
Terms of Reference (ToR)

DEVELOPMENT OF AN ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT REPORT FOR THE PROPOSED BOR FLOOD RISK MANAGEMENT PROJECT (BFRMP)

1. Context and Background

1.1. Bor Flood Risk Management Project

Though South Sudan accounts for a very small fraction of greenhouse gas emissions, it bears the brunt of global climate change impacts. The country is already experiencing the adverse effects of a warming climate but has limited capacity and resources to prepare and cope with increased climate variability and volatility. As of September 2021, 525,975 people were recorded as displaced due to climate-related disasters, of which 310,393 people (about half the population of Wyoming) were newly displaced. Displacements in South Sudan generally occur as a result of internal (tribal) tensions, internal migration, migration across international borders and, more recently, climate change-induced extreme events such as extensive flooding.

Bor in Jonglei State and its immediate surroundings have been one of the areas worst affected by flooding in the country. Recent weather and climate-related disasters have resulted in a heavy burden of fatalities. Furthermore, increased flooding and a more unpredictable climate are likely to cause a rise in clashes over already scarce natural resources, further compounding the inextricable link between climate change, peace and security. Confronted with these challenges, South Sudan urgently requires financial and technical support to strengthen the government's climate information base and put in place mechanisms that better protect vulnerable communities, especially women and youth, against floods and climate shocks.

1.2. Project Description

The 'Bor Flood Risk Management Project,' funded by the Government of the Kingdom of the Netherlands and implemented by IOM South Sudan in co-operation with both the Ministry of Water Resources and Irrigation, the Ministry of Humanitarian Affairs and Disaster Management and the Ministry of Environment and Forests, is meant to increase the resilience of marginalised and climate vulnerable communities in relation to the adverse effects of climate change around Bor Town. Specifically, this project aims to bolster the capacity of the Government of South Sudan to develop warning systems and climate-resilient infrastructure to reduce the impacts of floods.

The proposed approach is centered on three interlinked and mutually reinforcing outcomes, as follows:

- Strengthen knowledge base on the susceptibility of communities to disaster-related events.

This component aims to improve understanding the risks associated with different hydrometeorological hazards. This will inform the programming and design of the proposed project. A strengthened knowledge base will help bridge the gap between what is known about natural hazards and disaster mitigation and help translate research into disaster risk reduction (DRR) policies. The activities will help increase understanding of the interlinkages between DRR, knowledge management and climate-informed decision-making through consultations and training workshops at community and government levels.

- Strengthen capacities for effective community response to climate-related shocks through participatory disaster risk management mechanisms and early warning systems

This component aims to facilitate broad-based community consultations to ensure that disaster risk management committees (DRMCs) are inclusive bodies that enable marginalized groups such as women, youth, internally displaced persons (IDPs), returnees, and host communities to voice their needs. The project strongly focuses on community engagement to elevate understanding of climate risks and ensure climate information reaches a wide audience. Establishing and operationalising an early warning technical working group (EWTWG) will ensure greater awareness on the importance of climate information services. Ultimately this will serve the communities most at risk from climate shocks and extreme weather events.

- Enhance resilience to climate-related shocks through strategic infrastructural interventions in targeted locations.

This component aims to optimise and scale-up water resource management infrastructure, such as dikes and drainage systems, to mitigate flood risk in the most vulnerable urban areas. Physical modification, reinforcement and upgrade of damaged water, sanitation and hygiene (WASH) infrastructure will also take place to minimise the risk of waterborne diseases. The project will also strengthen the local community and government's understanding of infrastructure operations and maintenance, as they'll directly benefit from the project's technical skills development and training program.

