Building Resilience in the Face of Climate Change Within Traditional Rainfed Agricultural and Pastoral Systems in Sudan

Environmental and Social Management Framework

20 May 2020

CONTENTS

EXECUTIVE SUMMARY

This Environmental and Social Management Framework (ESMF) has been prepared in support of a project proposal for "Building Resilience in the Face of Climate Change Within Traditional Rainfed Agricultural and Pastoral Systems in Sudan" by the Government of Sudan to the Green Climate Fund (GCF).

The project focuses on building resilience and adaptive capacity of rural communities relative to their agricultural and water resource management practices, and relative to current and future climate risks. The emphasis is on non-commercial, subsistence activities within small farmer communities in drought prone areas of Sudan.

The proposed project aims to build resilience of subsistence farmer and pastoral communities and physical assets and livelihoods to climate change risks, by mainstreaming a number of farming practices, such as seed selection, water management, pest management, and pasture and livestock management and improved livelihood support systems.

The project will enhance resilience by climate-proofing current productive activities through the introduction of new management schemes and technologies. Many of the interventions are targeted towards public goods – communal rangelands for livestock grazing, village-level water supply, and decentralized irrigation systems – while other interventions aim to increase the adaptive capacity of households that are most vulnerable to climate change by introducing drought-resistant seed varieties, vegetable gardens for women-headed households, and livestock nutrition and disease prevention programmes.

Project target areas are focussed on a total of 211,773 subsistence farming households distributed among 138 villages across the nine states:

- West Darfur: A total of 2,829 households in 5 villages in the Genana and Krenik localities.
- Central Darfur: A total of 7,727 households in 13 villages in the Zalingi and Azoom localities.
- East Darfur: A total of 47,700 households in 10 villages in the El Dain, Firdous and Asalia localities.
- Western Kordofan: A total of 5,683 households in 27 villages in the Asalam, Al Nohoud, and Alsunut localities.
- South Kordofan: A total of 10,350 households in 23 villages in the El Goz and Dilling localities
- Kassala state: A total of 74,208 households in 16 villages in the Kassala, Telkuk, and Nhar Atbra localities.
- Red Sea state: A total of 52,000 households in 15 villages in the Agig, Dordaib/Haya, and Guneb Olib localities.
- Northern state: A total of 8,929 households in 18 villages in the Dongola, Marawi, and Al Dabaha localities.
- Khartoum: A total of 2,347 households in 11 villages in rural areas of the Omdurman and Sharg El Nil.

To achieve this objective, the project will invest in the following three Outputs:

- Output 1: Resilience of food production systems and food insecure communities improved in the face of climate change in Sudan, benefiting at least 200,000 households and farmer and pastoralist with 35% women:
- Output 2: Improved access of water for human, livestock and irrigation to sustain livelihoods in the face of climatic risks in the nine targeted states benefiting at least 200,000 households:
- Output 3: Strengthened capacities and knowledge of institutions and communities on climate change resilience and adaption:

This Environmental and Social Management Framework (ESMF) has been prepared to support the project proposal and subsequent implementation. The ESMF has been prepared based on the risks identified through screening of activities using UNDPs Social and Environmental Standards procedure. The risk profile of the project has been determined to be moderate (Category B). The risks are considered to be acceptable and manageable through the application of mitigation measures.

The ESMF outlines the implementation arrangements for ensuring environmental and social impact management. It also provides a screening process for sub-activities so that risks currently unknown can be assessed as part of the detailed design and implementation. This sub-activity risk assessement will be enhanced through the active engagement of the 'onground' stakeholders.

To provide for the potential for ethnic diversity an Indigenous Peoples Planning Framework has been prepared as part of the ESMF. Stakeholders will continued to be engaged and a Stakeholder Plan has been prepared to guide and facilitate that engagement. Further, a project grievance redress mechanism has been designed. This is supplemented by both UNDPs Stakeholder Response Mechanism and GCFs Independent Redress Mechanism.

The ESMF provides an outline of the types of mitigation measures that are likely to be required when implementing the project. Where appropriate, site specific environmental and social management plans (ESMPs) or site work instructions may be prepared to deal with specific issues.

1 INTRODUCTION

1. This Environmental and Social Management Framework (EMSF) has been prepared in support of a project proposal for "Building Resilience in the Face of Climate Change Within Traditional Rain-fed Agricultural and Pastoral Systems in Sudan" by the Government of Sudan (GoS) to the Green Climate Fund (GCF). As this project is supported by UNDP in its role as a GCF Accredited Entity, the project has been screened against using the UNDP's Social and Environmental Standards Procedure and deemed a Moderate Risk (World Bank/International Finance CorporationGCF Category B) project. As such, an Environmental and Social Management Framework has been prepared for the project.

1.1 BACKGROUND

2. Sudan lies in northeast Africa between latitudes 10°N and 23°N and longitudes 21°45′E and 38°30′E. It covers an area of approximately 184 million hectares and has a population of about 30.9 million distributed across 5 major regions and 18 states. The country borders include South Sudan, six other African nations, and the Red Sea. The majority of the land consists of vast arid plains interrupted by a few widely separated ranges of hills and mountains.
3. Annual average rainfall in Sudan is low, ranging from 300 to 700 mm per year. In the north near the Egyptian border, desert conditions prevail and rain is rare. Throughout the rest of Sudan, most of the rainfall comes over a four-month period that extends from June through September. Air temperatures have been steadily increasing in Sudan.
4. Traditional rain fed agriculture is the predominant production system in rural Sudan. It covers about 9.0 million hectares, representing more than 50% of the total national cultivated land, and represents the major livelihood source for the majority of the population.
5. Traditional rain fed agriculture has become excessively risky and uncertain due to increasing climatic variability and competitive pressures on natural resources. Emerging climatic trends such as declining precipitation, more frequent drought episodes, higher temperatures, more intense sandstorms are leading to a sharp degradation of natural resources and exposing farmers to higher risks. Compounding this situation are factors such as poor infrastructure, weak access to inputs/services, low technical capacity, and chronic poverty conditions. Farmer households remain highly vulnerable to these intensifying threats to the productivity of rain-fed agricultural systems. The degree of vulnerability can vary greatly from one state to another, as well as among locations within a state.
6. The Government of Sudan with support from UNDP, is formulating a project on adaptation to climate change impacts on traditional rain-fed agriculture and pastoral systems for submission to the GCF. The project will seek to improve the resilience of vulnerable communities to climate change impacts.

1.2 OVERVIEW OF THE PROJECT

7. The GoS, represented by the Higher Council for Environment and Natural Resources (HCENR) will lead the project. A number of other key ministeries will also be involved: Ministry of Agriculture and Forestry, Ministry of Animal Wealth, Rangeland & Fisheries, and Ministry of Water Resources and Electricity.
8. The project focuses on building resilience and adaptive capacity of rural communities relative to their agricultural and water resource management practices, and relative to current and future climate risks. The emphasis is on non-commercial, subsistence activities within small farmer communities in drought prone areas of Sudan.
9. The spatial focus of the project is on a total of 211,773 subsistence farming households distributed among 138 villages across the nine (9) states. These are the primary beneficiaries of project activities. These households correspond to a population of about 1,222,805 people, or roughly 10% of the total population in the targeted villages. In addition, a further 2,580,355 people are indirect beneficiaries of project activities. Approximately 35% of all beneficiaries of the project will be women.
10. The village communities have been selected on the basis that they share certain common characteristics that render their crop production, water resource management, and pastoral activities highly vulnerable to changes in climatic conditions:

- *Scale:* All project sites are characterized as poor small holder farmer communities that are engaged in subsistence agriculture and pastoral activities.
- *Climate variability:* All project sites are in drought-prone zones which have shown high climatic variability in recent decades.
- *Agricultural systems:* Except for the Northern States, rain fed agriculture (mechanized and traditional) is the predominant production system. In the Northern States, irrigated agriculture dominates.
- *Pastoral systems:* All three pastoral systems are practiced, namely nomadic, transhumant, and sedentary with regional variations throughout the four regions.

11. The proposed project aims to build resilience of subsistence farmer and pastoral communities and physical assets and livelihoods to climate change risks, by mainstreaming a number of farming practices, such as seed selection, water management, pest management, pasture and livestock management and improved livelihood support systems.
12. The project will enhance resilience by climate-proofing current productive activities through the introduction of new management schemes and technologies. Many of the interventions are targeted towards public goods – communal rangelands for livestock grazing, village-level water supply, and decentralized irrigation systems – while other interventions aim to increase the adaptive capacity of households that are most vulnerable to climate change by introducing drought-resistant seed varieties, vegetable gardens for women-headed households, and livestock nutrition and disease prevention programmes.

1.2.1 Location of project activities

13. Figure 1 shows the target States and the project areas within them.

Figure 1 Map of project locations

14. Below is a summary of the target area beneficiaries and the typical agricultural activities in each area.
    - *West Darfur:* A total of 2,829 households in 5 villages in the Genana and Krenik localities are included in the project. Traditional agriculture is the most important form of production and characterized by various types of small-scale sedentary cultivation and pastoralism. Integration of animal and crop production is traditionally practiced as is horticulture along seasonal streams.
    - *Central Darfur:* A total of 7,727 households in 13 villages in the Zalingi and Azoom localities are included in the project. Traditional agriculture is the most important form of production and characterized by various types of small-scale sedentary cultivation and pastoralism. Integration of animal and crop production is traditionally practiced. Small scale irrigated horticulture production is widely practiced by streams and seasonal water courses.

- *East Darfur:* A total of 47,700 households in 10 villages in the El Dain, Firdous and Asalia localities are included in the project. Traditional agriculture is the most important form of production and characterized by various types of small-scale sedentary cultivation and pastoralism, with horticulture practices along seasonal streams.
- *Western Kordofan:* A total of 5,683 households in 27 villages in the Asalam, Al Nohoud, and Alsunut localities are included in the project. The local economy depends upon small scale rain fed traditional production systems of cropping and animal husbandry. There is an exclusive reliance on rainfall for agricultural production.
- *South Kordofan:* A total of 10,350 households in 23 villages in the El Goz and Dilling localities are included in the project. Traditional agriculture is the most important form of production and characterized by various types of small-scale sedentary cultivation and pastoralism. Small scale irrigated horticulture production is widely practiced. Forestry are important income sources.
- *Kassala state:* A total of 74,208 households in 16 villages in the Kassala, Telkuk, and Nhar Atbra localities are included in the project. Agriculture and livestock herding are the two major livelihoods Small scale irrigated horticulture production is widely practiced.
- *Red Sea state:* A total of 52,000 households in 15 villages in the Agig, Dordaib/Haya, and Guneb Olib localities are included in the project. The main livelihood groups are pastoralists that rely on seasonal water courses. Other livelihood sources are limited traditional cultivation and fisheries in coastal areas. The state has experienced long period of extended drought conditions, with over 90% of cereals consumed coming from other parts of Sudan.
- *Northern state:* A total of 8,929 households in 18 villages in the Dongola, Marawi, and Al Dabaha localities are included in the project. The local economy depends upon both irrigated and rained agriculture. Nile which passes through the region from south to north. Most of the population is engaged in intensive agricultural production along both banks. Horticulture production is widely practiced.
- *Khartoum:* A total of 2,347 households in 11 villages in rural areas of the Omdurman and Sharg El Nil localities are included in the project. These households are among the 20% of the population that are located in rural areas. Irrigated agricultural production along both banks of the Nile. Horticulture production is widely practiced. Commercial livestock in ranches. Grazing along seasonal streams and limited traditional cultivation and pastoralism in the eastern and northern-eastern part.

1.2.2 Summary of Activities

15. The proposed project will have the following outputs and associated activities:

- Output 1: Resilience of food production systems and food insecure communities improved in the face of climate change in Sudan, benefiting at least 200,000 households and farmer and pastoralist with 35% women:

✓ Activity 1.1: Introduction of drought-resilient seed varieties of sorghum, millet, groundnut and wheat that have demonstrated greater yields in the face of climatic changes through village procurement systems

✓ Activity 1.2: Introduce sustainable practices in agricultural production at the community level. This involves the introduction of greater irrigation efficiency in the management of water resources through the introduction of integrated women's farms, home gardens, and demonstration plots

✓ Activity 1.3: Introduction of rangeland management practices that reduce pastoral stress on communal lands through demonstration farms and rangeland rehabilitation techniques

✓ Activity 1.4: Establish shelterbelts/agroforestry to improve productivity and reduce land and environmental degradation. This involves the plantation of trees to absorb energy from dust storms and protection of cultivatable areas

- Output 2: Improved access of water for human, livestock and irrigation to sustain livelihoods in the face of climatic risks in the nine targeted states benefiting at least 200,000 households:

✓ Activity 2.1: Construct/rehabilitate water yards and drilling of shallow/borehole for drinking water for human and livestock and small-scale irrigation in targeted locations. This involves increasing the access to water by installing communal water infrastructure

✓ Activity 2.2: Establish sand water-storage dams in support of small-scale irrigation in targeted localities and villages. This involves the blocking seasonal wadis for groundwater storage and exploitation

✓ Activity 2.3: Construct improved Hafirs and upgrade of existing ones, excavating natural pond and cistern to increase availability of drinking water. This involves the construction of water storage infrastructure

- Output 3: Strengthened capacities and knowledge of institutions and communities on climate change resilience and adaption:

✓ Activity 3.1: Train extension officers and other government stakeholders on climate change resilience and adaptation related issues. This involves the development of training materials tailored to local circumstances and delivered through a series of workshops

1.3 Activity 3.2: Build capacity of beneficiaries for coping with climate change risks and local operation & maintenance of project interventions. This involves a series of seminars and workshops to raise awareness among village leaderships councils about climate change coping strategiesEnvironmental and Social Risk Assessment

16. As this project is supported by UNDP in its role as a GCF Accredited Entity, the project has been screened against UNDP's Social and Environmental Standards Procedure. The Social and Environmental Screening Template was utilised and the project deemed to be a moderate risk (GCF Category B) project. Discussions on the impact assessment are provided in the Social and Environmental Screening Template, which provided the rationale for the project being classified as a moderate risk. This ESMF provides further discussion below.

