projects since the activities include resources 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**

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

*The proposed Sub-projects 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 Sub-projects implementation. Mitigation measures following the mitigation hierarchy should be adopted.*

#### **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 8: Cultural Heritage**

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

*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 Sub-project.*

#### **ESS 10: Stakeholder Engagement and Information Disclosure**

The ESS10 recognizes the importance of transparent and meaningful consultation throughout the Sub-project cycle as an essential element of international good practice. Meaningful stakeholder engagement can improve the environmental and social sustainability of Sub-projects, enhance Sub-project acceptance and contribute to successful Sub-project design and implementation. The Sub-project 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 Sub-projects that are considered to be 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 Sub-project 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-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 Sub-project.*

### **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 Sub-projects with “significant” emissions, sources of air emissions, and potential for significant impacts to ambient air quality to prevent or minimize impacts by ensuring that Sub-project activities do not result in the release of pollutant concentrations that reach or exceed relevant ambient quality guidelines and standards. The Sub-project 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:

- 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 recognised standards.

*Sub-projects that generate fugitive air emissions, especially during construction and operation. Furthermore, during the implementation of the Sub-projects there will be release of air pollutants from mobile sources. Thus, these guidelines are applicable as they give control and monitoring measures. IOM and Contractor s 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. This Sub-project will result in the generation of both hazardous and non-hazardous waste at various stages of the Sub-project. 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 construction and operation phases respectively.

*These guidelines are applicable to the Sub-projects. As such, both IOM and the Contractor should ensure that all stages of the Sub-projects 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 construction equipment and activities are expected to emit noise.

*These guidelines are applicable to this Sub-project so both IOM and the Contractor should ensure that throughout all stages of the Sub-project 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 Sub-projects, much of the guidance also applies to construction and decommissioning activities. The guidelines also describe how facility operation 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 Sub-projects and as such, both IOM and the Contractor should ensure that all stages of the Sub-project 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 Sub-project.*

### **WB EHS Guidelines: Construction and Decommissioning**

These provide additional and specific guidance on prevention and control of community health and safety impacts that may occur during new Sub-project development, at the end of the Sub-project life cycle, or due to expansion or modification of existing Sub-project facilities. On road design the guidelines stipulate that there is need to limiting 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 Sub-projects as such, both IOM and the Contractor should ensure that all stages of the Sub-project designs, plans and activities are aligned to comply with the provision of the guideline*

Table 14: 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, road safety, hazardous materials; emergency preparedness	ES Policies, Procedures and Protocols Education, Awareness raising and Capacity building.	Grievances Fines and penalties from regulators 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.	Grievances Fines and penalties from regulators

REF.	WB ES INSTRUMENT	RELEVANCE	COMPLIANCE LEADING INDICATORS	COMPLIANCE LAGGING INDICATORS
			Stakeholder feedback incorporated	
6.	WB ESF ESS 10: Stakeholder Engagement and Information Disclosure	Meaningful consultation, access to information and grievance redress through the life of Sub-project	<p>SEP implemented.</p> <p>Number of engagement meetings held.</p> <p>Stakeholder feedback incorporated.</p> <p>Grievances recorded, investigated, and closed.</p> <p>Sub-project information disclosed</p>	<p>Number of grievances recorded.</p> <p>Fines and penalties from regulators</p>
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)	<p>WB compliant ESMP developed and implemented.</p> <p>ES tools developed and implemented.</p> <p>Safety talks records</p> <p>Disclosure of OSH information</p> <p>Number of trained personnel on Osh issues</p> <p>Awareness raising initiatives recorded.</p> <p>Signage, Hazard and risk communication strategy</p>	<p>Number of grievances recorded.</p> <p>Fines and penalties from regulators</p> <p>Near misses, incidents and accidents recorded.</p> <p>Environmental pollution</p>
8.	EHS Guidelines: Air Emissions and Ambient Air Quality	Applies to facilities or Sub-projects that generate emissions to air at any stage of the Sub-project life cycle	<p>ESMP developed and implemented.</p> <p>Designs that incorporate technologies for the reduction of emissions</p> <p>Monitoring of air emissions and ambient air quality</p>	<p>Air pollution</p> <p>Fines penalties and tickets from regulators</p> <p>Elevated pollutant levels</p>