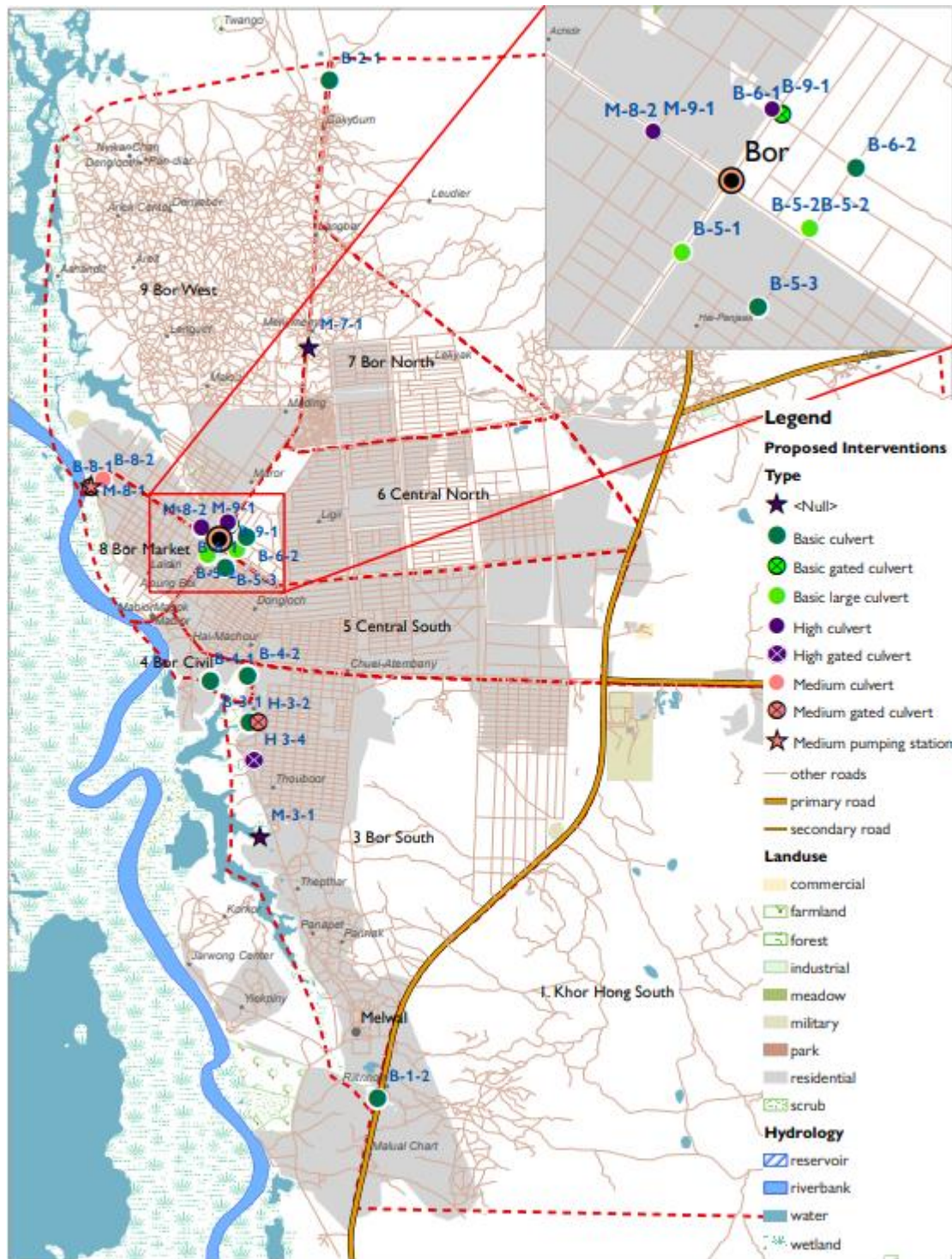


Figure 1: Overview of the Bor Flood Risk Management Project (BFRMP)

1.3. Overall Objective

The overall objective of the Bor Flood Risk Management Project (BFRMP) is to significantly reduce the flood risk for the urban population of Bor from the river, incoming sheet flow from inland rainfall, local rainfall and poor drainage in urban areas.

2. Objectives of the Consultancy

The general objective of the consultancy is to ensure compliance with the World Bank Environmental and Social Framework, IOM Environmental and Social Safeguarding requirements and national environmental laws in the context of the proposed project. Further, it identifies social and environmental impacts (positive and negative) and risks at all stages of the proposed project. It designs respective mitigation measures to avoid, reduce, mitigate and/or offset/compensate (for) them following the mitigation hierarchy. The Consultant will design appropriate environmental and social management tools and monitoring plans to manage environmental and social risks under the project. The Consultant shall be responsible for carrying out all necessary preparatory studies, fieldwork, research, and investigations (including generating new field data, as deemed necessary or appropriate) to compile the information required for the assignment.

2.1. Specific Objectives:

The specific objectives of the assignment are to:

- a) Prepare an Environmental and Social Impact Assessment (ESIA) report, including its subsequent technical sub-reports and a detailed Environmental and Social Management Plan (ESMP) for the proposed project.
- b) Analyse, evaluate and propose measures to avoid, control, mitigate, restore and/or compensate the proposed project's anticipated environmental and social risks and impacts to comply with World Bank Environmental and Social Framework, IOM Environmental and Social Safeguards requirements and national legislation.
- c) The ESIA and its associated sub-reports¹ must detail environmental and social requirements, in particular, to guide the project's final design and its components, including recommendations for changes to the project design and specific actions to be taken by contractors and/or subcontractors.
- d) Carry out stakeholder mapping and develop a detailed Stakeholder Engagement Plan (SEP), including analysing interested and affected parties, detailing documentation requirements, and disseminating information about the project.