An impact risk assessment was undertaken to assess the probability (slight, not likely, moderately likely, highly likely, expected) (Table 1) and the consequence of each impact (negligible, minor, moderate, severe, critical) (

Table 2). From this, a significance value was attributed to the potential impact (low, medium, high) using the UNDP risk matrix (

17. Table 3).

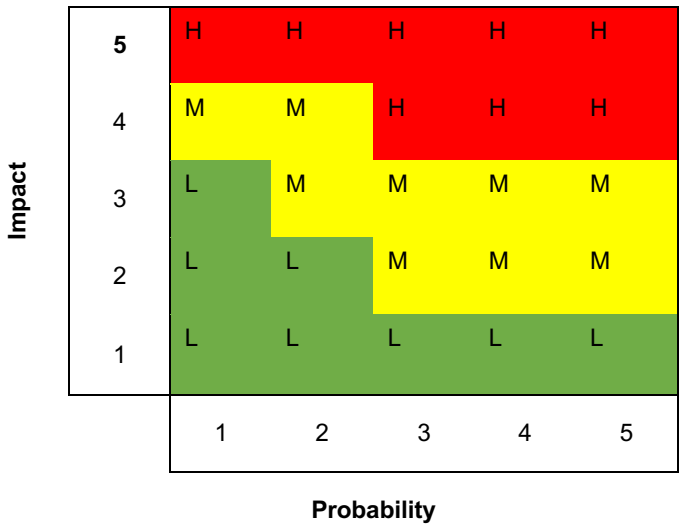
Table 1 Risk Levels

Score	Rating
5	Expected
4	Highly Likely
3	Moderately likely
2	Not Likely
1	Slight

Table 2 Rating of Impact of Risk

Score	Rating	Definition
5	Critical	Significant adverse impacts on human populations and/or environment. Adverse impacts high in magnitude and/or spatial extent (e.g. large geographic area, large number of people, transboundary impacts, cumulative impacts) and duration (e.g. long-term, permanent and/or irreversible); areas impacted include areas of high value and sensitivity (e.g. valuable ecosystems, critical habitats); adverse impacts to rights, lands, resources and territories of indigenous peoples; involve significant displacement or resettlement; generates significant quantities of greenhouse gas emissions; impacts may give rise to significant social conflict
4	Severe	Adverse impacts on people and/or environment of medium to large magnitude, spatial extent and duration more limited than critical (e.g. predictable, mostly temporary, reversible). The potential risk impacts of projects that may affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples are to be considered at a minimum potentially severe.
3	Moderate	Impacts of low magnitude, limited in scale (site-specific) and duration (temporary), can be avoided, managed and/or mitigated with relatively uncomplicated accepted measures
2	Minor	Very limited impacts in terms of magnitude (e.g. small affected area, very low number of people affected) and duration (short), may be easily avoided, managed, mitigated
1	Negligible	Negligible or no adverse impacts on communities, individuals, and/or environment

Table 3 UNDP Risk matrix



18. When undertaking the risk assessment, all activities were assessed, including, hard/soft infrastructure and livelihood interventions and risks and impacts were considered before and after mitigation measures (Table 4). Specific measures for each matter eg water, erosion, noise etc are discussed along mitigation measures later in this ESMF.

Table 4 Impact and Risk Assessment and Mitigation Measures

Activity	Unmitigated Impacts	Likelihood of Impact and Consequence	Avoidance and Mitigation Measures	Likelihood of Impact and Consequence post mitigation
Improved sedentary farming practices	Conflict between nomadic and sedentary farming practices. The direct dependence of Sudanese communities on the natural environment for survival has contributed to competition and conflict over scare natural resources.	Likelihood: 2 Consequence: 4 Risk: Moderate	It is expected that the project activities will not create or exacerbate conflict over natural resources but rather reduce the risk of conflict occurring by improving natural resource management and incorporating good practices, lessons learned and conflict-resolution strategies into the project design. The probability of any conflicts occurring or being exacerbated due to the project interventions is slight as the project will incorporate good practices, lessons learned from past adaptation interventions such as in the NAP and the NAPA. Further, the project interventions will incorporate conflict-resolution strategies building on traditional norms and systems governing relationships such as conflict mitigation committees. The project activities will bring communities together in a spirit of adaptation, to share finite resources and encourage a collective responsibility towards sustainable management of local resources.	Likelihood: 1 Consequence: 3 Risk: Low
	Loss of natural habitat and impacts to legally protected areas. Some project activities may occur adjacent to preserved	Likelihood: 2 Consequence: 3	Environmental and social assessments in line with national laws and regulations will be undertaken to determine and mitigate any potential threats to natural habitats.	Likelihood: 1 Consequence: 3

Activity	Unmitigated Impacts	Likelihood of Impact and Consequence	Avoidance and Mitigation Measures	Likelihood of Impact and Consequence post mitigation
	areas. Minor loss of habitat as a result of construction activities.	Risk: Moderate	This will also include intensive stakeholder consultation. It is expected that the project will contribute to reducing stresses to natural habitats by introducing alternative livelihood opportunities for communities that are dependent on resources from reserved forests. No non-permissible activities will be undertaken within protected areas.	Risk: Low
Introduction of Improved Seed	Potential introduction of seeds that become environmental weeds or that have undesirable genetic traits	Likelihood: 2 Consequence: 3 Risk: Moderate	Project will not use genetically modified seeds. Only improved seeds that are tested and approved by research institutions according to national and international laws and policies will be used. Sudan has strict policies and guidelines regarding the use of improved seeds. Each type of improved seeds has to undergo rigorous assessments to verify whether or not they comply with national and international laws and regulations and/or pose any potential social or environmental threats. To mitigate the risk of any improved seeds that could cause environmental or social harms the project will only utilize approved seeds that have been approved.	Likelihood: 1 Consequence: 2 Risk: Low
Borehole development/rehabilitation	Potential for over-extraction and/or contamination	Likelihood: 3 Consequence: 3	Groundwater assessment will be undertaken as part of the borehole drilling	Likelihood: 2 Consequence: 3

Activity	Unmitigated Impacts	Likelihood of Impact and Consequence	Avoidance and Mitigation Measures	Likelihood of Impact and Consequence post mitigation
		Risk: Moderate	process. This will include water quality analysis and pump tests to determine yield. Bores and wells will be capped and/or raised and covered to minimise risk of potential for contamination. Surface water, fuel and other contaminant management will also help avoid potential contamination of groundwater.	Risk: Moderate
Construction or rehabilitation of hafirs, small earth dams, traditional ponds.	Construction impacts – air, noise, waste. All construction activities have some impact, uncontrolled these impacts can have significant impacts.	Likelihood: 3 Consequence: 3 Risk: Moderate	Construction activities will utilise industry standard techniques for minimising impacts, such as sediment and erosion control, noise mitigation measures (mufflers, controlled working hours), air quality measures (certified equipment, dust suppression etc), waste management, and health and safety (eg PPE, emergency procedures).	Likelihood: 2 Consequence: 2 Risk: Low
Construction of micro-catchments for household gardens	Poor construction and maintenance could see sub-optimal returns	Likelihood: 3 Consequence: 2 Risk: Moderate	Home gardens contribute to income generation, improved livelihoods, and household economic welfare as well as promoting entrepreneurship. Training in the construction, maintenance and effective used of micro-catchments will be provided. Household garden may be the single most effective adaptation intervention for rural, women-led households	Likelihood: 1 Consequence: 1 Risk: Low

Activity	Unmitigated Impacts	Likelihood of Impact and Consequence	Avoidance and Mitigation Measures	Likelihood of Impact and Consequence post mitigation
Range management, shelter belts, reseeding and enclosures.	Changing land use can lead to potential conflict – eg exclusion from land within enclosures. Shelter belts could be exploited for timber/fodder rather than managed as effective windbreaks.	Likelihood: 3 Consequence: 3 Risk: Moderate	The probability of any conflicts to occur or be exacerbated due to the project interventions is slight as the project will incorporate good practices, lessons learned from past adaptation interventions such as in the NAP and the NAPA. Further, the project intervention will incorporate conflict-resolution strategies building on traditional norms and systems governing relationships such as conflict mitigation committees. The project activities will bring communities together in a spirit of adaptation, to share finite resources and encourage a collective responsibility towards sustainable management of local resources	Likelihood: 1 Consequence: 3 Risk: Low
Strengthen capacities of beneficiaries on adaption interventions	This activity is capacity development and training. As such, there are unlikely to be any significant or even negligible impacts.	Probability: 1 Impact: 1 Risk: Low	Ensure that there is full transparency in the information being obtained and access to this information Implement Gender Action Plan	Probability: 1 Impact: 1 Risk: Low

1.3.1 Assumptions Underpinning the Development of the Environmental and Social Management Framework

19. The following assumptions have been made in the preparation of this ESMF:
    - none of the interventions will require the displacement of people;
    - none of the interventions will be conducted in protected areas or sensitive locations where it is illegal to do so;
    - the building of water harvesting and water control structures will be done during the dry season to reduce erosional impacts;
    - appropriate erosion and sediment control will be undertaken during all stages of the projects; and
    - there will be no release of pollution and/or chemicals as a result of the projects.

1.3.2 Purpose and Objectives of the Environmental and Social Management Framework

20. Weak management of the environment is widely recognised as a contributing factor to poverty and conflict in Sudan, especially in areas where livelihoods are highly dependent on the direct utilisation of natural resources.[1]
21. An EMSF is a management tool used to assist in minimising the impact to the environment and socially; and reach a set of environmental and social objectives.This ESMF has been prepared to support the implementation of the GCF project "*Building Resilience in the Face of Climate Change Within Traditional Rainfed Agricultural and Pastoral Systems in Sudan*".
22. To ensure the environmental and social objectives of the projects are met, this EMSF will be used by the project implementers to structure and control the environmental management safeguards that are required to avoid or mitigate adverse effects on the environment.
23. The environmental and social objectives of the project is to:
    - increase the productivity of livelihoods and the populations' capacity to adapt to climate change through various tested interventions in a coordinated manner to effectively address the challenges facing the rural populations of Sudan
    - encourage good management practices through planning, commitment and continuous improvement of environmental practices;
    - improve the water supply in the targeted areas and introduce water conservation measures;
    - land regeneration and soil conservation;
    - improve farming practices to increase productivity and resilience including irrigation, improved seed supply, improved animal husbandry practices and diversification of crops;
    - minimise or prevent the pollution of land, air and water pollution;
    - protect native flora, fauna and important ecosystems;
    - comply with applicable laws, regulations and standards for the protection of the environment;
    - adopt the best practicable means available to prevent or minimise environmental impact;
    - describe monitoring procedures required to identify impacts on the environment; and
    - provide an overview of the obligations of GoS and UNDP staff and contractors in regard to environmental obligations.
24. The EMSF will be updated from time to time by the implementing Project Management Unit (PMU)/contractor in consultation with the UNDP staff and GoS to incorporate changes in the detailed design phase of the projects.

[1] UNEP (2012) Environmental Governance in Sudan An Expert Review

1.3.3 Screening Procedure of the Environmental and Social Management Framework

25. Initial screening was undertaken using UNDPs Social and Environmental Screening Procedure (SESP). Further assessment of the proposed activities was undertaken, and risks and potential mitigations presented (**Error! Reference source not found.**).

26. The UNDP SES and GCF ESS applies to all phases of the project, therefore, during project implementation, it may be necessary to screen sub-projects and/or sub-activities prior to implementation. Selection of appropriate sub-projects and detailed design of sub-projects will be done in conjunction with local people as part of the early implementation. Screening will be done against the UNDP SESP. HCENR and UNDP are responsible for ensuring that screening of sub-projects and public disclosure occurs. Any sub-projects that meet the criteria of the Exclusion List (below) will not be considered further.

1.3.3.1 Exclusion List

27. No activities considered potentially "high-risk" will be permitted

28. In addition, project activities will be screened against the following "negative list" or "exclusion list". The following sub-projects or activities will be deemed ineligible for the project if they:

    - Involve significant conversion or degradation of natural habitats and/or may cause measureable adverse impacts to critical natural habitats;
    - Risk the introduction of alien and potentially invasive alien species;
    - May negatively affect endangered species;
    - Involve physical or economic displacement of people;
    - Could result in damage or loss to cultural heritage;
    - Do not meet minimum design standards with poor design or construction quality, particularly if located in vulnerable areas;
    - Require or involve:
    - Production or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements;
    - Purchase, application or storage of harmful pesticides or hazardous materials;
    - Production or activities involving forced labour / harmful child labour;
    - Production or trade in wood or other forestry products from unmanaged forests;
    - Trade in wildlife or wildlife products regulated under CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora).

1.3.3.2 Screening of sub-projects

29. This section sets out a process for screening sub-projects and associated elements during project implementation. Any sub-project and associated elements developed during the Project should be evaluated according to the screening process described below to determine the potential risk of associated environmental and social impacts, and associated mitigation options.

30. The process consists of the following steps:

    - Step1: at the time of preparing Terms of Reference for each sub-project or associated element (TA or services delivery component), each sub-project or associated element shall be screened and categorized, with a decision made to proceed with further project formulation, or to "design out" potential adverse impacts, by modifying the proposal to ensure it remains within Category B or C, and identify relevant safeguards instruments.

    Sub-projects will be screened against Sudanese Law as part of Step 1. Activities will be assessed against HCENR requirements to determine whether an EIA will be required (refer S 2.1).

    - Step 2: Preparation of required safeguards instruments (EIA &/or ESMP) including stakeholder consultations as necessary.

- Step 3: Review of prepared safeguards instruments as per Sudanese law and UNDP/GCF safeguards policies; additional stakeholder consultations as deemed necessary.
- Step 4: Disclosure of approved instruments locally and on UNDP's website. In the case of Category B sub-projects, the EIA and/or ESMP will be disclosed at least 30 days in advance of the approval decision. The safeguard reports will be available in both English and the local language. The reports will be submitted to GCF and made available to GCF via electronic links in both UNDPs and the GCF's website as well as in locations convenient to affected peoples in consonance with requirements of GCF Information Disclosure Policy and Section 7.1 of (Information Disclosure) of GCF Environmental and Social Policy.
- Step 5: Implementation – monitoring, reporting and remedial measures. Ongoing consultations and community engagement.

1.3.4 Land Issues

31. Over the past decade there has been some conflicts driven by competition for natural resources and land use/ownership. Involuntary mgration of peoples has also led to clashes between those originally displaced (refugees, IDPs, returnees) and host communities. Section 5.6 discusses socio-political situation further.
32. The project does not require any resettlement or loss of land or access to resources and is targetted at communities already living in the proposed intervention areas. Furthermore, the project includes comprehensive inclusive stakeholder consultation as part of its design and implementation strategy. . Broad engagement engage of key stakeholders, and the creation of village committees,composed of representatives of groups such as sedentary farmers, pastoralists, IDPs, returnees, customary institutions and Government Locality(ies) into one decision making body assists in resolving conflict that arises from competition on use of natural resources.
33. Hafirs to be established or renovated are on communal land, which is owned by the government. The Department of Land Use, which is under the Ministry of Agriculture, will take care of land registration.
34. Farmers on privately owned farmland can undertake activies to manage their land, such as terracing or small-scale earth dams, without consultation with the Department of Land Use.