REF.	WB ES INSTRUMENT	RELEVANCE	COMPLIANCE LEADING INDICATORS	COMPLIANCE LAGGING INDICATORS
			<p>Training, capacity building and awareness raising initiatives</p> <p>Number of stakeholders trained</p>	
9.	WB EHS Guidelines: Waste Management	Applies to facilities or Sub-projects dedicated to the management of municipal solid waste and industrial waste, including waste collection and transport; waste receipt, unloading, processing, and storage; landfill disposal; physico-chemical and biological treatment; and incineration Sub-projects.	<p>ESMP developed and implemented.</p> <p>Waste management hierarchy implemented.</p> <p>Use of adequate PPE during waste management</p> <p>Training, capacity building and awareness raising initiatives</p> <p>Number of stakeholders trained</p>	<p>Environmental pollution</p> <p>Fines penalties and tickets from regulators</p> <p>Elevated pollutant levels</p> <p>Outbreak of diseases</p> <p>Number of grievances</p>
10.	WB EHS Guidelines: Noise	Addresses impacts of noise beyond the property boundary of the facilities. Worker exposure to noise is covered	<p>ESMP developed and implemented.</p> <p>Ambient noise monitoring plan implemented.</p> <p>Proactive selection of Noise standards compliant equipment implemented</p>	<p>Environmental pollution</p> <p>Fines penalties and tickets from regulators</p> <p>Elevated ambient noise levels</p> <p>Number of grievances</p>
11.	WB EHS Guidelines: Construction and Decommissioning	provides additional, specific guidance on prevention and control of community health and safety impacts that may occur during new Sub-project development, at the end of the Sub-project life cycle, or due to expansion or modification of existing Sub-project facilities	<p>ESMP developed and implemented.</p> <p>Waste management/disposal licensees/permits acquired.</p> <p>Waste management hierarchy applied.</p> <p>Training, capacity building and awareness raising on waste management.</p> <p>Number of stakeholders trained</p>	<p>Environmental pollution (Air, Land and Water)</p> <p>Fines penalties and tickets from regulators</p> <p>Elevated ambient noise levels</p> <p>Number of grievances</p>

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.	<p>ESMP developed and implemented.</p> <p>Legal register developed and updated.</p> <p>Near misses, incidents, accidents recorded, investigated, and closed.</p> <p>Adequate PPE provided.</p> <p>Training, education, capacity building and awareness raising conducted.</p> <p>Hierarchy of controls Implemented in management of OHS Hazards and Risks</p> <p>Pre and Post Medical examinations conducted.</p> <p>Hazard and risk communication</p>	<p>Fines penalties and tickets from regulators</p> <p>Number of grievances</p> <p>Number of near misses, incidents and accidents recorded</p>

## ANNEX 4: LIST OF STAKEHOLDERS CONSULTED

**ANNEX 5: DETAILED ENGINEERING DRAWING**

## ANNEX 6: 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 ESS& 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-construction excavation or assign an archaeologist to log discoveries as construction proceeds. Where historical remains, antiquity or any other object of cultural or archaeological importance are unexpectedly discovered during construction in an area not previously known for its archaeological interest, the following procedures should be applied:

### **Stop construction activities.**

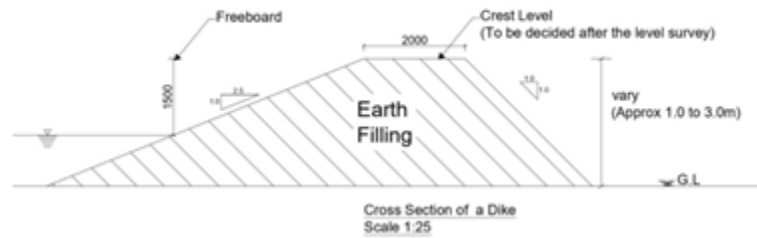
- Delineate the discovered site area;
- Secure the site to prevent any damage or loss of removable objects. In case of removable antiquities or sensitive remains, a full-time guard should be present until the responsible authority takes over;
- Notify the responsible foreman/archaeologist, who in turn 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;
- 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.