3. General overview of the assignment

The ESIA will be developed for the proposed Bor Flood Risk Management Project (BFRMP) and shall contain a detailed identification of the environmental and social baseline situation, of expected impacts of the proposed project, and provide an Environmental and Social Management Plan (ESMP). The ESMP shall include both a Mitigation and Monitoring Plan. The ESIA will build on results from the environmental and social screening findings, but the level of detail shall be higher. The ESIA shall address the physical, biological and meteorological consequences of flooding in the proposed project area and the impact on population centres and cultural properties.

3.1. ESIA

¹ Such sub-reports may include Resettlement Action Plans, Ecological Studies, Archeological studies, Labour Management Plans among others.

The basic sections of the proposed Bor Flood Risk Management Project (BFRMP) ESIA report and the minimum expected content is presented the table below:

SECTION		EXPECTED DOCUMENT CONTENT
1.	Executive Summary	<ol style="list-style-type: none"> 1. This is a non-technical summary containing at least a brief description of the sub-project and the environment, an account of the main mitigation measures to be undertaken by the developer, and a description of any remaining or residual impacts. 2. The summary avoids technical terms, data lists and detailed explanations of scientific reasoning. 3. The summary presents the main findings of the assessment and covers all the main issues raised in the document. 4. The summary briefly explains the overall approach to the assessment (methodology to study). 5. The summary indicates the confidence which can be placed in the results.
2.	Introduction	<ol style="list-style-type: none"> 1. Identify the type of sub-project proposed (e.g. a Culvert, pumping station, drainage channels), and its location (or site alternatives). The sub-project proponent must be identified and outline the sub-project's background and its reasons or necessity. 2. There must be justification for the sub-project and its location.
3.	Sub-project description	<ol style="list-style-type: none"> 1. This outlines the sub-projects life cycle, e.g. pre-feasibility, feasibility, detailed engineering and design, implementation, and decommissioning. Check which stage a sub-project is in within the sub-project life cycle. 2. Check that the description of the sub-project and its alternative sites, photographs of the area, coordinates, designs and implementation strategies are provided. 3. Check whether the sub-project engineering design is sufficiently detailed to enable the understanding of the planning and the design options of the sub-project. 4. Inputs (raw materials), outputs (products), processes and major types of equipment should be noted. Size of work force at any stage of the sub-project implementation should also be noted. 5. Check for adequacy of maps, flow diagrams and photographs 6. A summary of technical, economic and environmental features essential to understanding the sub-project should be provided. 7. Check that the possible sub-project options available within the existing economic, technical and environmental constraints are discussed and compared. These could be options in terms of size, site, technology, layout, raw materials, energy sources and even products. 8. Describes any additional services (water, electricity, emergency services etc) and developments required as a consequence of the sub-project. 9. Describes the sub-project's potential for accidents, hazards and emergencies. 10. Estimates the types and quantities of waste matter, energy (which is noise, vibration, light, heat, radiation etc) and residual materials generated during construction in the operation of the sub-project and rate at which these will be produced. 11. It should indicate how these waste and residual wastes are expected to be handled/ treated prior to release.

SECTION		EXPECTED DOCUMENT CONTENT
		12. Indicate the methods by which the quantities of residuals and wastes were estimated.
4.	Analysis of Alternatives	1. Compare feasible alternatives. The comparative analysis should address (and quantify where possible) the environmental and social impacts, the feasibility of impact mitigation, capital and recurrent costs, the suitability of options under local conditions, and related institutional, training and monitoring requirements. State the basis for selecting the proposed design, including minimising risk.
3.	Environmental Planning and Design	<ol style="list-style-type: none"> 1. Check whether key issues have been taken into consideration in order to avoid or minimize impacts, enhance benefits, compensate for residual impacts. 2. Check if the environmental designs and management plan the proponent has committed to are highlighted. 3. Defines the land area taken by the development site and any associated arrangement, auxiliary facilities, and landscaping areas and by the construction sites and shows their location clearly on the site (s) 4. Considers the no-action alternative, alternative processes, scales, layouts, designs and operating conditions where available at the early stage of sub-project planning and investigates their main environmental advantages and disadvantages. 5. Gives the reasons for selecting the proposed sub-project and the part environmental factors played in the selection
4.	Stakeholder Consultation	<ol style="list-style-type: none"> 1. Check whether stakeholder identification and analysis has been done. 2. Check that public consultation has been done and documented. Check that relevant stakeholders have been included. 3. Check for evidence of disclosure. Advert cuttings should be attached in the report. 4. Check which methods have been used in the consultation process. Methods may include but not limited to: <ul style="list-style-type: none"> ▶ Press conference, information notices and brochures ▶ Interviews ▶ Questionnaires and Polls ▶ Open houses ▶ Community meetings ▶ Internet sites ▶ Public hearings ▶ Advisory committees ▶ Focus group discussions 5. Check for analysis of consultation data. 6. Check for adequate personal data of people consulted, e.g.: ID number, contact details, date stamp, etc.
5.	Legal Framework	1. Check whether legal instruments of importance have been identified and linked to sub-project implementation. Check how it affects their operations and what is expected of them to completely comply with the requirements of such statutes.