1.3.5 Ethnic Groups

35. Although there is no accurate demographic data on Sudan, the US Department of State's 2015 Human Rights Report states that the population includes more than 500 different ethnic and sub-ethnic groups. While many linguistically and culturally identify as Arab, others identify as African, although there is no reliable data on this breakdown. [2]
36. Sudan is home to hundreds of ethnic and sub-ethnic groups, speaking a multitude of languages. Arabic is the dominant and official language and sources suggest that Arabs account for 70% of the population.[2]
37. Prominent non-Arab groups include the Nubians, who live along the Nile River in northern Sudan, the Beja who reside in eastern Sudan, the Fellata located mainly in Gezira, the Nuba (a collective term for the different tribal groups inhabiting the Nuba Mountains) in South Kordofan and the Fur, Massalit and Zaghawa located in the Darfur region. The distribution of the main ethnic groups is shown in Figure 2.

[2] Australian Government (2016) DFAT Country Information Report Sudan 27 April 2016

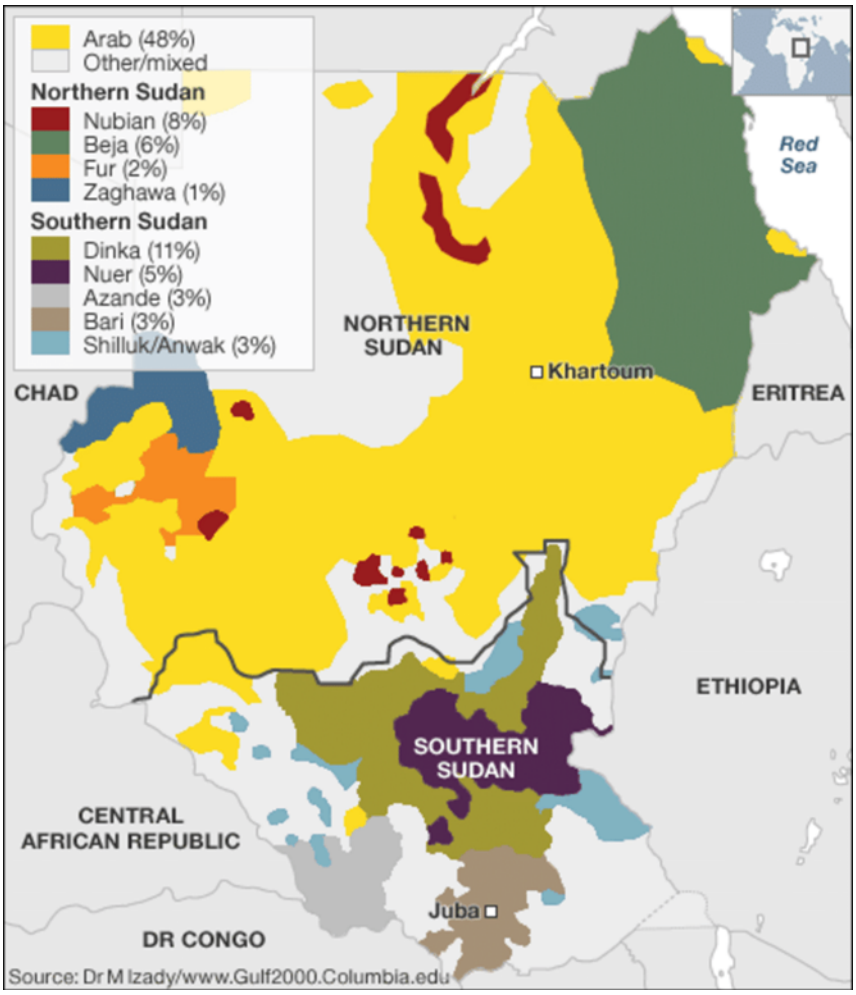


Figure 2 Distribution of ethnic groups

38. Sudan also has received large numbers of refugees from neighbouring countries such as South Sudan (almost 500,000 since 2013[3]) and Eritrea.
39. The Stakeholder Engagement Plan and the Gender Action Plan provide non-discriminatory platforms for the project implementation. These documents are further supported by Sudanese law and the 2005 Interim National Constitution and the Sudan National Human Rights Commission.
40. The project recognises that, as per the GCF Indigenous Peoples Policy, "indigenous peoples often have identities and aspirations that are distinct from mainstream groups in national societies and are disadvantaged by traditional models of mitigation, adaptation and development. In many instances, they are among the most economically marginalized and vulnerable segments of the population. The economic, social and legal status of indigenous peoples frequently limit their capacity to defend their rights to, and interests in, land, territories and natural and cultural resources, and may restrict their ability to participate in and benefit from development initiatives and climate change actions."
41. The ESMF contains requirements for social inclusion and provides a grievance mechanism.
42. Furthermore, prior to implementation, each sub-project/sub-activity will be assessed to identify whether any previously unidentified adverse impacts to EMs are likely and whether the need for FPIC and an IPP is triggered using the questions in
43.
44. Table 5. Where a 'yes' answer is returned, there is likely to be a need for FPIC and an IPP would be prepared based on the IP Planning Framework (Appendix 1).

[3] http://www.refworld.org/country,...SDN,.5a61ee23a.0.html

Table 5 Checklist for appraising whether an activity may require an FPIC process

No.	FPIC Screening Questions	Yes / No
1	Will the activity involve the relocation/resettlement/removal of an indigenous population from their lands?	
2	Will the activity involve the taking, confiscation, removal or damage of cultural, intellectual, religious and/or spiritual property from indigenous peoples?	
3	Will the activity adopt or implement any legislative or administrative measures that will affect the rights, lands, territories and/or resources of indigenous peoples (e.g. in connection with the development, utilization or exploitation of mineral, water or other resources; land reform; legal reforms that may discriminate de jure or de facto against indigenous peoples, etc.)?	
4	Will the activity involve natural resource extraction such as logging or mining or agricultural development on the lands/territories of indigenous peoples?	
5	Will the activity involve any decisions that will affect the status of indigenous peoples' rights to their lands/territories, resources or livelihoods?	
6	Will the activity involve the accessing of traditional knowledge, innovations and practices of indigenous and local communities?	
7	Will the activity affect indigenous peoples' political, legal, economic, social, or cultural institutions and/or practices?	
8	Will the activity involve making commercial use of natural and/or cultural resources on lands subject to traditional ownership and/or under customary use by indigenous peoples?	
9	Will the activity involve decisions regarding benefit-sharing arrangements, when benefits are derived from the lands/territories/resources of indigenous peoples (e.g. natural resource management or extractive industries)?	
10	Will the activity have an impact on the continuance of the relationship of the indigenous peoples with their land or their culture?	

45. This will ensure that all GCF-financed activities will avoid adverse impacts on indigenous peoples, and when avoidance is not possible, will minimize, mitigate and/or compensate appropriately and equitably for such impacts, in a consistent way and improve outcomes over time; promote benefits and opportunities; and respect and preserve indigenous culture, including the indigenous peoples' rights to lands, territories, resources, knowledge systems, and traditional livelihoods and practices.

1.4 Overview of Institutional Arrangements for the Environmental and Social Management Framework Plan

46. The EMSF will be assessed for each sub-project by the HCENR and UNDP prior to any works being undertaken. The EMSF identifies potential risks to the environment and social matters from the projects and outlines strategies for managing those risks and minimising undesirable environmental and social impacts. Further, the EMSF provides a Grievance Redress Mechanism for those that may be impacted by the projects that do not consider their views have been heard.

47. The HCENR will be responsible for the supervision of the EMSF. The UNDP with gain the endorsement of the HCENR and will ensure the EMSF is adequate and followed. The PMU will ensure timely remedial actions are taken by the contractor where necessary.

1.4.1 Administration

48. The HCENR will be responsible for the revision or updates of this document during the course of work. It is the responsibility of the person to whom the document is issued to ensure it is updated.
49. The site supervisor will be responsible for daily environmental inspections of the construction site. The HCENR will cross check these inspections by undertaking monthly audits.
50. The contractor will maintain and keep all administrative and environmental records which would include a log of complaints together with records of any measures taken to mitigate the cause of the complaints.
51. The contractor will be responsible for the day to day compliance of the ESMF.
52. The HCENR will be the implementing agency and will be responsible for the implementation and compliance with the ESMF via the collaborating partners and contractors. The ESMF will be part of any tender documentation.
53. The Project Manager will supervise the contractor, while the HCENR will be responsible for environment and social issues.

1.4.2 Capacity Building

54. . The goal of capacity building efforts is to generate new knowledge, develop skills, and facilitate a shift in attitudes toward climate resilient livelihoods. The project seeks to strengthen local governance by building capacity among Village Councils, Village Development Committees and Popular Committees on best practices, as well as increasing technical capacity of extension agents from state-level Ministries of Agriculture and Forestry on sustainable technologies and practices suitable for dryland areas. The enhanced capacity of the native administration in areas of environmental governance, management of shared natural resources, inter- and intra-state relations and how to establish a network of early warning systems will help prevent conflicts and out-mitigation in the areas.
55. The project's training programmes will result in strengthened institutional and individual capacity to address urgent adaptation needs, hence improving the link between adaptation and state/national policymaking. Specifically, training will be oriented to government staff (including agricultural extension support services), local farmers and pastoralists on how to use climate information, how to incorporate adaptation concerns into provincial/community development, and how to ensure that key adaptation concerns mainstreamed into relevant policies.

2 LEGAL AND INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL MATTERS

2.1 LEGISLATION, POLICIES AND REGULATIONS

56. Table 6 outlines the environemental legislation that is relevant to the project:

Table 6 Relevant Sudanese environmental legislation[4]

Year	Legislation/Policy Decision	Remarks
1899	**Title to Land Ordinance**	The Ordinance recognised private property in the form of individually-registered cultivated lands in the extreme north and central riverain Sudan. During the colonial period, land ownership was pursued through a series of land legislation. One major policy of this Ordinance was "to expand cultivation while safeguarding the inhabitants' rights and encouraging the formulation of a Sudanese proprietary class." (Warburg, 1970: 156 cited in Komey, 2009: 4). Towards that end, a number of land settlement commissions were appointed in the northern and central districts. Similar structures did not exist in the Nuba Mountains, Darfur, southern Blue Nile and South Sudan, and no land registration was pursued in these areas. Consequently, no individual private land ownership was formally recognised in these regions (Bolton, 1954: 187 and Warburg, 1970: 159 cited in Komey 2009).
1925	**Land Settlement & Registration Ordinance**	The Ordinance consolidated a 1903 Land Acquisition Ordinance, which empowered the government to acquire land for irrigation schemes and other public purposes, and a 1905 Land Settlement Ordinance, which established an adjudication system to settle claims to waste and unoccupied lands. Such lands were declared government property barring evidence to the contrary. This Ordinance is the main reference for land settlement and registration procedures in Sudan, including Darfur. Some adjustments have been made to this Ordinance, in 1984, to align it with the 1984 Civil Transaction Act.
1930	**Land Property Cancellation Act**	This Act stipulates that if the Wali deems a piece of land anywhere as permanently or temporarily required for public purposes, an announcement is made in the Gazette, and based on this it becomes possible to anyone delegated by the Wali to perform any of the following activities: • Enter any land in the area of interest and survey it • Dig the land • Prepare the land for whichever purpose it is needed for • Demarcate the boundaries of the land of interest • Cut and remove any crops or trees if they hinder demarcation. No one is allowed to step in that land without prior permission of the owner, unless the owner has received a one week notice. Per the Act, the Government pays compensation of damage caused by the above activities, if any, and the Wali pays or expresses willingness to pay an amount that will cover damage that might have been caused by the above-mentioned activities.
1932	**a) Native Courts Ordinance** **b) Central Forests Act**	a) The Ordinance consolidated a series of previous documents defining the respective roles of Native Administration authorities in the judicial sphere, setting up a system of local courts alongside state courts. b) Affirms government ownership of forests and responsibility of forests protection.
1951	**Local Government Act (or Ordinance)**	The Act came in the wake of a series of initiatives paving the way for local government-building during the 1930s and 1940s. The Ordinance sanctioned the creation of local councils entrusted with collecting taxes and providing social services. Local security and conflict management remained responsibilities of the NA.
1961	**Local Government Act**	The Act established local councils at the district level, led by a government-appointed commissioner and with members chosen from among local rural and urban elites, the NA, and leading civil servants. The main implementing party was the Ministry of Interior, which took over local government responsibilities from the Colonial Administrative Secretary.

[4] UNEP (2012) Environmental Governance in Sudan – An Expert Review

1968	**Establishment of Mechanised Farming Corporation MFC**	The MFC was established as an autonomous agency operating under the Ministry of Agriculture and Natural Resources. MFC managed the mechanised sector and provided technical assistance, credit, and market support to farmers in mechanised rain-fed areas
1970	**Unregistered Lands Act 1970**	The Act declared all waste, unregistered, and forest land to be government property, withdrawing de facto recognition of customary land claims other than as usufruct rights. The Act formally abolished the power of the NA to allocate land rights in rural communities and dissolved the legal basis of the notion of tribal homeland, or Dar.
1971	**Abolition of Native Administration[26]**	The document abolishing the Native Administration, issued by the country's leadership at the time, is generally considered a historically significant document as it replaced customary authorities and institutions with leaders chosen on a political basis.
1974	**Survey Department Act**	The Department has existed since the beginning of 20th Century, but the Act reflected a desire to modernise its work and regulate the use of then new technologies, such as aerial photography and remote sensing.
1974	**Livestock Routes and Veterinary Service Stations Act**	The aims of the Act, whose implementation was the responsibility of the then regional Ministries of Agriculture, were (i) to establish stock routes for transhumant herders and their animals from areas of production to local and international markets; (ii) to regulate veterinary services and standards to ensure the good quality of animals for the market. Both goals reflected a primary preoccupation with the market rather than with livestock production as such.
1975	**a) Mechanised Farming Corporation Regulations b) Environmental Health Act (amended in**	a) Policy served to define MFC responsibilities in relation to proper utilisation of natural resources in areas of rain-fed mechanised farming. b) Addressed in a comprehensive way environmental problems that may affect natural resources including water. However, local and state-level agencies entrusted with environmental assessments and conservation rarely work in consultation with groundwater authorities or include groundwater specialists.
1980	**Regional Government Act**	The Act divided Sudan into six regions, in addition to Khartoum as national capital. Regional Councils were also formed, with members chosen by locality councils.
1981	**Peoples' Local Government Act**	The Act divided regions into localities, more or less corresponding to the rural councils of the colonial era.
. 1984	**Civil Transaction Act (amended in 1990, 1991, and 1993)**	The Act repealed a series of previous acts, including the 1970 Unregistered Land Act. The 1984 Act builds on Islamic Sharia in that it recognises land as belonging to God, and man as the guardian of land. It gives Government administration rights over land and recognises usufruct rights as well as individual property rights. It also regulates civil transactions over land, including title to land, means of land acquisition, and various aspects of land use. The Act declared the responsibility of the government to conserve surface and underground natural resources.
1986	**Land Appropriation Act**	The Act defined the right of the government to sell and rent government land, as well as to allocate it for specific uses and to grant licenses to investors. Land included in the Act included that registered as government property according to the 1925 Land Settlement and Registration Act, as well as land expropriated for the public benefit or considered as belonging to the state by default based on the 1970 Unregistered Land Act.
1987	**Native Administration Bill**	The Bill stipulated the selective reinstatement of varieties of native administration, ostensibly to cater to regional and/or tribal variations. Among pastoral groups, native administration was to have administrative, judicial and security powers, whereas among sedentary populations its judicial powers were limited.