## ANNEX 7: ES SCREENING REPORT

	<b>Environmental and Social Screening Report - ECRP</b>
<p><b>Subprojects are screened for their inherent Environmental and Social risks regardless of planned mitigation and management measures.</b> It is necessary to identify potential inherent risks if 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.</p>	
<b>SECTION A: General Information</b>	
Date of screening	2-5 July 2024
Subproject title	<b>Construction and Rehabilitation of dikes and drainage network in Rubkona County</b>
Subproject component	Component one (1)
Implementing Agency	IOM
Proposed subproject budget	USD 690,985.50
Proposed subproject duration	3 months
ES Screening Team Leader and Contact Details	GADA Brian Safeguarding Officer IOM Juba, South Sudan Email: - <a href="mailto:bgada@iom.int">bgada@iom.int</a>
ES Screening Team Members	CLAUDIOUS Lilian (National Project Officer – GBV) Peter Gatduel Goh (COA) Gai Turuk William (COA) Gatluak Kuon Bol Luak (COA)
Payam/Boma/Subproject location	Rubkona Payam/Bentiu
Subproject Description.  Describe subproject activities in detail showing activities that interact directly with the host biophysical, social, cultural environments. Attach drawings, maps and pictures were	<p><b>Rehabilitation of Existing dikes in Bentiu, Unity State.</b></p> <p>The Government of South Sudan (GoSS) through the Ministry of Finance and Planning (MoFP) with funds received from the World Bank is currently implementing the ECRP II in 17 counties across the country.</p> <p>Rubkona County in Unity State is one of the Counties that are targeted by the project. The county lies on the northern bank of the Naam river and connects with the State capital in Bentiu via the Peace Bridge. The existing dikes in Rubkona County have been prioritised by the communities for rehabilitation. Under ECRP II dikes in Rubkona and Panhiany Payams have been selected. In Rubkona Payam, the dikes have an estimated length of</p>

10.5km while in Panhiany Payam the dikes have an estimated length of 26km.

The floods are expected to be worse than before. As such, the technical assessment that was done based on the available information revealed that it is necessary to raise the crest of the dikes at least 1.5m above the highest recorded flood level to ensure safety. Additionally, the dike crests will be widened by up to 2.0m to withstand erosion from heavy rainfall and high-water pressures. Current dike crest levels will be accurately measured via a level survey to determine the final crest height. The rehabilitation of the dykes in both Payams will feature a 1:1 slope on the dry side and a 1:2.5 slope on the wet side for filling see below layout. To prevent damage to the dike from human and animal crossings, temporary footways will be constructed using sandbags where needed.



The Scope of work will involve in-situ excavation of soil using the excavator. The soil will be used in the rehabilitation works of the dike. Depending on the need, the 18m<sup>3</sup> trucks will be used to carry soil from sections of the dike to ensure uniform excavation without creating deep pits. The Excavator will also be used to compact the soil. The water bowser will be used to spray water to manage dust emissions and to create conducive conditions for compaction. Typical equipment to be used is listed in the table below:

SN	Equipment
1.	Motor grader
2.	Excavator
3.	18m <sup>3</sup> Dump Trucks
4.	water bowser