SECTION		EXPECTED DOCUMENT CONTENT
6.	Environmental & Social Baseline of the Sub-project	<ol style="list-style-type: none"> 1. Check whether sub-project boundaries have been defined. 2. Check that existing environmental conditions within the area are clearly described. 3. Surface Water and Ground Water 4. Check whether detailed information on the location, distribution, quantity, and quality of all water resources that could be affected by a sub-project and its alternatives is provided. 5. Verify that baseline studies on water quality have included the local and regional uses of water (domestic, industrial, urban, agricultural, recreational, others) 6. Assess water quality as part of the ecosystem in relation to the life of plant and animal communities. 7. Should indicate the area expected to be significantly affected by the various aspects of the sub-project with the aid of suitable maps. Explain the time over which these impacts are likely to occur. 8. The methods used to investigate the affected environment. 9. Reviews local, regional and national plans and policies and other data collected as necessary to predict future environmental conditions.
7.	Hydrogeology	<p>Check the following areas:</p> <ol style="list-style-type: none"> 1. Hydrology: Description and location of the physical, chemical, biological, and hydrological characteristics of all surface water resources in the sub-project area and in the area of influence (including seasonal variations, maps, location and characterisation of river basins, lakes, and streams. Identification of existing water pollution sources; location, volume flows, minimum flows.) 2. Identification of wetland areas, flood zones, minimum flow rates, wind speed and direction. 3. Applicable water quality standards. 4. Common water quality parameters: Physical, chemical: pH, turbidity, suspended solids, temperature, Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Dissolved Solids, salinity, conductivity. Common contaminants of concern include ammonia, arsenic, cadmium, copper, chromium, cyanide, iron, lead, manganese, mercury, molybdenum, nickel, nitrate/nitrite, sulfate, thallium, uranium, vanadium, and zinc. 5. Check that methodological and analytical data support surface water quality data. 6. Check whether a clear description of water sampling methods, and the number and exact location of sampling points. These should represent the area of influence of a sub-project, and all the surface water resources that would be affected by a sub-project have been discussed. 7. Verify whether the obtained surface water quality data results have been analysed and compared to existing water quality standards. 8. Verify that the ESIA/ESMP document includes the following basic information about groundwater resources: <ul style="list-style-type: none"> ➤ Depth to groundwater under different seasonal conditions ➤ Geology and locations of aquifers, thicknesses, and their hydraulic conductivity ranges ➤ Groundwater flow directions ➤ Locations/flows of springs and seeps ➤ Groundwater discharge locations in streams

SECTION		EXPECTED DOCUMENT CONTENT
		➤ Groundwater uses
8.	Characterisation of wildlife	<ol style="list-style-type: none"> 1. Verify whether baseline information about wildlife includes a list of wildlife species within the sub-project area and interactions between species. 2. Check whether the ESIA/ESMP includes a description of the region, species maps, relationships, population densities, and species distribution. All endemic flora and fauna in the sub-project area that have a special conservation status - for example, listed by the International Union for Conservation of Nature (IUCN) or by national legislation as a threatened or endangered species - should be surveyed for their distribution and abundance in the sub-project area. 3. Verify that migration routes, breeding grounds, nesting sites, wildlife corridors, and uniqueness of fauna habitat have been discussed.
9.	Characterisation of air quality	<ol style="list-style-type: none"> 1. Verify that the following baseline air quality data has been included: <ul style="list-style-type: none"> ➤ Identified air basin. ➤ Described local climate and topography. ➤ Identified national and local air quality standards. ➤ Described historical air quality trends. ➤ The described air quality of the proposed sub-project area and/or air basin ➤ Identified sensitive receptors (e.g., hospitals, schools, farmland) 2. Described the exact location of air monitoring and/or sampling stations. 3. Verify that baseline air quality analyses include measurements of these common parameters: <ul style="list-style-type: none"> ➤ Particulate matter (PM10 and PM2.5) ➤ Carbon monoxide (CO) ➤ Nitrogen oxides (NOx) ➤ Lead (Pb), cadmium (Cd), arsenic (As), mercury (Hg) ➤ Sulfur dioxide (SO₂) 4. Verify that baseline air quality information is supported by methodological and analytical data. 5. Check that the ESIA/ESMP document includes a clear description of the air sampling methods, and number and exact location of sampling points. These should be representative of the sub-project's area of influence.
10.	Characterization of existing soils	<ol style="list-style-type: none"> 1. Check whether soil baseline studies are based on these sources of information: <ul style="list-style-type: none"> ➤ desk study, fieldwork, and laboratory analysis. ➤ Maps should be accompanied by explanatory information, with information on local geology, vegetation, and land use. 2. Verify whether sampling points are representative of the sub-project concession area. 3. Check whether samples have included each horizon encountered in soil profiles. The maximum depth to which a soil profile is dug is usually sixty centimeters to one meter.