1989	**Forestry National Corporation (FNC) Act**	This Act repealed the 1932 Central Forests Act and Forests Subordinate Directorate Act, without invalidating legislation issued under these two Acts. The main objective of the Act was to define the functions of FNC, notably the formulation of general policies concerning forests and environmental protection. In addition, the Act aimed to increase the size of areas to be preserved as forests to a minimum of 20 per cent of the territory of Sudan.
1989	**Forests Act**	This Act was the most important in the field of forest protection. It resulted from the merger of two previous Forests Acts issued in 1932 and 1974, all aiming to regulate the protection of tree species, soil and water resources, pastures, and any other natural resources present in forest areas. Under the 1989 Act forest areas were for the first time classified with respect to different kinds of entitlements over them, including private and community entitlements. Implementation was entrusted to the FNC and to locality Commissioners who were also empowered to enforce the Act.
1990	**Irrigation & Flood Control Act**	The Act asserted state authority over the Nile and surface waters in general. In particular, it affirmed the power of the state to issue licenses for any activity concerning irrigation and discharge into surface water, as well as to specify the amount of water that each licensed party can draw and what time. Implementation was entrusted to the Ministry of Irrigation and Water Resources, and stakeholders were primarily farmers and schemes owners.
1990	**Native Administration Act**	Followed by the 1998 Local Government Act, which gives states the authority to formulate their respective Native Administration State Acts.
1990	**Agricultural Council Act**	The Act aimed to establish an Agricultural Council that would organise and develop the agricultural sector in coordination with concerned agencies (including research institutes). However, there is no evidence that this Council has been operative and/or effective to date.
1991	**4th Constitutional Decree and Local Government Act (LGA)**	Under the Constitutional Decree and the LGA, Sudan was declared a federal country. The Act redefined to some extent the setup, functions, and financial bases of localities, State Councils and Ministries, Governors, and various central government agencies such as those responsible for Local Government, Finance and the zakat.
1992	**Organisation of Nomads and Farmers Act**	The Act aimed to establish institutional structures to organise nomads and farmers and to assist in the implementation of government programs for rural development. In particular, a Higher Council for Farmers and Pastoralists was supposed to be established to implement the Act. To date the Act is still by and large awaiting implementation.
1994	**Disposition of Lands and Physical Planning Act**	This Act regulates the designation of land for different purposes and urban planning
1995	**a) National Water Commission Act (NWCA)** **b) Water Resource Act (WRA)** **c) Local Government Act**	a) The NWCA repealed the National Commission for Rural Waters Act and the National Commission for Town Waters Act of 1986, without thereby abrogating regulations issued under them. Its objective was to establish a national water commission that could undertake water planning, coordinate water use, protect the environment, and carry out research on water sources and their sustainable exploitation. The National Water Commission was to be set up in the Ministry of Irrigation. b) The WRA is the main piece of legislation concerning freshwater. It states that water is government property and entrusts primary responsibility for its management to the Ministry of Irrigation at federal level and to walis and the Ministries of Engineering Affairs at state level. c) The Act cancelled the 1991 LGA without invalidating regulations issued under it. One main aim of the 1995 Act was to plan village lands according to a Disposition of Lands and Physical Planning Act. The Act aimed to define stock routes so they would remain clear of agricultural lands, as well as to provide for the development of pastureland, pest control, and development and conservation of farmland and forests.
1996	**Range Protection and Pasture Resources Development Bill**	Not ratified. Aims at instituting a general framework that maps out areas comprising pastureland and defines the types of pasture and their management. Also distinguishes areas of farming and herding and aims to curb FNC's ability to annex vast tracts of prime grazing areas as 'forest reserves'. Also endorses the principle of popular participation by promoting the notion of community pastoral reserves which should be directly managed by local communities, supervised by the Range and Pasture authorities.

1998	**a) Constitution of the Republic of Sudan** **b) Local Government Act**	a) The Constitution came into force in June 1998 reaffirming, among other things, the federal structure of the country and the foundational role of the Shari'ah in Sudanese laws and political institutions. The Constitution also determined the respective responsibilities and financial resources of the federal government, states, and local councils. Since replaced by the 2005 Interim National Constitution of the Republic of the Sudan. b) The Act cancelled previous LGAs without abrogating regulations issued under them. Its main goal was to organise the activities of local government authorities in each state. One of its provisions was the establishment of Provincial Councils based on criteria of population size, and with borders the economic and social variables and the suitable number of the localities.
1999	**Livestock Production Organisation Act and Animal Disease Control Act**	These Acts aim mainly to organise the production of livestock for internal and export markets, whether this occurs on a mobile (nomadic/transhumant) or sedentary basis. In particular, they provide for a series of services to be made available to livestock producers, including veterinary and marketing services operating on the basis of revolving funds. The record of actions undertaken under the Acts is rather mixed to date: for instance, initiatives to concentrate livestock in small, "disease-free" grazing areas has had negative environmental impact in some areas, while initiatives such as free animal immunisation programs have been quite successful, also thanks to the support of livestock owners.
1999	**Investment Encouragement Act**	Repeals 1996 Investment Act without invalidating regulations issued according to that Act. Explicit reference to the environment is sparse in the Investment Encouragement Act, under the wider Investment Act. The Act outlines that the Minister of Environment may be referred to on environmental issues. However, no explicit mention is made of taking the environment into account prior to any investment. For example, the Act in chapter 4, Article 20, says "it is not possible to give licenses, privileges or guarantees, as mentioned in this Act, to any project unless a technical and economic feasibility study is presented." However, there is no specific mention of performing an Environmental Impact Assessment (EIA) as a precondition. With regards to land, the Act states that the Minister of International Cooperation and Investment has the right to allocate the needed land free of charge for strategic projects, and at a competitive price for non-strategic projects, in coordination with concerned parties[28]. This land is to be subtracted from the total land area that has been allocated for investment in coordination with the concerned parties. The broad nature of the investment priorities and vague reference to 'concerned parties' raises questions regarding how much alignment there actually is between the Ministry of International Cooperation and Investment and other sectors concerned.
2001	**Environment Protection Act**	This Act replaces the Higher Council for Environment and Natural Resources Act of 1991. It transfers over some of the contents of the original Act (which defined the institutional structure and mandate of the HCENR), and focuses on the role of various authorities at federal and state levels in terms of environmental protection, entrusting overall responsibility in this realm to the Higher Council For Environment and Natural Resources. The Higher Council also has the function of drawing general policy, in coordination with the competent authorities, on natural resources, including "determining development and rationalising the means of use, management and protection, from deterioration thereof, in an integrated and balanced form" (Government of Sudan, 2001).

2002	**Forest and Renewable Resources Act**	The Act replaced the Forests National Corporation Act and the Forests Act of 1989, without thereby invalidating regulations issued under them, and also established a Forests and Renewable Natural Resources Corporation with the same functions defined by the Forest National Corporation Act. The main goals included the organisation of a Forests and Pastures Administration, enlarging the area allocated for forest reserves to 25 per cent of Sudan's territory, and paving the way for a Pastures Act in Sudan. Moreover, the Act sought to settle disputes between states and Federal Government over the ownership of forest resources and royalties derived from forestry products. The formula adopted to solve such disputes has been one of revenue sharing whereby states get 40 per cent of revenue from forests located on their territory, while the FNC receives 60 per cent of it (out of which one third is to be reinvested in forest development). One main problem faced in implementing the Act is the lack of clear rationale and sensitisation campaigns in support of the 25 per cent goal. With regards to property cancellation for the purpose of forests reservation, "the Competent Minister is not entitled to declare the reservation of any area without cancelling the property of land in such an area in accordance with the provisions of the 1930 Land Property Cancellation Act. However, the officer in charge of the property cancellation and before acting in accordance with the provisions of article 14 of the mentioned act, shall have to send a list to the corporation with the rights claimed by any person in relation to the area for the purpose of identifying the rights which the corporation doesn't wish to cancel so that no cancellation of rights shall take place without this review." (Forest and Renewable Natural Resources Act 2002). (2) The competent Minister shall declare, after completing the specified procedures, indicated in item (1) in accordance with an order published in the Sudan gazette that such an area is reserved. The order shall consist of the following: • Whether the area is a forest or a reserve. • The non-confiscated rights and the name, names or entity that shall enjoy that right. • The Declaration of Reserved Areas on the Basis of a Request Extended by the Owners. If a shareholder whose shares are not less than 2/3 of the prospective reserved area requests the competent Minister to declare such an area as being reserved in accordance with the provisions relating to compensation and reservation duration, the competent Minister, after consulting with the stakeholders who oppose such a demand shall declare that land reserved by virtue of an order published in the gazette. • Declaration of Reserved Areas for Public Interest By virtue of the 1930 cancellation of the land property act and for public interest, any land can be declared reserved in accordance with the provisions of this Act.
2002	**Regulations for the Protection of the Environment in the Petroleum Industry**	The Regulations were intended to protect and preserve the environment in areas of oil industry.
2003	**Local Government Act[29]**	This Act repeals the 1998 Local Government Act without invalidating regulations issued under it. The 2003 Local Government Act (LGA) called for more devolution of power to the locality level, while simultaneously reducing the number of localities to about 20 per cent of what they formerly were. Localities are officially formed by presidential decree in consultation with the State government, and the Act describes the guidelines for locality formation and also gives the locality the power to issue local orders through its Legislative Council (the State Government has a one month window in which to contest or amend local orders reported by localities). The Commissioner was declared the head of the executive branch of the locality government, along with five administrative departments (Agriculture, Animal and Natural Resources, Finance and Planning, Health, Education, and Public Affairs, Engineering\ and Town Planning). The Native Administration was not mentioned in the 2003 LGA, and states were instructed to withhold any initiative in this regard until framework legislation was issued at the federal level.
2005	**Interim National Constitution of the Republic of the Sudan**	Replaces the 1998 Constitution. "As a transitional constitution, it regulates and defines powers, principles and institutions throughout the interim period from 9 July 2005 until six months before the end of the year 2011; the Interim National Constitution will remain valid until replaced by a permanent constitution" (Fadlalla, 2009). Stipulates that the national government, South Sudan government, and state governments exercise concurrent powers, including on environmental management and environmental protection and conservation (ibid)[30].

2.1.1 EIA process

57. The Environmental Protection Act of 2001 provides the enabling framework for EIA.
58. In accordance with Sudanese environmental law, each institution that engages in the establishment of large-scale infrastructure has to undertake an environmental and social impact assessment, in line with clear and approved guidelines, including consultations and participation of potentially affected communities before engaging in such construction work.
59. At the start of the EIA process, the proponent submits a policy brief containing an initial environmental evaluation to the HCENR. The HCENR then reviews the document and decides if an initial permit is granted for the project or if it is rejected. For projects which have obtained such a permit, an EIA report is then prepared.
60. Assessment includes social, environmental and economic effects. According to the Act, EIA studies must contain the following:
    - Description of the existing environmental conditions as a baseline.
    - Description of the project.
    - Assessment of potential environmental impacts, both positive and negative throughout the project phases.
    - Provision of recommendations to mitigate the negative environmental effects.
61. Also negative impacts that can be evaded upon execution of the project shall be identified and project alternatives should be proposed.
62. The proponent pays a fee of 1%-5% of the total budget of the project when applying for an EIA to the authority that approves the EIA-study. There is also a fee charged for the review of EIA-study.
63. The EIA report is reviewed by HCENR. A committee of experts then checks the contents of the EIS against the review checklist that was formulated by HCENR. The process is not open to the public. The review checklist consists of 7 areas:
    - baseline conditions;
    - description of the planned project and alternatives;
    - assessment of the impacts and effects on the environment, public health and management of natural resources and how the different effects are connected to how the surroundings may react;
    - mitigating measures;
    - layout and readability;
    - complementary questions, such as how public participation and opinions are dealt with; and
    - the adequacy of the whole statement
64. The EIA report is not made available to public, nor is it discussed in public or in other media avenue. However, EPA 2001 in Chapter III Article 19, gives provision for every person to report dangers as may threaten the environment, and contraventions of the Act or other laws relating to the health and protection of the environment. Every person has the public right of instituting a civil suit.
65. The Higher Council for Environment and Natural Resources (HCENR) approves EIAs.
66. If during the inception period the need for the development of large-scale infrastructure emerges, the project will ensure that any built infrastructure will not pose any social or environmental threats by abiding to national and international standards and regulations and building on past experience. This will be achieved through the screenign process outlined in Section 1.3.5. The required briefing documents will be prepared by either the State or the National PMU (or their delegates) for submission to HCENR for assessment under the Environmental Protection Act.

2.2 Multilateral Agreements and Biodiversity Protocols

67. GoS is a signatory to a number of international and regional agreements and conventions, which are related to the environment. They include:

- 1921 Convention concerning the Use of White Lead in Painting, Geneva
- 1933 Convention Relative to the Preservation of Flora and Fauna in their Natural State, London Ratified 1935
- 1950 International Convention for the Protection of Birds, Paris
- 1951 International Plant Protection Convention, Rome (1951). Ratified 1971
- 1961 Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Seabed or Ocean Floor, Washington
- 1963 Treaty Banning Nuclear Weapons Tests in the Atmosphere, in the Outer Space and Under Water, Moscow. Ratified 1966
- 1965 Agreement for the Establishment of a Commission for Controlling the Desert Locust in the Near East, Rome. Ratified 1967
- 1968 African Convention on the Conservation of Nature and Natural Resources, Algiers. Ratified 1973
- 1971 Convention on Wetlands of International Importance especially as Waterfowl Habitat, Ramsar, Iran. Ratified 2005
- 1992 United Nations Framework Convention on Climate Change (UNFCCC)
- 1995 Convention to Combat Desertification (UNCCD)
- 1995 Convention on Biological Diversity (UNCBD)

2.2.1 Alignment of National Policies and Laws with GCF Safeguard Standards

68. The project is designed to conform to GCF environmental and social policies and standards as outlined in the Environmental and Social Policy, Indigenous Peoples Policy and the Performance Standards. This section shows how Sudan's national policies and laws are aligned to the specific GCF Performance Standards.