Potential Environmental/Social Risks Impacts of Subprojects					
Risk Category <i>(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)</i>	Yes	No	Don't know	If these risks ('yes') are present, refer to:	Comment
<b>ESS 1: Assessment and Management of Environmental and Social Risks and Impacts</b>					
Is an Environmental and/or Social Assessment required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ESMF	All subprojects under ECRP II are subjected to ES screening to allow IOM to identify possible Environmental and Social risk in a bid to determine which environmental and social management tool to develop to ensure sustainable project implementation.
Is there a risk of lack of monitoring of the subproject activities due to remoteness of location and insecurity?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Safety and Security Management Plan (SSMP)	The proposed subproject is in an area prone to flooding. During the rainy season, access can be challenging because the area is prone to flooding. The soil type is largely in the group of expansive clays (black cotton soil) which are slippery when wet and this further exacerbates the access challenges.
Is there a risk that the subproject benefits may not reach truly vulnerable populations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stakeholder Engagement Plan (SEP)	The rehabilitation benefits will be realized by all the people in the targeted area.

Is there a risk that the selection of any location/beneficiaries in the activity will lead to a conflict?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Security Management Plan (SMP) Grievance Redress Mechanisms (GRM)	The targeted subproject will be focusing on rehabilitation works of already existing infrastructure. No reports of conflicts that emanated from the existing s were reported during the screening process.
Does the activity pose a security risk for local staff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stakeholder Engagement Plan (SEP)	
Is there any risk of the subproject activity to natural habitat, Nile Basin, or SUDD Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ESMF	The proposed subproject will be implemented along an existing acting as a barrier to water from the River Naam and associated wetlands. While this is a brown subproject, precautions should be taken to ensure there is no contamination and/or pollution of the water. Furthermore, due care should be taken to ensure that there will not be any disturbances to the riverine ecosystem.
<b>ESS 2: Labour and Working Conditions</b>					
Does any subproject activity include risk of child and forced labor use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Labor Management Procedures (LMP)	The work to be undertaken will be largely conducted by qualified trained machine operators. Thus, the risk of Child labor and forces labor is greatly reduced.
				Occupational Health and Safety Plan (OHS)	

Does the subproject include a construction component?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Labor Management Procedures (LMP)</p> <p>Following documents yet to be prepared:</p> <p>C-ESMP</p> <p>Occupational Health and Safety Plan (OHS)</p>	<p>The scope of work will include:</p> <ul style="list-style-type: none"> <li>• Site clearance</li> <li>• Excavation and digging</li> <li>• Compaction of materials</li> <li>• Transportation of materials</li> </ul> <p>The use of Heavy machines, movement of trucks presents significant OHS risks. Such plant equipment uses significant amounts of fuel and other lubricants which presents risks when handling, storing, managing and using such hazardous substances. There will be a risk of spillage and accidental exposure.</p>
Does the subproject include labor-intensive activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Labor Management Procedures (LMP)	
Does the subproject include or influence primary agricultural activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Labor Management Procedures (LMP)</p> <p>Occupational Health and Safety Plan (OHS)</p>	
Will the subproject require a larger contractor workforce?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Labor Management Procedures (LMP)</p> <p>Following documents yet to be prepared:</p> <p>Occupational Health and Safety Plan (OHS), C-ESMP</p>	The subproject will include the use of heavy machinery and plant equipment with a minimal workforce.

Is there a security risk for subproject Workers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Security Management Plan (SMP)	
Is there a risk that the subproject may cause OHS <sup>1</sup> issues?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Occupational Health and Safety management Plan (OHS)	<p>The sub project activities will include the following key aspects:</p> <ul style="list-style-type: none"> <li>• Dust during excavation of materials and movement of heavy machinery.</li> <li>• Noise during from the movement of heavy machinery.</li> <li>• Use of hazardous substances such as diesel and other lubricants.</li> <li>• Moving parts and machines</li> <li>• Slips, Trips and Falls from steep sides of the s</li> <li>• Work Ergonomics issues and associates occupational hazards e.g. heat stress</li> <li>• Inadequate supply of safe drinking water in the area.</li> <li>• Inadequate ablution facilities in the area.</li> </ul>
Is there a risk of labor induced in migration?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Labor Management Procedures (LMP)	