SECTION		EXPECTED DOCUMENT CONTENT
		<ol style="list-style-type: none"> 4. Verify whether samples were taken systematically using a sampling grid, but random sampling or sampling particular areas of interest may be appropriate. The layout and number of samples required can vary, but the number of samples should be representative of the sub-project area. 5. Check whether laboratory analysis provides information about soil composition, soil strength (resistance to crushing), soil type, soil porosity, soil erodibility, mineral content, and pH. 6. Some water content, organic content, soil texture, particle size, and bulk density measures should also be included. Soil chemistry is vital in particularly in mining sub-projects, because problems with naturally occurring toxic elements are a real possibility. 7. Verify that baseline soil quality analyses include measurements of these common parameters and any other parameters that may be necessary depending on the nature of the sub-project: <ul style="list-style-type: none"> ➤ pH ➤ Cation exchange capacity (the total number of cation absorbed on soil colloids gives some indication of potential fertility) ➤ Soil nutrient status: potassium, calcium, magnesium, nitrogen, and phosphorus ➤ Heavy metals: in particular lead, copper, zinc, cadmium, mercury, and chromium
11.	Characterization of terrestrial species	<ol style="list-style-type: none"> 1. Verify whether there is an inventory of plant species, including information about composition, density, distribution, status, vegetative cover, and dominant, protected, foreign, threatened, and vulnerable species, as well as noticeable effects of human presence in the ecosystem. Some areas have endemic and rare plant species that are of particular interest. 2. Inventories of fauna species should include diversity, distribution, and density, including information about the presence of endemic, protected, threatened, and endangered species. 3. Verify that the ESIA/ESMP discusses biomes, indicator species, and relevant interrelations between communities of species.
12.	Characterisation of aquatic species	<ol style="list-style-type: none"> 1. Check whether information on aquatic species includes details on the abundance and distribution of endemic, protected, and endangered species; detailed data on the abundance and distribution of fisheries of commercial importance or relied on for sustenance; and impact on migratory aquatic species (such as fish) and breeding grounds.
13.	Local socio-economic baseline	<ol style="list-style-type: none"> 1. Check whether this section of the ESIA/ESMP includes the socio-economic baseline data that explains how the scope of the analysis was defined and how the study area was delineated. 2. Check that the section includes information about: <ul style="list-style-type: none"> ➤ Location of the local population in relation to the proposed sub-project area ➤ Population size, age composition, growth ➤ Economic activities, employment, income (inventory of present economic environment without the sub-project)

SECTION		EXPECTED DOCUMENT CONTENT
		<ul style="list-style-type: none"> ➤ Quality of life ➤ Housing quality and quantity (this is particularly important if people are to be relocated) ➤ Community organisations, representative institutions, neighbourhood cohesion (usually measured with surveys and interviews) ➤ Public safety (police, fire) ➤ Education (average level, access, public and/or private) ➤ Health services ➤ Recreation (public, private) ➤ Existence of local development or well-being plans ➤ Access to public services and sanitation ➤ Maps with location and quantity of farmlands ➤ Maps with existing land-use patterns ➤ Attitudes towards the sub-project ➤ Archeological assessments <ol style="list-style-type: none"> 3. Check whether the document has included epidemiological data 4. Check whether the document discusses the issues of HIV and Gender related issues
14.	Geology	<ol style="list-style-type: none"> 1. Major landforms 2. Geological structures 3. Type of rock 4. Topography
15.	Climate	<ol style="list-style-type: none"> 1. Average rainfall 2. Rainfall patterns 3. Prevailing temperatures 4. Prevailing winds
16.	Identification and of assessment environmental impacts	<ol style="list-style-type: none"> 1. Check whether a description of the beneficial and adverse impacts, both direct and indirect, which are expected to occur, for each feature of the environment has been included. 2. Check the methods used for identifying environmental effects and impacts for appropriateness and suitability. Some of the most common are: <ul style="list-style-type: none"> ➤ Checklists ➤ Matrices ➤ Flow diagrams ➤ Overlays ➤ Professional judgement 3. The ESIA/ESMP should discuss these methods in impact identification and analysis as opposed to the general characterization of impacts without justification. 4. Check whether impacts have been characterized. (Nature of the impact, Impact magnitude, Spatial extent, Timing, <i>lag time</i>, Duration, Reversibility, significance) 5. Verify that in each case, the report; <ul style="list-style-type: none"> ➤ Identifies impacts likely to be caused by sub-projects during all phases of development ➤ Has an analysis based upon a comparison of future environmental conditions with and without the sub-project. ➤ assesses significance of the impact