2.2.1.1 Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts

69. This standard is triggered. Both GCF and UNDP require that all their activities consider potential environmental and social risks and impacts. The project involves activities that could have both positive and negative environmental and social impacts, therefore the project concept and design have been subjected to several rounds of environmental and social risk assessment. This ESMF has been developed as mechanism to determine likely risks and provide mitigation measures to manage those risks. The project has initiated stakeholder consultation and will be implementing a comprehensive stakeholder engagement plan, including a grievance redress mechanism.

70. The Sudan Environmental Protection Act of 2001 provides the overaching framework for environmental assessement and management in Sudan. As noted above, Sudan is also signatory to a number of international agreements.

2.2.1.2 Performance Standard 2: Labor and Working Conditions

71. This Standard is triggered as the project will involve the employment of workers for project activities eg construction. The Sudan Labour Code contributes to the meeting of this standard.

Equivalent UNDP Project Level Standard: Standard 3 – Community Health, Safety and Working Conditions

2.2.1.3 Performance Standard 3: Resource Efficiency and Pollution Prevention

72. This standard is triggered as the project involves the use of natural resources (water and land) and potentially agricultural chemicals. Sudanese law that is relevant includes: the Nile Pumps Control Act, 1939; the Nile Pumps Control Regulations, 1951; Civil Transaction Act 1984; Irrigation and Drainage

Act, 1990; the Water Resources Act, 1995; the Groundwater Regulation Act (1998); the Public Water Corporation Act (2008); the Law of Forests and Renewable Natural Resources (2002).

73. Equivalent UNDP Project Level Standard: Standard 7 – Pollution Prevention and Resource Efficiency

2.2.1.4 Performance Standard 4: Community Health, Safety, and Security

74. This standard is triggered for, but not limited to, the following reasons: construction activities can pose a potential risk to individuals; the design of infrastructure needs to consider community safety (eg fencing around hafirs); project activities are proposed in regions that historically have been subject to conflicts.
75. Equivalent UNDP Project Level Standard: Standard 3 – Community Health, Safety and Working Conditions

2.2.1.5 Performance Standard 5: Land Acquisition and Involuntary Resettlement

76. This Standard is not triggered as the project does not require any land acquisition or involuntary resettlement.
77. Equivalent UNDP Project Level Standard: Standard 5 – Displacement and Resettlement

2.2.1.6 Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

78. This standard is triggered due to the project involving the use of natural resources and introduction of agricultural strains of crops. Relevant Sudanese laws include: Law of Forests and Renewable Natural Resources (2002); Civil Transaction Act; Water Resources Act
79. Equivalent UNDP Project Level Standard: Standard 1 – Biodiversty Conservation and Sustainable Natural Resource Management

2.2.1.7 Performance Standard 7: Indigenous Peoples

There is the potential for ethnic minorities to occur and potentially be impacted by the proposed activities, therefore this standard is triggered. In response to this an IPPF has been prepared.

Equivalent UNDP Project Level Standard: Standard 6 – Indigenous Peoples

2.2.1.8 Performance Standard 8: Cultural Heritage

80. This standard is not triggered as no known heritage will be impacted by the project activities. In addition, the ESMF contains screening procedures to reassess sub-activities to confirm that cultural heritage is not at risk.
81. Equivalent UNDP Project Level Standard: Standard 4 – Cultural Heritage

3 IMPLEMENTATION AND OPERATION

3.1 GENERAL MANAGEMENT STRUCTURE AND RESPONSIBILITIES

82. A high-level project organisational structure is shown in Figure 3. The key roles are discussed below.

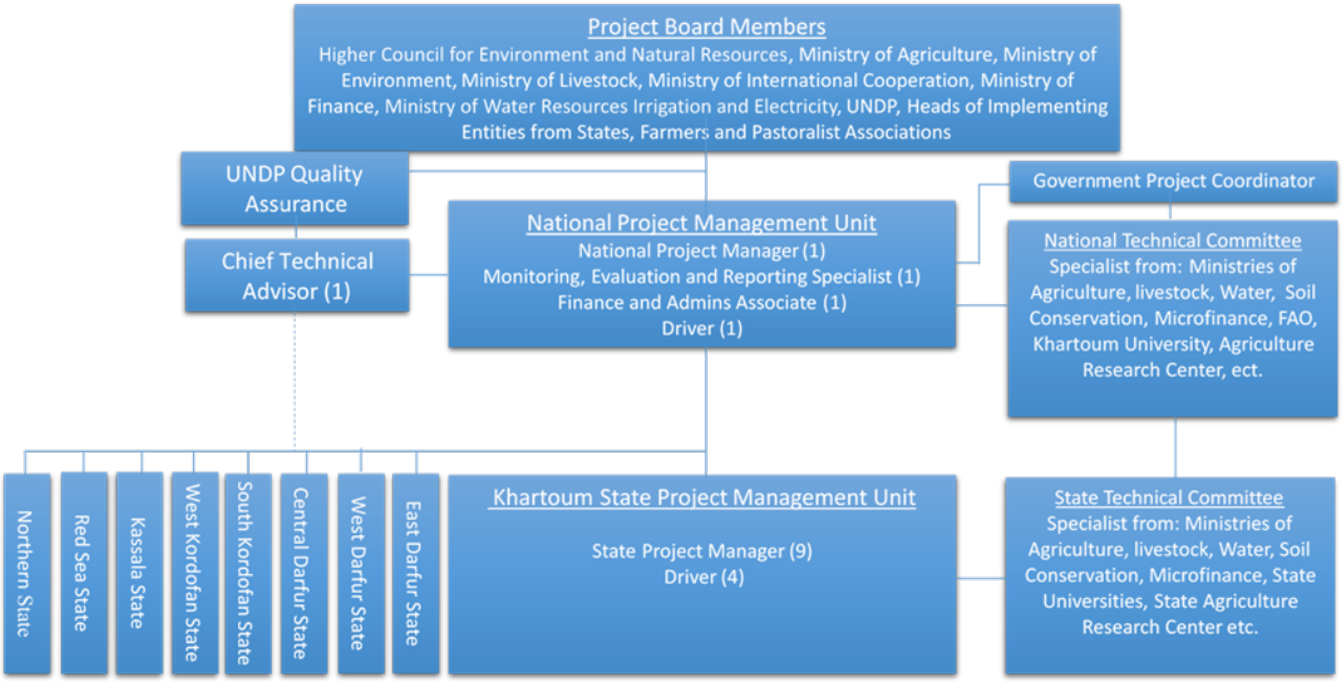


Figure 3 Project governance structure

3.1.1 Governance Arrangements

83. UNDP provides a three–tier oversight and quality assurance role involving UNDP staff in Country Offices and at regional and headquarters levels. The quality assurance role supports the Project Board by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. Project Assurance must be independent of the Project Management function; the Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. The project assurance role is covered by the accredited entity fee provided by the GCF. As an Accredited Entity to the GCF, UNDP is required to deliver GCF-specific oversight and quality assurance services including: (i) Day-to-day oversight supervision, (ii) Oversight of project completion, (iii) Oversight of project reporting. The 'senior supplier' role of UNDP is to represent the interests of the parties, which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The senior supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project.

84. In addition, the Government of Sudan may request UNDP to provide direct project services for this project. The UNDP and Government of Sudan acknowledge and agree that those services are not mandatory, and will be provided only upon Government request and specified in the Letter of Agreement. If requested, the direct project services would follow UNDP policies on the recovery of direct project costs relating to GCF funded projects.

3.1.1.1 Project Board

85. The Project Board (also called Project Steering Committee) is responsible for making by consensus, management decisions when guidance is required by the National Project Manager, including recommendations for UNDP/Implementing Partner approval of project plans and revisions. In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity,

transparency and effective international competition. Specific responsibilities of the Project Board include:

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address project issues as raised by the project manager;
- Provide guidance on new project risks, and agree on possible countermeasures and management actions to address specific risks;
- Review the project progress, and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- Review and approve annual work plan and provide necessary guidance;
- Appraise the annual project implementation report, including the quality assessment rating report; make recommendations for the workplan;
- Provide ad hoc direction and advice for exceptional situations when the project manager's tolerances are exceeded; and
- Assess and decide to proceed on project changes through appropriate revisions.

86. The composition of the Project Board will include the following roles: Executive, Senior Supplier, and Senior Beneficiary. These roles are described below.

3.1.1.2 Executive

87. The Executive is an individual who represents ownership of the project and chairs the Project Board. This role will be held by Secretary General of HCENR representing the Government. The Executive is ultimately responsible for the project, supported by the Senior Beneficiary and Senior Supplier. The Executive's role is to ensure that the project is focused throughout its life cycle on achieving its objectives and delivering outputs that will contribute to higher level outcomes. The executive has to ensure that the project gives value for money, ensuring cost-conscious approach to the project, balancing the demands of beneficiary and suppler. Specific Responsibilities include: (as part of the above responsibilities for the Project Board)

- Ensure that there is a coherent project organization structure and logical set of plans;
- Monitor and control the progress of the project at a strategic level;
- Ensure that risks are being tracked and mitigated as effectively as possible;
- Chair Project Board meetings.

3.1.1.3 Senior Supplier

88. The Senior Supplier is an individual or group representing the interests of the parties concerned which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project. The Senior Supplier role must have the authority to commit or acquire supplier resources required. If necessary, more than one person may be required for this role. Typically, the implementing partner, UNDP and/or donor(s) would be represented under this role. Specific Responsibilities include (as part of the above responsibilities for the Project Board)

- Make sure that progress towards the outputs remains consistent from the supplier perspective;
- Promote and maintain focus on the expected project output(s) from the point of view of supplier management;
- Ensure that the supplier resources required for the project are made available;
- Contribute supplier opinions on Project Board decisions on whether to implement recommendations on proposed changes;
- Ensure the project is implemented in accordance to the signed Implementation Agreement

- Arbitrate on, and ensure resolution of, any supplier priority or resource conflicts.

3.1.1.4 Senior Beneficiary

89. The Senior Beneficiary is an individual or group of individuals representing the interests of those who will ultimately benefit from the project. The Senior Beneficiary's primary function within the Board is to ensure the realization of project results from the perspective of project beneficiaries. The Senior Beneficiary role is held by a representative of the government or civil society. For this project, the Senior Beneficiary is representatives from farmers, pastoralists unions and civil society, a group of government agencies, namely the Ministry of International Cooperation, the Ministry of Agriculture and Forestry, the Ministry of Water Resources and Electricity, the Ministry of Animal Resources, Microfinance Institutions as well as others to be determined during the Inception Workshop. The Senior Beneficiary is responsible for validating the needs and for monitoring that the solution will meet those needs within the constraints of the project. The Senior Beneficiary role monitors progress against targets and quality criteria. This role may require more than one person to cover all the beneficiary interests. For the sake of effectiveness, the role should not be split between too many people. Specific Responsibilities (as part of the above responsibilities for the Project Board):

    - Prioritize and contribute beneficiaries' opinions on Project Board decisions on whether to implement recommendations on proposed changes;
    - Specification of the Beneficiary's needs is accurate, complete and unambiguous;
    - Implementation of activities at all stages is monitored to ensure that they will meet the beneficiary's needs and are progressing towards that target;
    - Impact of potential changes is evaluated from the beneficiary point of view;
    - Risks to the beneficiaries are frequently monitored.

3.1.1.5 Project Management Unit (PMU)

90. The PMU is composed of the NPM, subject matter specialists, Finance and Administrative Associate, a Monitoring, Evaluation and Reporting Specialist, he/she will also deputize the NPM. The PMU will directly be supported by the project Chief Technical Advisor (CTA). The PMU is responsible for the day to day management of the project activities and is accountable to the PB. The Project Management Unit's overall role is to ensure that comprehensive technical and management support is provided to project activities and local beneficiaries, including overseeing knowledge management and Monitoring and Evaluation. The PMU must have adequate multi-disciplinary technical capacity to be able to support technical, financial and climate change adaptation-related activities. Thus, the PMU team must be able to work with a large range of natural resources, economic, policy and organizational issues, and can ensure that activities are designed and implemented in-line with national and international best practices.

3.1.1.6 State-level Project Management Unit (SPMU)

91. At the state level, the project will have a State-level Project Management Unit (SPMU) as shown in the project organogram. This unit will be headed by a State Project Manager who is accountable to the NPM at the national PMU and will be responsible for planning, implementation, monitoring and reporting of state level activities. The SPMU will be assisted by a State Technical Committee (STC) composed of specialists in the fields of Agriculture, Livestock, Water, Research and Socioeconomics as appropriate based on the focus of activities in the concerned state. This may be assigned by respective state ministries/institutions. The SPMU will be hosted by the state Ministry of Agriculture or Livestock as appropriate.
92. The role of the STC is to guide and oversee the implementation at state level. The STC, which will meet on monthly bases, will be responsible of contributing to, approving and supervising the implementation of the project workplan. The STC members/specialists will also act as focal points for their respective component ie. contribute to the planning, implementation, monitoring and reporting processes. Each STC member will be the strong link between the project and her/his ministry/institution and therefore ensure that policies, strategies and coordination with other ongoing programmes within the respective ministry is properly considered. Moreover, the STC will substantively contribute to identification, documentation and dissemination of best practices and lesson learnt. Members of the

STC will work towards integration and streamlining of project activities and best practices in the plans of their respective ministries/institutions.

93. At the Locality and village level, the project will work through a well-trained agents and extensions officers on the different project-related fields in accordance to the focus of the project in the specific state. These project agents will be trained on subject matters, well connected with SPMU and placed properly within the locality. These agents will work through and provide support to beneficiaries through the Community Based Organizations (CBO). At the village level, the project activities will be implemented and coordinated through the Community Based Organizations. Such CBOs will include the Village Development Committee (VDC), sub committees on Water, Agriculture, natural resources and Microfinance. These committees will be created at the startup of the project, if not existing, trained and equipped with skills necessary for implementation of project activities.