Is there a risk of lacking adequate OHS management provisions for workers at the construction site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Occupational Health and Safety management Plan  (OHS) Pest Management Plan (PMP) (yet to be prepared)	
Is there a risk of delayed payment of workers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Labor Management Procedures (LMP)	Contractors may not pay workers.
Is there a risk that workers are underpaid?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Labor Management Procedures (LMP)	Contractors may not follow LMP Plan
Is there a risk that women will not be employed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Labor Management Procedures (LMP)  GBV Action Plan	The operation of plant equipment in South Sudan is largely dominated by males.
Is there a risk that provision of contracts causes conflicts?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Security Management Plan (SMP)  Grievance Redress Mechanisms (GRM)	
<b>ESS 3: Resource Efficiency and Pollution Prevention Management</b>					
Will the subproject result in the production of solid waste? (Directly by the subproject or by workforce)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Following documents yet to be prepared:	Solid waste will be produced by the project workers as they work in the area.

<p>Will the subproject result in the production of toxic or hazardous waste? (e.g., used oils, inflammable products, pesticides, solvents, pharmaceuticals, industrial chemicals, ozone depleting substances)</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Waste Management Plan, based on <i>WBG</i> <i>Environmental, Health, and Safety</i> <i>General Guidelines</i> Pest Management Plan (PMP), C-ESMP</p>	<p>Waste oils and lubricants may be generated from plant equipment.</p>
<p>Will the subproject result in the generation of dust and noise?</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Following documents yet to be prepared:  C-ESMP</p>	<p>Noise from operation and movement of plant equipment and trucks bringing materials to site.  Dust produced from material mixing, excavation works and movement of trucks bringing materials to site</p>

Is the project likely to cause soil erosion, siltation or degradation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Following documents yet to be prepared:</p> <p>C-ESMP</p>	<p>Soil erosion is possible especially soon after the excavation of soil. Excavation loosens the soil which makes it prone to erosion. Critical areas shall be addressed accordingly using specific interventions e.g.</p> <p><b>Boat Landing Area:</b> Designate boat landing areas away from the main to prevent boats from directly hitting and weakening the embankment. These areas should be placed every 500 meters.</p> <p><b>Riprap and Gabions:</b> Install rock armoring (riprap) or gabions (rock-filled wire mesh) along vulnerable sections, especially at the waterline, to prevent erosion.</p> <p><b>Geotextiles:</b> Use geotextile fabrics to stabilize soil and prevent erosion in critical areas. Geotextile tubes filled with soil can stabilize edges but may be damaged by boat landings; jute bags are an alternative if geotextiles are unavailable.</p> <p><b>Drainage Systems:</b> Ensure proper drainage to prevent water accumulation and erosion by regularly cleaning and maintaining drainage ditches and culverts.</p>
Will the subproject produce effluents (wastewater)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Following documents yet to be prepared:</p> <p>C-ESMP, Waste Management Plan</p>	
Will the subproject result in increased levels of vibration from construction machinery?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Following documents yet to be prepared:</p> <p>C-ESMP</p>	<p>The use of heavy plant machinery will present localized elevated vibrations.</p>

Will the subproject produce air pollution? (e.g. significant greenhouse gas emissions, dust emissions and other sources)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Following documents yet to be prepared:  C-ESMP	Air pollutants will be released from various sub project activities which include: <ul style="list-style-type: none"> <li>Excavation of materials will result in the generation of dust particles including Particulate Matter (PM<sub>10</sub>, PM<sub>2.5</sub>)</li> <li>Trucks and plant equipment to be used will generate dust, exhaust gases and fumes.</li> </ul>
Will the subproject disturb any fauna and flora?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Following documents yet to be prepared:  C-ESMP	
Will the subproject result in polluted irrigation water	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Will the subproject affect the surface or groundwater in quantity or quality? (e.g., discharges, leaking, leaching, boreholes, etc.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Following documents yet to be prepared:	
Will the subproject require use of chemicals? (e.g. fertilizer, pesticides, paints, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C-ESMP  Waste Management  Plan	
Is there any risk of accidental spill or leakage of material?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Fuel that may be stored on site for plant equipment may accidentally spill.
Will the project require (during execution or after completion) significant amounts of water, energy, materials or other natural resources?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ESMF	Water is required for control of dust and compacting soil.
<b>ESS 4: Community Health and Safety</b>					