SECTION		EXPECTED DOCUMENT CONTENT
		<ul style="list-style-type: none"> ➤ Provides possible measures for avoiding or mitigating significant impacts. <ol style="list-style-type: none"> 6. Investigate the above types of impacts in so far as they affect human beings, flora, fauna, soil, water, air, climate, landscape, interactions between the above, material assets, cultural heritage
17.	Environmental & Social Management Plan	<ol style="list-style-type: none"> 1. Check whether mitigation measures for all significant identified impacts are feasible. The mitigation measures suggested should be feasible under the circumstances. 2. Mitigation measures considered include modification of sub-project design, construction and operation, and the creation of new resources 3. Describes the reason for choosing the particular type of mitigation, and the other options available. 4. Explain the extent to which the mitigation methods will be effective. 5. Check whether lessons drawn from a sub-project of a similar nature elsewhere have been included. 6. Verify whether technological solutions have been included to eliminate pollution. 7. Verify that the EMP contains a monitoring plan for all significant identified impacts. 8. Verify that the EMP includes a decommissioning and closure plan. 9. Gives details of how the mitigation measures will be implemented and function over the time span for which they are necessary. 10. Proposes monitoring arrangements for all significant impacts, especially where uncertainty exists, to check the environmental impact resulting from the implementation of the sub-project and its conformity with the predictions made.
18.	Summary and Recommendations	<ol style="list-style-type: none"> 1. Check that an appropriate conclusion has been drawn for each section of the ESIA report. 2. Check for relevance.
19.	Appendices	<ol style="list-style-type: none"> 1. Verify that appendices contain information not directly useful in the text of the report but needed for reference or detailed review by technical experts. <p>These include:</p> <ul style="list-style-type: none"> ➤ The terms of reference for the study ➤ Sources of data and information. All individuals and agencies consulted for specialist information or knowledge used in the report are referred to in the text and documented here. Written opinions received from outside specialists are also appended. Field data collection programmes completed during the ESIA study is also described here. ➤ A complete record of all parties consulted. ➤ Names, qualifications roles and signatures of team members who carried out the study. ➤ 1:50,000 colour maps with details and coordinates ➤ Proof of public consultation – for Government departments on respective letterheads ➤ Newspaper cutting of public opinion advert on selected sub-projects.

SECTION	EXPECTED DOCUMENT CONTENT
	<p>2. Proof of consultation should include evidence of consultations with affected groups, local communities, Government and non-governmental organisations. The following should be included: (i) date(s) of consultation(s); (ii) location of consultation(s); (iii) names and addresses of attendees (as appropriate); (iv) meeting program/schedule; (v) what is to be presented and by whom; (vi) summary Meeting Minutes (Comments, questions and responses by presenters);</p>

3.2. Resettlement Policy Framework

Initial assessments by IOM do not indicate any need for resettlement or relocation. However, a Resettlement Policy Framework (RPF) should be prepared so as to provide guidance on how resettlement or relocation can be handled under the project when proposed project activities displace people from land or productive resources, and which result in the loss of shelter, the loss of assets or access to assets, and the loss of income sources or means of livelihood whether or not the affected persons must move to another location. The objectives of the policy should put emphasis on avoiding or minimising adverse impacts, to give displaced people opportunities to participate in the design and implementation of resettlement programs, and to assist displaced people in their efforts to improve their livelihoods and standards of living, or at least to restore these to pre-project levels.

The aim of the RPF is to serve as a framework detailing the following areas:

- a) **Legal Framework.** Identify the principles and guidelines that will be used to acquire lands or other assets from private ownership and resume public lands from authorised and unauthorised private uses. A review of current policies and procedures in South Sudan relating to land acquisition and the World Bank's resettlement requirements to identify any gap between local laws and the Bank's requirements, and the mechanisms to bridge such gaps.
- b) **Potential Impacts.** Identification of project activities that will result in resettlement, the zone of impact of these activities, and alternatives considered to avoid or minimise resettlement. Impacts on communities should be identified. As part of defining the project impacts, it is essential that the Consultant work with the project authorities to agree on a cut-off date for resettlement eligibility and communicate this to the PAPs in writing.
- c) **Profile of Communities to be Resettled and/or Compensated** in the event that there is need for such. This section will refer to the socio-economic baseline studies to detail the following:
 - Current occupants of the project affected area to establish a basis for designing the resettlement program;
 - Characteristics of displaced households, including a baseline information of livelihoods such as relevant production levels and income derived from both formal and informal economic activities and standards of living of the affected population;
 - The magnitude of the expected loss - total or partial – of assets, and the extent of displacement, physical or economic. Types of losses can include, but are not limited to the following: agricultural land, residential land, houses, structures, standing crops and trees, income, cultural and religious property (e.g. grave/sacred shrine), other productive assets, community buildings and structures. Information on vulnerable groups, for whom special provisions may need to be made;
 - Information on land tenure rights and systems, including an inventory of common property natural resources from which people derive their livelihood, and non-title-based usufruct systems including fishing, grazing, or use of forest areas.
 - Identification of categories of loss of access to resources (e.g. grazing land) or services (hospital), including where the physical asset may not be affected, but there is a cut-off or loss of access to the asset as a result of project works.

- Information on further livelihood of population by categories to be resettled to the new living places in order to identify employment and training/retraining for diverse types of professions.
- d) Valuation of Compensation. The methodology to be used in valuing losses to determine their replacement value and a description of the proposed types and levels of compensation.
- e) Entitlement Matrix and Compensation Measures. Definition of affected persons and criteria for determining their eligibility for compensation and resettlement assistance. An *entitlement matrix* defining compensation packages and other resettlement measures that will assist each category of eligible persons. Resettlement measures should be prepared in consultation with affected population and should be framed within the overall approach of livelihood restoration and development.
- f) Compensation Procedures. This covers how compensation and resettlement measures will be implemented. It includes details of information flows, money and in kind transfers to people, paperwork and sign off for package approval for each PAP, how transportation will take place etc. An important part is agreement on a cut off date which is to be communicated to the PAPs in writing.
- g) Resettlement Sites. Relocation sites considered and explanation of those selected, detailing:
 - Process of involving affected populations in identifying potential housing sites, assessing advantages and disadvantages and selecting sites;
 - Mechanisms for procuring, developing and allotting resettlement sites, including awarding of title or use rights to allotted lands;
 - Measures for studying lands fertility to identify profitable cultivation of agriculture and creation of SMEs on agro-processing.
 - Consultations with host communities about the new settlers. Have they participated in the identification of potential impacts on their communities and defining appropriate mitigation measures? Do the host communities have a share of the resettlement benefits (e.g. education, water, health, and any community development funds or programs)?
- h) Livelihood Restoration/Rehabilitation. Strategies for livelihood restoration and improvement should address the following questions:
 - Are the compensation entitlements sufficient to restore livelihoods and income streams for each category of impact? Are additional rehabilitation measures necessary to promote longer term social and economic uplift of the project area and to respond to the development framework within which resettlement should take place?
 - Does income restoration require change in livelihoods, development of alternative farmlands or other activities, that require a substantial amount of training and include such training in the compensation package.
 - Are there any social or community development programs operating in the project area? Are there any opportunities for the project to support new programs or expand existing programs to support the development needs of the affected and host communities.
- i) Participation and Consultation. A consultation strategy building on the stakeholder analysis, which describes :
 - Process of promoting meaningful consultation of the affected people and stakeholders in the preparation and implementation of resettlement activities, including facilitating the participation of vulnerable groups and women.
 - Process of involving the affected population and other stakeholders in project monitoring
- j) Grievance Procedures. Identification of affordable and accessible procedures for settlement of disputes related to the planning and implementation of resettlement activities. Establish a procedure for recording grievances and response times for resolution of problems. Identify agencies responsible for implementing these procedures.
- k) Institutional Arrangements. Organisational framework for implementing resettlement activities, describing:
 - Agencies responsible for implementing all aspects of resettlement program. This includes implementing compensation procedures (including the delivery of each item/activity in the entitlement matrix),

implementation of other resettlement measures (e.g. payment of allowances, training, development programs, service provision, income restoration etc.), communicating and informing PAPs etc. and coordination of activities for implementation of the

4. Consultancy firm Profile and team composition.

A duly registered ESIA consultancy firm with a minimum of 10 years of experience in conducting environmental and social impact assessments for developmental and humanitarian projects is being sought. The consultancy firm is obligated to assemble a team of key and non-key experts for the assignment that will enable the firm to meet the assignment's requirements. However, it is required to include a minimal key staff with qualifications and experience as described below:

(a) Project Manager

An experienced environmental and social management consultant with proven experience in the management of ESIA assignments for large projects. S/he should have training in one of the scientific fields, Environmental Management, Tropical Ecology, Biodiversity, Geography, Resettlement and Social Development or, any other related academic field. S/he must have at least 15 years of experience in project management, and especially in ESIA assignments for similar projects. The Project Manager shall be familiar with the operational requirements of IOM, the World Bank Environmental and Social Framework, and South Sudan Laws and regulations governing environmental and social management.