3.1.1.7 National Project Manager (NPM)

94. The NPM has the responsibility to run the project on a day-to-day management and decision making on behalf of the Project Board within the constraints laid down by the Board. The NPM will be accountable to the project Board, HCENR and UNDP. The NPM's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost. The UNDP and Implementing Partner recruit the NPM. Specific responsibilities include:

- Provide direction and guidance to project team(s)/ responsible party (ies);
- Liaise with the Project Board to assure the overall direction and integrity of the project;
- Identify and obtain any support and advice required for the management, planning and control of the project;
- Responsible for project administration;
- Plan the activities of the project and monitor progress against the project results framework and the approved annual workplan;
- Mobilize personnel, goods and required services, including drafting terms of reference and work specifications, and overseeing all contractors' work;
- Monitor events as determined in the project monitoring schedule plan/timetable, and update the plan as required;
- Manage requests for the provision of financial resources by UNDP, through advance of funds, direct payments or reimbursement using the fund authorization and certificate of expenditures;
- Monitor financial resources and accounting to ensure the accuracy and reliability of financial reports;
- Be responsible for preparing and submitting financial reports to UNDP on a quarterly basis;
- Manage and monitor the project risks initially identified and submit new risks to the project board for consideration and decision on possible actions if required; update the status of these risks by maintaining the project risks log;
- Capture lessons learned during project implementation;
- Prepare the annual workplan for the following year; and update the Atlas Project Management module if external access is made available;
- Prepare the Annual Project Report and submit the final report to the Project Board;
- Based on the Annual Project Report and the Project Board review, prepare the AWP for the following year;
- Ensure the mid-term review process is undertaken as per the UNDP guidance, and submit the final MTR report to the Project Board and identify follow-on actions and submit them for consideration to the Project Board;

- Ensure the terminal evaluation process is undertaken as per the UNDP guidance, and submit the final TE report to the Project Board.

3.1.1.8 Chief Technical Advisor (CTA)

95. The CTA has the responsibility to provide technical support and guidance to the PMU. The CTA will ensure that the project implementation is consistent with the PRODOC and implementation agreements and that resources are geared towards the intended results. The CTA will be accountable to UNDP and will be hosted in the PMU. The CTA will ensure that the project produces the results specified in the project document, to the required standard of quality. The UNDP will recruit the CTA. Specific responsibilities include:

- Provide technical to project team(s)/ responsible party (ies);
- Ensure that the project is implemented as per the PRODOC, letter of agreements and associated national implementation manuals.
- Ensure that the project activities and resources are all geared towards achievement of the whole set of results hierarchy as reflected in the Log frame/results framework;
- Ensure that the rules, regulations and national implementation guidance of UNDP are fully respected and adhered to throughout the implementation of the project.
- Provide substantive support and advice required for the management, planning, monitoring and financial management;
- Monitor financial resources and accounting to ensure the accuracy and reliability of financial reports;
- Contribute and teak lead in reporting of results, including documentation of best practices and lesson learnt.
- Be responsible for reviewing and ensuring the correctness of the financial reports before submission to UNDP on a quarterly basis;
- Initiate and manage the process of the mid-term review, including preparing TOR and managing the whole process as per the UNDP guidance, identify follow-on actions for consideration to the Project Board;
- Ensure that the final report and any other reports are prepared to the highest standard and quality and submitted to UNDP and donor on time;
- Ensure that resources of the terminal evaluation is allocated and TOR is prepared as per the UNDP guidance

3.2 PROJECT DELIVERY AND ADMINISTRATION

96. Adaptation-focused planning institutions have been formally established in each of Sudan's 18 states. There exists within each state a focal point and inter-agency technical team of experts from related government, research, academia and civil society organizations. The capacity of these units has been strengthened through targeted training sessions; learning-by-doing programmes; and the establishment of networks to exchange knowledge and experience.

97. Each of these units have undertaken vulnerability assessments, formulated state-specific adaptation strategies, and identified priority adaptation initiatives. These units remain in place and will serve to ensure coordination across spatial (local & regional), institutional (inter-ministry as well as intra-ministry), and temporal (both near-term and long-term) scales.

98. Institutional capacities to address some of the urgent adaptation needs are inadequate as they relate to food security issues. There is an urgent need in Sudan for improving the link between adaptation and national policymaking, as well as for policies to be supportive of cooperation and participation in environmental activities that account for the special needs of local communities.

3.2.1 Project Delivery

99. The project will be delivered on the ground via the HCENR through its subsidiary departments and the HCENR. In addition, collaboration with atoll councils, existing NGOs and local communities is expected UNDP.

3.2.2 Administration of EMSF

100. As the implementing agency, HCENR will be responsible for responsible for the implementation with the EMSF via the delivery organisations.

101. The EMSF will be part of any tender documentation. The HCENR will be responsible for the revision or updates of this document during the work. It is the responsibility of the person to whom the document is issued to ensure it is the most up to date version.

102. The UNDP and HCENR are accountable for the provision of specialist advice on environmental and social issues to the delivery organisations (eg contractors and/or NGOs) and for environmental and social monitoring and reporting. The HCENR or its delegate will assess the environmental and social performance of the delivery organisations (eg contractors) in charge of delivering each component throughout the project and ensure compliance with the EMSF. During operations, the delivery organisations will be accountable for implementation of the EMSF. Personnel working on the projects have accountability for preventing or minimising environmental and social impacts.

103. The State Coordinators will be responsible for dail environmental inspections of the project/construction site. The HCENR or its delegate will cross check these inspections by undertaking monthly audits.

104. The delivery organisation eg contractor will maintain and keep all administrative and environmental records, which would include a log of complaints together with records of any measures taken to mitigate the cause of the complaints.

105. The delivery organisation will be responsible for the day to day compliance of the EMSF

3.2.3 Environmental procedures, site and activity-specific work plans/instructions

106. Environmental procedures provide a written method describing how the management objectives for a particular environmental element are to be obtained. They contain the necessary detail to be site or activity-specific and are required to be followed for all construction works. Site and activity-specific work plans and instructions are to be issued and will follow the previously successful work undertaking similar projects by the UNDP, UNEP and GoS.

107. The need for ESMPs and/or environmental procedures should be based on the outcomes of screening of sub-projects and stakeholder engagement (appropriate stakeholder is central to the identification of potential risks and development of suitable mitigation measures). ESMPs may draw on the issues/actions already outlined in the ESMF, adding to them to make them site or activity specific.

108. Environmental procedures, site and activity specific work plans can be prepared by HCENR or its delegate (including the contractor), but must be approved by HCENR prior to site work commencing.

3.2.4 Environmental incident reporting

109. Any incidents, including non-conformances to the procedures of the EMSF, are to be recorded using an Incident Record and the details entered into a Register. For any incident that causes or has the potential to cause material or serious environmental harm, the State Coordinator shall notify the Project Manager as soon as possible. The delivery organisation/contractor must cease work until remediation has been completed as per the approval of HCENR.

3.2.5 Daily and weekly environmental inspection checklists

110. A daily environmental checklist is to be completed at each work site by the relevant State Coordinator and maintained within a register. A weekly environmental checklist is to be completed and will include reference to any issues identified in the daily checklists completed by the State Coordinatorss. The completed checklist is to be forwarded to HCENR for review and follow-up if any issues are identified.

3.2.6 Corrective Actions

111. Any non-conformances to the EMSF are to be noted in weekly environmental inspections and logged into the register. Depending on the severity of the non- conformance, the State Coordinator may specify a corrective action on the weekly site inspection report. The progress of all corrective actions will be tracked using the register. Any non-conformances and the issue of corrective actions are to be advised to HCENR.

3.2.7 Review and auditing

112. The EMSF and its procedures are to be reviewed at least every two months by UNDP staff and HCENR. The objective of the review is to update the document to reflect knowledge gained during the course of project delivery/construction and to reflect new knowledge and changed community standards (values).

113. The EMSF will be reviewed and amendments made if:

- There are relevant changes to environmental conditions or generally accepted environmental practices; or
- New or previously unidentified environmental risks are identified; or
- Information from the project monitoring and surveillance methods indicate that current control measures require amendment to be effective; or
- There are changes to environmental legislation that are relevant to the project; or
- There is a request made by a relevant regulatory authority; or
- Any changes are to be developed and implemented in consultation with UNDP Staff and HCENR. When an update is made, all site personnel are to be made aware of the revision as soon as possible eg through a tool box meeting or written notification.

3.2.8 Monitoring, evaluation and reporting

114. NPMU is responsible for the monitoring and evaluation of the performance of the ESMF. Field Officers and/or contractors will be responsible for day-to-day checks and reporting to PPMUs. SPMUs will collate and report to NPMU on a monthly basis. Any environmental incidents should be immediately reported to SPMU/NPMU.

115. The SPMUs will report monthly to NMU on status of safeguard instruments and any non-conformances. HCENR (or its delegate) and UNDP will review the ESMF and associated documents every two months to ensure that they remain appropriate to the projects needs.

116. In addition, separate monitoring and evaluation assessments may be undertaken as required eg mid-term and terminal evaluations. Such evaluations should provide evidence of positive and negative performance and summarise lessons learnt and/or make recommendations for improvements that can be incorporated into the ESMF.

117. The NPMU will collate all monitoring and evaluation data and present summary reports at Project Board meetings. The reports will provide the basis for the annual environmental and social performance report by UNDP, as the Accreditated Entity, to GCF.

3.3 TRAINING

118. Delivery organisations have the responsibility for ensuring systems are in place so that relevant employees, contractors and other workers are aware of the environmental and social requirements for construction, including the EMSF.

119. All project personnel will attend an induction that covers health, safety, environment and cultural requirements.

120. All workers engaged in any activity with the potential to cause serious environmental harm (e.g. handling of hazardous materials) will receive task specific environmental training.

4 COMMUNICATION

4.1 PUBLIC CONSULTATION AND ENVIRONMENTAL AND SOCIAL DISCLOSURE

121. The project was discussed with a wide range of stakeholders including relevant government departments, and representatives for industry groups, NGOs, and communities and approved by Government (Appendx 1).

122. The ESMF includes ongoing public consultation as part of the stakeholder engagement. A summary of the engagement undertaken during the design is contained in Appendix 2. A initial stakeholder analysis has been undertaken and some applicable engagement strategies identified for each group of stakeholders (refer Appendix 3). Supplementing the SEP is an Indigenous Peoples/Ethnic Planning Framework (Appendix 1).

123. The UNDP and HCENR will develop and release updates on the project on a regular basis to provide interested stakeholders with information on project status. Updates may be via a range of media eg print, radio, social media or formal reports. A publicized telephone number will be maintained throughout the project to serve as a point of contact for enquiries, concerns and complaints. All enquiries, concerns and complaints will be recorded on a register and the appropriate manager will be informed. All material must be published in English and Arabic as appropriate.

124. Where there is a community issue raised, the following information will be recorded:

- time, date and nature of enquiry, complaint or concern;
- type of communication (e.g. telephone, letter, personal contact);
- name, contact address and contact number;
- response and investigation undertaken because of the enquiry, complaint or concern; and
- actions taken and name of the person taking action.

125. Some enquiries, complaints and concerns may require an extended period to address. The complainant(s) will be kept informed of progress towards rectifying the concern. All enquiries, complaints and concerns will be investigated and a response given to the complainant in a timely manner. A grievance redress mechanism has been included in the ESMF to address any complaints that may not be able to be resolved quickly.

126. Nominated PMU/contractor staff will be responsible for undertaking a review of all enquiries, complaints and concerns and ensuring progress toward resolution of each matter.

4.2 COMPLAINTS REGISTER AND GRIEVANCE REDRESS MECHANISM

127. During the construction and implementation phases of any project, a person or group of people can be adversely affected, directly or indirectly due to the project activities. The grievances that may arise can be related to social issues such as eligibility criteria and entitlements, disruption of services, temporary or permanent loss of livelihoods and other social and cultural issues. Grievances may also be related to environmental issues such as excessive dust generation, damages to infrastructure due to construction related vibrations or transportation of raw material, noise, traffic congestions, decrease in quality or quantity of private/ public surface/ ground water resources during irrigation rehabilitation, damage to home gardens and agricultural lands etc.

128. Should such a situation arise, there must be a mechanism through which affected parties can resolve such issues in a cordial manner with the project personnel in an efficient, unbiased, transparent, timely and cost-effective manner. To achieve this objective, a grievance redress mechanism has been included in EMSF for this project.

129. The project allows those that have a compliant or that feel aggrieved by the project to be able to communicate their concerns and/or grievances through an appropriate process. The Complaints Register and Grievance Redress Mechanism set out in this EMSF are to be used as part of the project and will provide an accessible, rapid, fair and effective response to concerned stakeholders, especially any vulnerable group who often lack access to formal legal regimes. The Complaints Register and Grievance Redress Mechanism process acknowledges the contribution that traditional dispute

resolution mechanisms can make, and Tier 1 redress mechanism structures will include a representative of traditional management systems where appropriate.

130. While recognising that many complaints may be resolved immediately, the Complaints Register and Grievance Redress Mechanism set out in this EMSF encourages mutually acceptable resolution of issues as they arise. The Complaints Register and Grievance Redress Mechanism set out in this EMSF has been designed to:

- be a legitimate process that allows for trust to be built between stakeholder groups and assures stakeholders that their concerns will be assessed in a fair and transparent manner;
- allow simple and streamlined access to the Complaints Register and Grievance Redress Mechanism for all stakeholders and provide adequate assistance for those that may have faced barriers in the past to be able to raise their concerns;
- provide clear and known procedures for each stage of the Grievance Redress Mechanism process, and provides clarity on the types of outcomes available to individuals and groups;
- ensure equitable treatment to all concerned and aggrieved individuals and groups through a consistent, formal approach that, is fair, informed and respectful to a complaint and/or concern;
- to provide a transparent approach, by keeping any aggrieved individual/group informed of the progress of their complaint, the information that was used when assessing their complaint and information about the mechanisms that will be used to address it; and
- enable continuous learning and improvements to the Grievance Redress Mechanism. Through continued assessment, the learnings may reduce potential complaints and grievances.

131. Eligibility criteria for the Grievance Redress Mechanism include:

- Perceived negative economic, social or environmental impact on an individual and/or group, or concern about the potential to cause an impact;
- clearly specified kind of impact that has occurred or has the potential to occur; and explanation of how the project caused or may cause such impact; and
- individual and/or group filing of a complaint and/or grievance is impacted, or at risk of being impacted; or the individual and/or group filing a complaint and/or grievance demonstrates that it has authority from an individual and or group that have been or may potentially be impacted on to represent their interest.

132. Local communities and other interested stakeholders, including representatives of traditional grievance resolution systems, may raise a grievance/complaint at all times to the HCENR. Affected local communities should be informed about the EMSF provisions, including its grievance mechanism and how to make a complaint.

4.2.1 Complaints register

133. Where there is a community issue raised, the following information will be recorded:

134. A complaints register will be established as part of the project to record any concerns raised by the community during construction. Any complaint will be advised to the UNDP and HCENR within 24 hours of receiving the complaint. The complaint will be screened. Following the screening, complaints regarding corrupt practices will be referred to the UNDP for commentary and/or advice along with the HCENR.