Is there any risk of increased GBV/SEA cases due to labor influx?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	GBV/SEA Action Plan Labor Management Procedures (LMP)	An increase in GBV may be possible as women gain income and are no longer willing to do their gender duties as outlined by the community. GBV might arise from women coming home late after work.
Is there any risk of spread of communal diseases due to labor influx?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Labor Management Procedures (LMP). C-ESMP	
Is there a security risk to the community triggered by subproject activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Security Management Plan (SMP)	
Does the subproject have the potential to upset community social dynamics?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stakeholder Engagement Plan (SEP) Grievance Redress Mechanisms (GRM)	

Will the subproject expose community members to physical hazards on the subproject site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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 used in a timely manner.
Will the subproject pose traffic and road safety hazards to the people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Following documents yet to be prepared: C-ESMP	Movement of trucks and plant equipment poses great risk to communities and nearby camps
Is there a possibility that the subproject activities contaminate drinking water sources i.e. open wells?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Following documents yet to be prepared: Waste Management Plan; C-ESMP	
Will the subproject contribute to the spread of disease (eg health facilities)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Following documents yet to be prepared: Waste Management Plan	
<b>ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement</b>					
Will the subproject lead to physical displacement (relocation, loss of residential land, or loss of shelter)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stakeholder Engagement Plan (SEP)	
				Grievance Redress Mechanisms (GRM)	
Would the subproject potentially discriminate women and girls have based on their gender vulnerability, especially their participation in subproject implementation and/or access to the opportunities and benefits of subproject?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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 stakeholder?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See negative list	
Will the subproject lead to disputes over land ownership?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ESMF	
<b>ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources</b>					
Will the subproject affect sensitive areas such as habitats and wetland areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ESMF	The subproject is implemented in areas in proximity with wetlands. The project area is affected by floods from the nearby river Naam and other water bodies.  The s protecting the Water Treatment Facility (WTF) are within 10m or less from the Naam Riverbank. Any work that may be proposed should be done under strict supervision and monitoring to ensure protection

					of the environment, prevention of pollution and land degradation.
Is there a risk that the subproject causes ecological disturbances?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ESMF	
Is there a risk that the subproject causes changes in landform and habitat, habitat fragmentation, blockage or migration routes, water consumption and contamination?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ESMF	
Is there a risk that the subproject causes loss of precious ecological assets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ESMF	
Does the project involve harvesting or depletion of natural resources (e.g. forest, fisheries, etc.)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ESMF	
Can the project cause disruption of wildlife migratory routes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ESMF	
Can the project introduce alien species or GMOs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ESMF	
Can the project impact ecosystems upon which communities rely for food, water, fibers or other basic needs, including cultural and spiritual needs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ESMF	
Is the project likely to cause soil erosion, siltation or degradation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ESMF	Soil erosion is possible in areas where excavation will be taking place since soil disturbance loosens the soil making it vulnerable to erosion.
Is the project located directly on river embankments?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ESMF	
Will construction, operation or decommissioning of the project involve physical changes, such as topography or land use (e.g. construction camps, housing, etc.)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ESMF	
<b>ESS 8: Cultural Heritage</b>					