(b) Environment Scientist

An experienced Environmental Scientist, preferably with an environmental management, or environmental engineering, academic background or any relevant environmental science field with not less than 10 years of proven experience in the environmental management field, particularly in the management of environmental risk and preparation and/or review of ESIA report. S/he should have experience in ESIA. The Expert should be conversant with the World bank ESF requirements and demonstrate proven management experience.

(c) Social Scientist

An experienced social scientist with a Master of Science in Social Science, Psychology, Developmental studies or any other related field. The expert should have a proven record of working with communities and developing ESIA tools, including Stakeholder Engagement Plans, Resettlement Action Plans and Grievance Redress Mechanisms. The specialist should have at least ten years of progressive experience in the social science field. Experience in gender-informed resettlement. A significant portion of his/her experience must be in addressing involuntary resettlement programs. S/he will have demonstrated expertise in the design and implementation of socio-economic data collection, data analysis and design programs to support the feasibility of projects. S/he must be knowledgeable and experienced in preparing and implementing RAPs required by national governments and international lending institutions, including the World Bank. An in-depth understanding of the World Bank Environmental and Social Framework is a prerequisite.

(d) Ecologist

An ecologist/biodiversity with a BSc in Ecology, Environmental Science, or any other related field. The specialist should have more than five years of working experience in the development of ESIA instruments and associated specialist studies. The expert will be working under the guidance of the lead Environmental scientist.

(e) Socio-Economist with Community Development background expertise

With a minimum of bachelor's degree in Developmental Studies, Social Science, psychology, or any other related field. Must have five years of experience. He/she should be working under the guidance of the social scientist and support in the production of specialist reports and baseline reports, including assisting in data collection.

(f) GIS/Geo-Spatial Analyst

A GIS specialist with proven experience in geospatial modelling and environmental modelling. The expert should be a holder of a Master of Science degree in Geographical Information Systems (GIS) or any other related field. S/he should have five years of experience and demonstrate evidence of participating in similar assignments. They will work under the direct supervision of the Environmental Scientist and the hydrologist.

(g) Hydrologist

An experienced hydrologist with a BSc in Hydrology coupled with 5 years of experience. Evidence to demonstrate experience in similar projects and involvement in the preparation of ESIA reports will be key.

5. Deliverables

The following deliverables must be submitted by the consultants and received to the satisfaction of IOM:

- (a) The Inception Report that presents the Consultant's Work Plan shall be submitted, defines the Implementation Schedule by task, specifies submission dates in draft for each required report, and assigns personnel by name and date to each task. The proposed project schedule shall be broken down by tasks and sub-tasks and presented in chart form.
- (b) Detailed screening Report
- (c) Full Environmental and Social Impact Assessment report with its respective Environmental and Social Management Plans for the proposed project. The report should also include the public consultation and disclosure process results and any other associated specialist reports deemed necessary by IOM and the Consultants.
- (d) Final ESIA report.
- (e) Monthly Progress Reports shall be submitted, which present a brief overview of progress in completing tasks, any difficulties affecting the ability to achieve work as agreed in the Work Plan, proposed alternate means to achieve project objectives, major scheduled milestones, and any other relevant information to ensure effective implementation. Monthly Progress Reports will be five pages maximum in length.
- (f)

All reports must be submitted to IOM in an electronic file, including all Shapefiles and any primary data sources that might have been used in the production of the reports. IOM shall retain the rights to such information, and any intellectual property rights shall be with IOM upon completion of the assignment.

The tentative timeline for the deliverables is stated below:

Report Number	Report Description	Deadline for deliverable <i>(days after signing the contract)</i>
1	Inception report, including detailed work plan and methodology	After 14 days
2	Screening report	After 30 days
3	Draft Zero Full ESIA Report	After 60 days
4	Final Full ESIA Report	After 90 days
5	Monthly reports	By the 5 th of the preceding month

6. Approval of reports

Reports will be approved by the IOM. The period for approval of reports will be within 7 working days, if after this time, the technical lead does not issue any observations, the consultant project manager must initiate a communication to the IOM project manager indicating a default approval. The IOM project manager will have 5 working days to respond or raise issues, beyond which, the report will be considered approved if no issues are raised.

7. Payment Schedule

Payments for work done will only be triggered after having received all technical approvals in writing from the IOM technical leads and the Project Manager. The following payments will be made according to the schedule below:

- 30% after the contract is signed, submission and approval of the inception report together with an approved work plan and methodology.
- 50 % after the delivery and approval of the first full draft report.
- 20 % after the delivery and approval (by both IOM and Ministry of Environment and Forestry) of the full Final report.