135. Wherever possible, the project team will seek to resolve the complaint as soon as possible, and thus avoid escalation of issues. However, where a complaint cannot be readily resolved, then it must be escalated.

136. A summary list of complaints received and their disposition must be published in a report produced every six months.

4.2.2 Grievance mechanism

137. The Grievance Redress Mechanism has been designed to be problem-solving mechanism with voluntary good-faith efforts. The Grievance Redress Mechanism is not a substitute for the legal process. The Grievance Redress Mechanism will as far as practicable, try to resolve complaints and/or

grievances on terms that are mutually acceptable to all parties. When making a complaint and/or grievance, all parties must act always, in good faith and should not attempt to delay and or hinder any mutually acceptable resolution.

138. To ensure smooth implementation of the Project and timely and effectively addressing of problems that may be encountered during implementation, a robust Grievance Redress Mechanism, which will enable to the Project Authorities to address the grievances of the stakeholders of the Project has been established.

139. All complaints regarding social and environmental issues can be received either orally (to the field staff), by phone, in complaints box or in writing to the UNDP, HCENR or the Construction Contractor. A key part of the grievance redress mechanism is the requirement for the project proponent and construction contractor to maintain a register of complaints received at the respective project site offices. All complainants shall be treated respectfully, politely and with sensitivity. Every possible effort should be made by the project proponent and construction contractor to resolve the issues referred to in the complaint within their purview. However, there may be certain problems that are more complex and cannot be solved through project-level mechanisms. Such grievances will be referred to the Grievance Redress Committee. It would be responsibility of the HCENR to solve these issues through a sound / robust process.

140. The Grievance Redress Mechanism has been designed to ensure that an individual and/or group are not financially impacted by the process of making a complaint. The Grievance Redress Mechanism will cover any reasonable costs in engaging a suitably qualified person to assist in the preparation of a legitimate complaint and/or grievance. Where a complaint and/or grievance is seen to be ineligible, the Grievance Redress Mechanism will not cover these costs.

141. Information about the Grievance Redress Mechanism and how to make a complaint must be placed at prominent places for the information of the key stakeholders.

142. The State Coordinator in the PMU will be designated as the key officer in charge of the Grievance Redress Mechanism. The Terms of Reference for these positions (as amended from time to time) will have the following key responsibilities:

a. coordinate formation of Grievance Redress Committees before the commencement of constructions to resolve issues;

b. act as the focal point at the PMU on Grievance Redress issues and facilitate the resolution of issues within the PMU;

c. create awareness of the Grievance Redress Mechanism amongst all the stakeholders through public awareness campaigns;

d. assist in redress of all grievances by coordinating with the concerned parties;

e. maintain information on grievances and redress;

f. monitor the activities of HCENR on grievances issues; and

g. prepare the progress for monthly/quarterly reports.

143. A two-tier Grievance Redress Mechanism structure has been developed to address all complaints in the project. The first trier redress mechanism involves the receipt of a complaint at the project and/or State level. The stakeholders are informed of various points of making complaints (if any) and the PMU collect the complaints from these points on a regular basis and record them. This is followed by coordinating with the concerned people to redress the Grievances. The State Coordinator of the PMU will coordinate the activities at the respective State level to address the grievances and would act as the focal point in this regard. The State Council for Environment and Natural Resources Officer in each State will be given the responsibility of this would coordinate with the State Coordinator in the PMU and HCENR in redressing the grievances. The designated officer of the Local Authorities is provided with sufficient training in the procedure of redress to continue such systems in future.

144. The complaints can be made orally (to the field staff), by phone, in complaints box or in writing to the UNDP, HCENR or the Construction Contractor. Complainants may specifically contact the State Coordinator and request confidentiality if they have concerns about retaliation. In cases where confidentiality is requested (i.e. not revealing the complainant's identity to UNDP, HCENR and/or the Construction Contractor). In these cases, the State Coordinator will review the complaint, discuss it with

the complainant, and determine how best to engage project executing entities while preserving confidentiality for the complainant.

145. As soon as a complaint is received, the State Coordinator would issue an acknowledgement. The Community Development Officer receiving the complaint should try to obtain relevant basic information regarding the grievance and the complainant and will immediately inform the State Coordinator in the PMU.

146. The PMU will maintain a Complaint/Grievance Redress register at the State level. Keeping records collected from relevant bodies is the responsibility of PMU.

147. After registering the complaint, the State Coordinator will study the complaint made in detail and forward the complaint to the concerned officer with specific dates for replying and redressing the same. The State Coordinator will hold meetings with the affected persons / complainant and then attempt to find a solution to the complaint received. If necessary, meetings will be held with the concerned affected persons / complainant and the concerned officer to find a solution to the problem and develop plans to redress the grievance. The deliberations of the meetings and decisions taken are recorded. All meetings related to the Grievance Redress Mechanism, including the meetings of the Grievance Redress Committee, must be recorded. The State Coordinator for the Grievances Redress Mechanism will be actively involved in all activities.

148. The resolution at the first tier will be normally be completed within 15 working days and the complaint will be notified of the proposed response through a disclosure form. The resolution process should comply with the requirements of the Grievance Redress Mechanism in that it should, as far as practicable, be informal with all parties acting in good faith. Further, the Grievance Redress Mechanism should, as far as practicable, achieve mutually acceptable outcomes for all parties.

149. Should the grievance be not resolved within this period to the satisfaction of the complainant, the grievance will be referred to the next level of Grievance Redress Mechanism. If the social safeguard and gender officer feels that adequate solutions can be established within the next five working days, the officer can decide on retaining the issue at the first level by informing the complainant accordingly. However, if the complainant requests for an immediate transfer to the next level, the matter must be referred to the next tier. In any case, where the issue is not addressed within 20 working days, the matter is referred to the next level.

150. Any grievance related to corruption or any unethical practice should be referred immediately to the Sudanese Office of the Attorney General and the Office of Audit and Investigation within the UNDP in New York.

151. The Safeguard Officer from the PMU will coordinate with the respective Commissioner of Local Government in getting these Committees constituted for each Province and get the necessary circulars issued in this regard so that they can be convened whenever required.

152. The Terms of Reference for the Grievance Redress Committee are:

    a. providing support to the affected persons in solving their problems;

    b. prioritize grievances and resolve them at the earliest;

    c. provide information to the PMU and HCENR on serious cases at the earliest opportunity;

    d. Coordinate with the aggrieved person/group and obtain proper and timely information on the solution worked out for his/her grievance; and

    e. study the normally occurring grievances and advise PMU, National and State Steering Committee on remedial actions to avoid further occurrences.

153. The Grievance Redress Committee will hold the necessary meetings with the aggrieved party/complainant and the concerned officer and attempt to find a solution acceptable at all levels. The Grievance Redress Committee would record the minutes of the meeting.

154. Grievance Redress Committee will communicate proposed responses to the complainant formally. If the proposed response satisfies the complainant, the response will be implemented and the complaint closed. In cases where a proposed response is unsatisfactory to the complainant, the Grievance Redress Committee may choose to revise the proposed response to meet the complainant's remaining concerns, or to indicate to the complainant that no other response appears feasible to the Grievance Redress Committee. The complainant may decide to take a legal or any other recourse if s/he is not

satisfied with the resolutions due to the deliberations of the three tiers of the grievance redress mechanism.

155. In addition to the project-level and national grievance redress mechanisms, complainants have the option to access UNDP's Accountability Mechanism, with both compliance and grievance functions. The Social and Environmental Compliance Unit investigates allegations that UNDP's Standards, screening procedure or other UNDP social and environmental commitments are not being implemented adequately, and that harm may result to people or the environment. The Social and Environmental Compliance Unit is housed in the Office of Audit and Investigations, and managed by a Lead Compliance Officer. A compliance review is available to any community or individual with concerns about the impacts of a UNDP programme or project. The Social and Environmental Compliance Unit is mandated to independently and impartially investigate valid requests from locally impacted people, and to report its findings and recommendations publicly.

156. The Stakeholder Response Mechanism offers locally affected people an opportunity to work with other stakeholders to resolve concerns about the social and environmental impacts of a UNDP project. Stakeholder Response Mechanism is intended to supplement the proactive stakeholder engagement that is required of UNDP and its Implementing Partners throughout the project cycle. Communities and individuals may request a Stakeholder Response Mechanism process when they have used standard channels for project management and quality assurance, and are not satisfied with the response (in this case the project level grievance redress mechanism). When a valid Stakeholder Response Mechanism request is submitted, UNDP focal points at country, regional and headquarters levels will work with concerned stakeholders and Implementing Partners to address and resolve the concerns. Visit www.undp.org/secu-srm for more details. The relevant form is attached at the end of the EMSF (Appendix 4).

157. GCF also have their own Independent Redress Mechanism (IRM) which addresses complaints by people who believe they are negatively affected or may be affected by projects or programmes funded by the GCF. In the case of grievances in relation to affected indigenous peoples, the GCF Indigenous Peoples Specialist is also available. Further information and links to submit complaints can be found at: https://irm.greenclimate.fund/

5 KEY ENVIRONMENTAL AND SOCIAL INDICATORS

158. This section identifies the key environmental and social indicators identified for the project and outlines respective management objectives, potential impacts, control activities and the environmental performance criteria against which these indicators will be judged (i.e. audited).

159. This section further addresses the need for monitoring and reporting of environmental performance with the aim of communicating the success and failures of control procedures, distinguish issues that require rectification and identify measures that will allow continuous improvement in the processes by which the projects are managed.

5.1 CLIMATE

160. Annual average rainfall in Sudan is low, ranging from 300 to 700 mm per year (Figure 4). In the north near the Egyptian border, desert conditions prevail and rain is rare. Throughout the rest of Sudan, most of the rainfall comes over a four-month period that extends from June through September. Air temperatures have been steadily increasing in Sudan. When averaged across all seasons, temperatures in the 2000-2009 period are roughly between 0.8°C and 1.6°C warmer than they were in the 1960-1969 period.

161. The frequency of extreme climatic shocks is also increasing, particularly drought. Future drought threatens about 19 million hectares of rain-fed mechanized and traditional farms, as well as the livelihoods of many pastoral and nomadic groups.

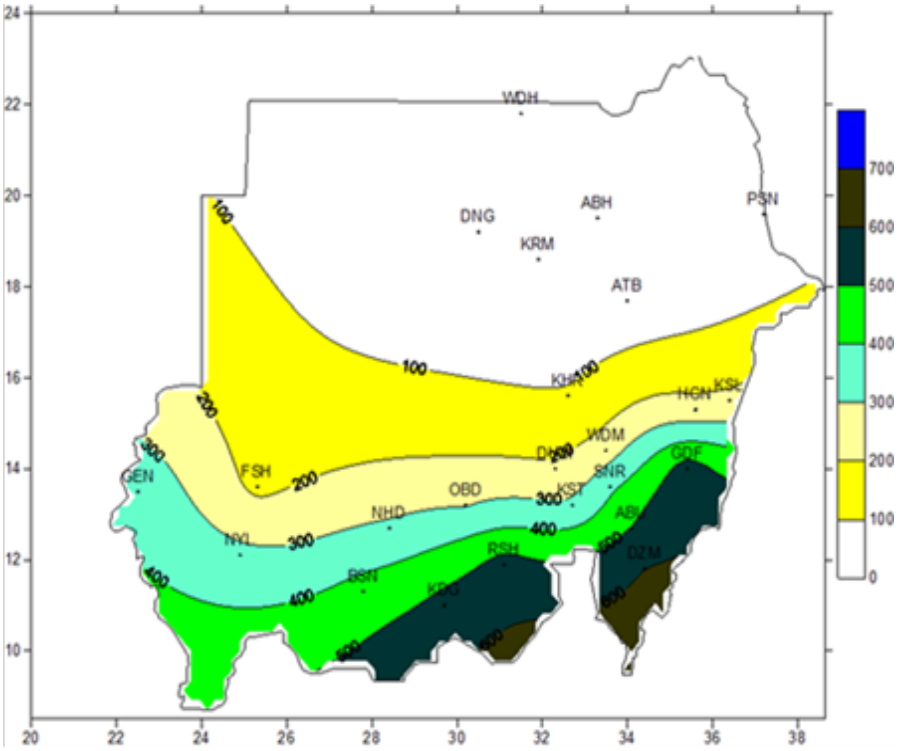


Figure 4 Total average rainfall in Sudan for 1971-2000[5]

162. There has been a steady decline in precipitation throughout Sudan

163. There has been a steady increase in temperature throughout Sudan, including the targeted regions. Air temperatures have been steadily increasing over the period 1960-2009 (GoS, 2012). Figure 5 shows the changes in average annual temperature and average annual rainfall since 1960-2010 in Sudan.

[5] GoS (2017) Building Resilience in the Face of Climate Change within Traditional Rain-fed Agricutltural and Pastoral Systems in Sudan – Technical Feasitbility Report.

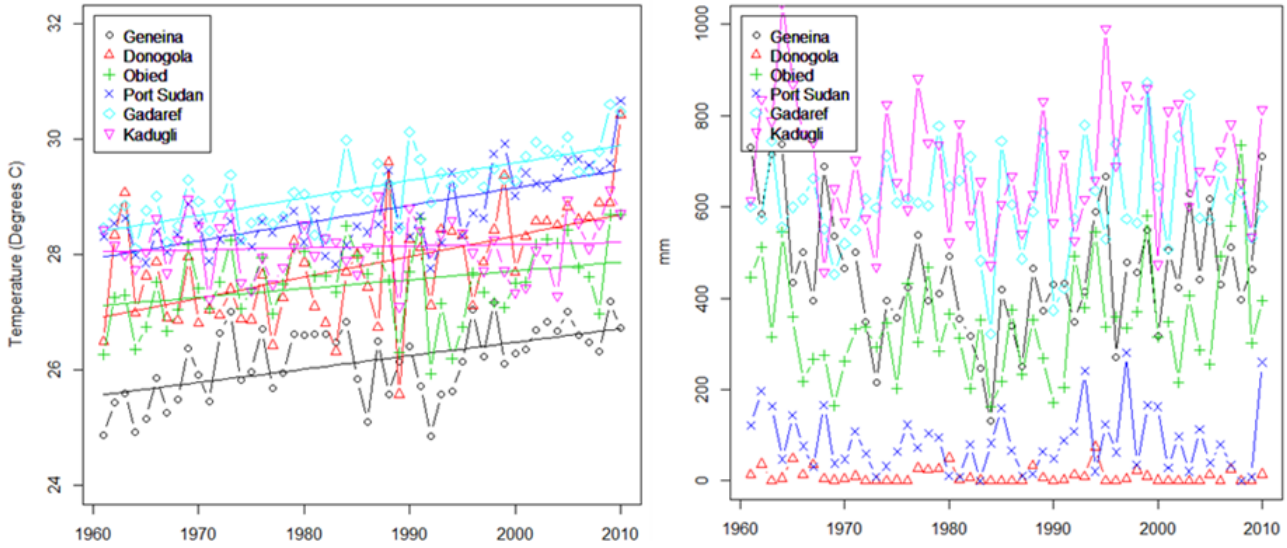


Figure 5 Historical trends for average annual temperature (left) and average annual precipitation (right) for the six meteorological stations

164. The above patterns of increasing temperatures and decreasing rainfall in the targeted areas will lead to several adverse effects on soil fertility, water availability, and wind patterns. In turn, these effects are expected to lead to a decrease in future crop and rangeland productivity as the intensity and frequency of droughts, flash floods and dust storms increase.