Will the subproject be in or close to a site of cultural value, any archaeological or naturally important?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chance Find Procedures (ESMF)	The proposed sub-project area is not known for cultural or natural remains. A Chance Finds Procedure will be implemented during excavations.
Is the subproject site known to have the potential for cultural and natural heritage remains?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Will the subproject adversely impact the intangible cultural heritage. This includes practices, representations, expressions, knowledge, and skills including, objects, artifacts, and cultural spaces	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
<b>ESS 10: Stakeholder Engagement and Information Disclosure</b>					
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stakeholder Engagement Plan (SEP)	
Is there a historical exclusion of disabled persons in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stakeholder Engagement Plan (SEP)	
Are women likely to participate in decision-making processes regarding the subproject?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stakeholder Engagement Plan (SEP)	Women are part the 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stakeholder Engagement Plan (SEP) Grievance Redress Mechanisms (GRM) – see ESMF	When beneficiaries are excluded, they may raise concerns and issues.
Is there a risk that the subproject component will have poor access to beneficiaries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stakeholder Engagement Plan (SEP) Grievance Redress Mechanisms (GRM) – see ESMF	
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stakeholder Engagement Plan (SEP) Grievance redress Mechanism (GRM)	

**SECTION B: SUMMARY OF THE SCREENING PROCESS**

<b>E&amp;S SCREENING</b>	<b>RESULTS AND RECOMMENDATION</b>			
Screening Results:  Summary of Critical Risks and Impacts Identified	<b>Risk/Impact</b>	<b>Individual Risk</b>	<b>Impact Rating</b>	<b>Mitigation</b>
	<b>Occupational Health and safety</b>	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 an HIV/AIDS, Gender/GBV, PSEA/H awareness programmes for workforce and community. Ensure provision of potable water and ablution facilities for workers
	<b>Gender mainstreaming</b>	Medium	High	Gender mainstreaming during recruitment and allocation of work packages
	<b>Uncovered borrow pit areas</b>	Medium	High	The borrow pit shall be fenced and labelled. Systematic abstraction of soil shall be done according to an agreed plan. Backfilling shall be done prior to decommissioning the borrow pits.
	<b>Recurrent natural disasters</b>	Medium	Medium	Design and construction of robust and resilient dike structures which can withstand anticipated floods.
	<b>Social Conflict</b>	medium	high	Inclusive planning of labour-based works with specific gender inclusion strategies. Stakeholder engagement in planning.
	<b>Dust Pollution</b>	Low	Low	Provision of appropriate safety clothing for workforce including dust masks, a watering down schedule will also be provided
	<b>Solid Waste</b>	Medium	Medium	Availing bins for refuse segregation and collection
	<b>Sustainability</b>	Medium	Medium	Involve the beneficiaries and community leadership

E&S SCREENING	RESULTS AND RECOMMENDATION		
			in all project related work. Support capacity building on dike infrastructure management. Establish and train the PDRMCs, & CDRMCs
	<b>Screening Result (see Table 7: Sub-projects Risk Level for further details)</b>		<b>Summary of Screening Result Justification</b>
	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.		
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	CLAUDIOUS Lilian (National Project Officer – GBV) Peter Gatduel Goh (COA) Gai Turuk William (COA)

Gatluak Kuon Bol Luak (COA)
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**Recommended by Project Manager:**  
**Approved by PMU:**

BARTOLONI Alexander: - Project Manager  
MANYOK Sammuel

## ANNEX 8: 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.)

**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 contractor’s organizational structure to manage environment, health and safety, labor and social aspects during the reporting period. Please name the individuals in 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:

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 time 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.


- Provide details for fatal accidents during this reporting period, if any, (and provide copies of accident investigation and respective corrective plan).


**OHS Training**

- Describe Health and Safety training programs carried out in the reporting period.


**Workplace Monitoring**

- Please provide copy of any Workplace Monitoring reports developed for the reporting period.

**ESS3. Resource Efficiency and Pollution Prevention**

**Environmental Monitoring**

- Provide 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 detail information of 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.


- 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.


- Provide details for fatal accidents during this reporting period (and provide copies of accident investigation and respective corrective plan).


**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 regards 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.


**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 9: 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 \_\_\_\_\_

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**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 10: GRIEVANCE CASE MANAGEMENT