5.2 SURFACE WATER

5.2.1 Background

165. Within the country there are low watersheds separating the northerly slopes of the north-west desert area from the southerly slopes of the southern Darfur and south-west Kordofan, and between the Blue Nile and White Nile basins. The first runs south-east from Jebel Matariq north of Kutum to the Meidob Hills and thence in an easterly direction towards the White Nile near Dueim (c. 140 30' N.). The country south of this watershed is divided by the Nuba Mountains into a western part sloping towards the Bahr el 'Arab and a narrow eastern part sloping towards the White Nile, and this meridional watershed along the western side of the Nuba Mountains meets the east-west watershed near El Obeid. The watershed between the Blue and White Niles extends from Khartoum via Manaqil to near Kurmuk[6].

166. Sudan's water resources are critical to the productivity of its traditional agricultural sector.[7] Annual water availability is provided mostly from surface waters and, to a lesser extent, from renewable groundwater resources.[8] The Nile water basin contributes most of Sudan's available surface water. However, though the Nile transports over 93 billion cubic meters (bcm) of water per year on average, Sudan's share is only 20.5 bcm per year, in accordance with the 1959 water use treaty with Egypt. Beyond the Nile watershed, the total annual flow in seasonal streambeds ranges between 3 and 7 billion cubic meters (bcm) per year in three major rivers - the Gash, Baraka and Azum. The water resource situation for remote areas is especially precarious, as flow from seasonal streams is limited in quantity and duration and varies in terms of turbidity. Thus, Sudan's available surface water ranges between 25.5 and 27.5 bcm per year.[9]

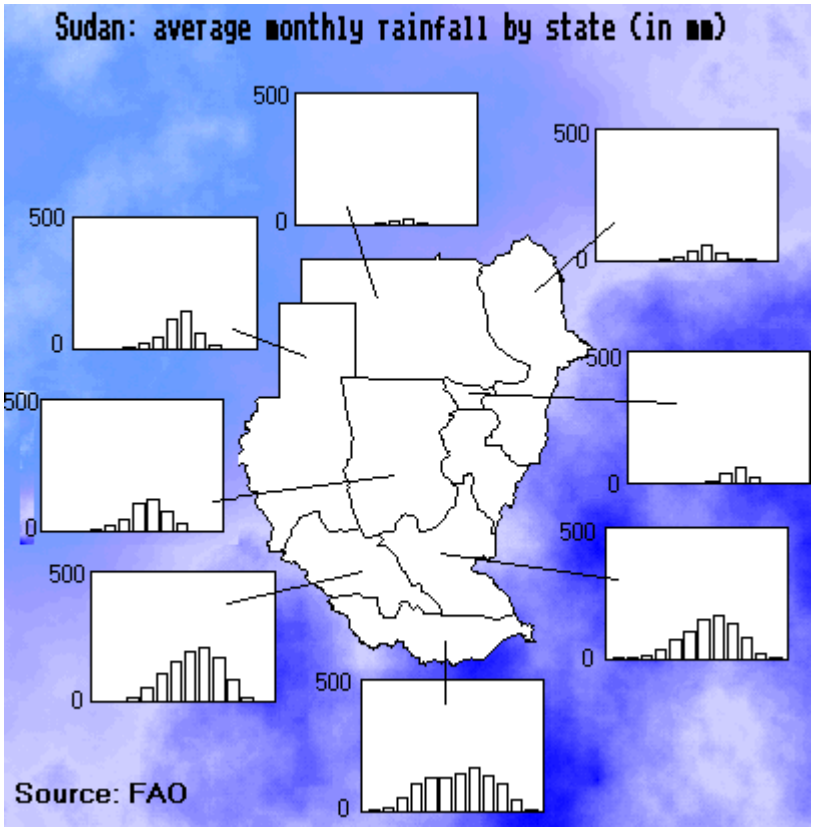


Figure 6 Annual rainfall patterns in Sudan[10]

[6] Tothill, J.D (1948) Agriculture in the Sudan
[7] UNEP, 2016. "SOME, FOR ALL, FOREVER - Emerging development of Integrated Water Resources Management in non-Nile Sudan"
[8] Sudan's 2nd National Communication under the UNFCCC, 2013
[9] ibid
[10] http://www.fao.org/relief/sudan/sudan.htm

Figure 7 Major rivers in Sudan[11].

167. Experience has shown that over-sizing a hafir (instead of constructing an additional hafir in another location) can attract people from other areas, lead to overuse and increased over-grazing by livestock from other areas and is likely to trigger conflicts. Under-sizing a hafir, on the other hand, would result in empting the hafir in a short period of time, which will create mistrust between the users and implementing agency as the facility does not provide service for the whole year. It is, therefore important to consider the above factors critically before deciding on the size of a hafir[12].

5.2.2 Performance Criteria

168. The following performance criteria are set for the construction of the projects:

- no significant decrease in water quality as a result of construction and operational activities;
- water quality shall conform to any approval conditions stipulated by UNDP, HCENR and/or other government departments, or in the absence of such conditions follow a 'no worsening' methodology; and
- effective implementation of site-specific EDSCPs.

5.2.3 Monitoring

169. Having water of a quality that is fit for purpose is important. Water quality can affect plant growth, livestock health, soil quality, farm equipment and domestic use. The quality of a water source is also variable depending upon weather and external inputs.

[11] http://dlca.logcluster.org/display/public/DLCA/2.5+Sudan+Waterways+Assessment;jsessionid=291244D8DCB1121045B177090DB73699

[12] MIWR- Gonu and MWRI – GOSS (2009) Technical Guidelines for the Construction and Management of Improved Hafirs. http://www.bebuffered.com/downloads/TechGuidelinesforImprovedconstructionandmanagementofHafir_2009.pdf

170. Evaporation increases the concentrations of salts while a flush of water dilutes salts but may increase sediment and fertilisers, and manure or nutrient runoff. Monitoring should be done regularly and more frequently in summer or in periods of prolonged moisture stress.

171. Table 7 outlines the monitoring required.

5.2.4 Reporting

172. All water quality monitoring results and/or incidents will be tabulated and reported as outlined in the EMSF. The HCENR must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level with respect to water quality is exceeded.

Table 7 Water Quality Management Measures

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
W1: Elevated suspended solids and other contaminants in surface water systems.	W1.1: Develop and implement a site specific Erosion, Drainage and Sediment Control Plan (EDSCP) to address drainage control, sediment and erosion controls and stockpiling of materials including soil during construction of all components of the projects. EDSCP measures to be inspected regularly to ensure all devices are functioning effectively.	Pre Earthworks	State Coordinator	Initial set up and then as required with reporting to HCENR and UNDP
	W1.2: Designated areas for storage of fuels, oils, chemicals or other hazardous liquids should have compacted impermeable bases and be surrounded by a bund to contain any spillage. Refuelling to be undertaken in areas away from water systems.	Entire construction and operation phase	All Personnel	Weekly with reporting to HCENR and UNDP
	W1.3: Conduct regular surface and groundwater quality monitoring in location where the groundwater is likely to be impacted including assessing the changes to groundwater quality.	Entire construction and operation phase	State Coordinator	As required with reporting to HCENR and UNDP
	W1.4: Schedule works in stages to ensure that disturbed areas are revegetated and stabilised progressively and as soon as practicable after completion of works.	Avoid undertaking bulk earthworks during wet season	State Coordinator and HCENR	Maintain records
	W1.5: Construction materials will not be stockpiled in proximity to aquatic environment that may allow for release into the environment. Construction equipment will be removed from in proximity to the aquatic environment at the end of each working day or if heavy rainfall is predicted	Entire construction and operation phase	State Coordinator	Maintain daily records

5.3 GROUNDWATER

5.3.1 Geology

173. The geology is of Sudan is complex (Figure 8). The geological formations that build Sudan are given in Table 8.

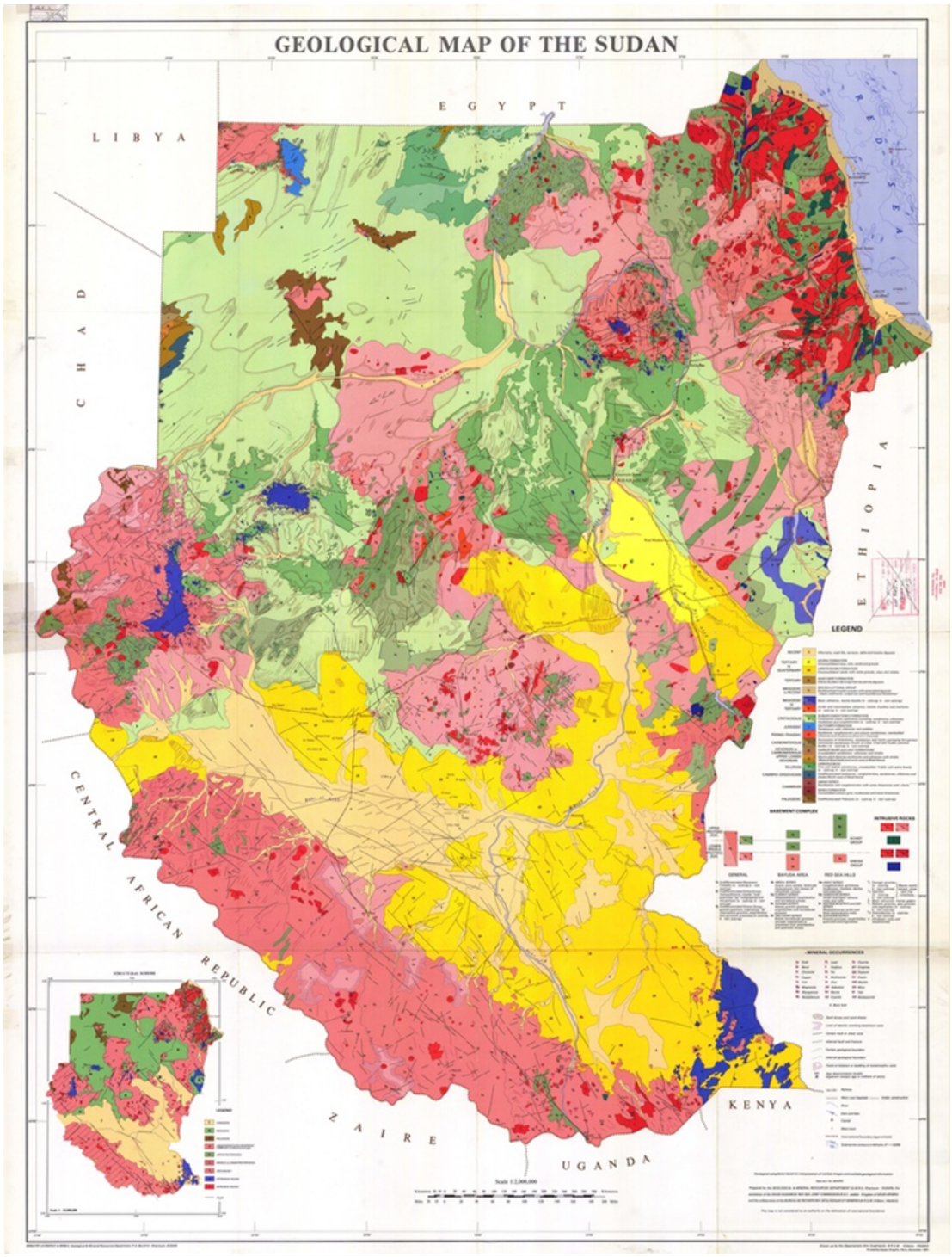


Figure 8 Map of the geology of Sudan[13]

[13] http://eusoils.jrc.ec.europa.eu/images/Eudasm/Africa/images/maps/download/afr_sd2001_ge.jpg

Table 8 Geological table of succession[14]

QUATERNARY	Recent	(15) Nile Valley alluvium		
		(14) Kordofan 'qōz'	clays of plain	Red Sea terraces and raised reefs
	Pleistocene	(13) Palaeolithic gravels bordering Nile		
TERTIARY	Pliocene	(12) Umm Ruwaba Series	(11) Volcanicity	Red Sea marine deposits
	Miocene	Rise of Red Sea hills and Abyssinian plateau		
	Oligocene	(10) Ironstone phase on plateau*		
	Eocene	(9) Hudi Series (chert) Beginning of rise of eastern plateau (? upper Eocene) erosion gap		
MESOZOIC	Cretaceous	(8) Nubian Series of north-western Sudan		Yirol beds
	Jurassic	Nubian Series of eastern Sudan		
	Triassic	Erosion gap; no major movement		
PALAEOZOIC	Upper Palaeozoic	(7) Continental sandstone of Ouadai–Darfur frontier	Nawa Series	
		Establishment of peneplain under quasi-horizontal continental sediments, of Nubian Series' type		
	Lower Palaeozoic			
PRE-CAMBRIAN		(6) Soda-granites (5) Unfoliated granites		
		(1–4) Last folding of basement complex basement complex see p. 92.		

‖ No correlation implied.
* The oldest ironstone is attributed to the middle Tertiary; later ferruginous deposits are neither specifically distinguished nor dated.

[14] Andrews, G. (1948) Geology of Sudan in Tothill, J.D et al. – Agriculture in the Sudan – A Handbook of Agriculture as Practised in the Anglo-Egyption Sudan 1948.

5.3.2 Groundwater

174. As well as surface waters, the Nile Basin countries have considerable groundwater resources occurring in localized and regional basins. Groundwater is an important resource, supporting the social and economic development of the Nile riparian countries and making an important contribution to water and food security in the region.

175. For approximately 80% of rural communities in Sudan groundwater from dug wells, springs, and boreholes is the main source of drinking water. It is also used for agricultural irrigation, livestock watering, and industrial processing.

176. Groundwater in the Nile Basin mainly occurs in four rock systems or hydrogeological environments: Precambrian crystalline/ metamorphic basement rocks, volcanic rocks, unconsolidated sediments, and consolidated sedimentary rocks (Figure 9). Water in these four rock types occurs in confined and unconfined conditions.[15]

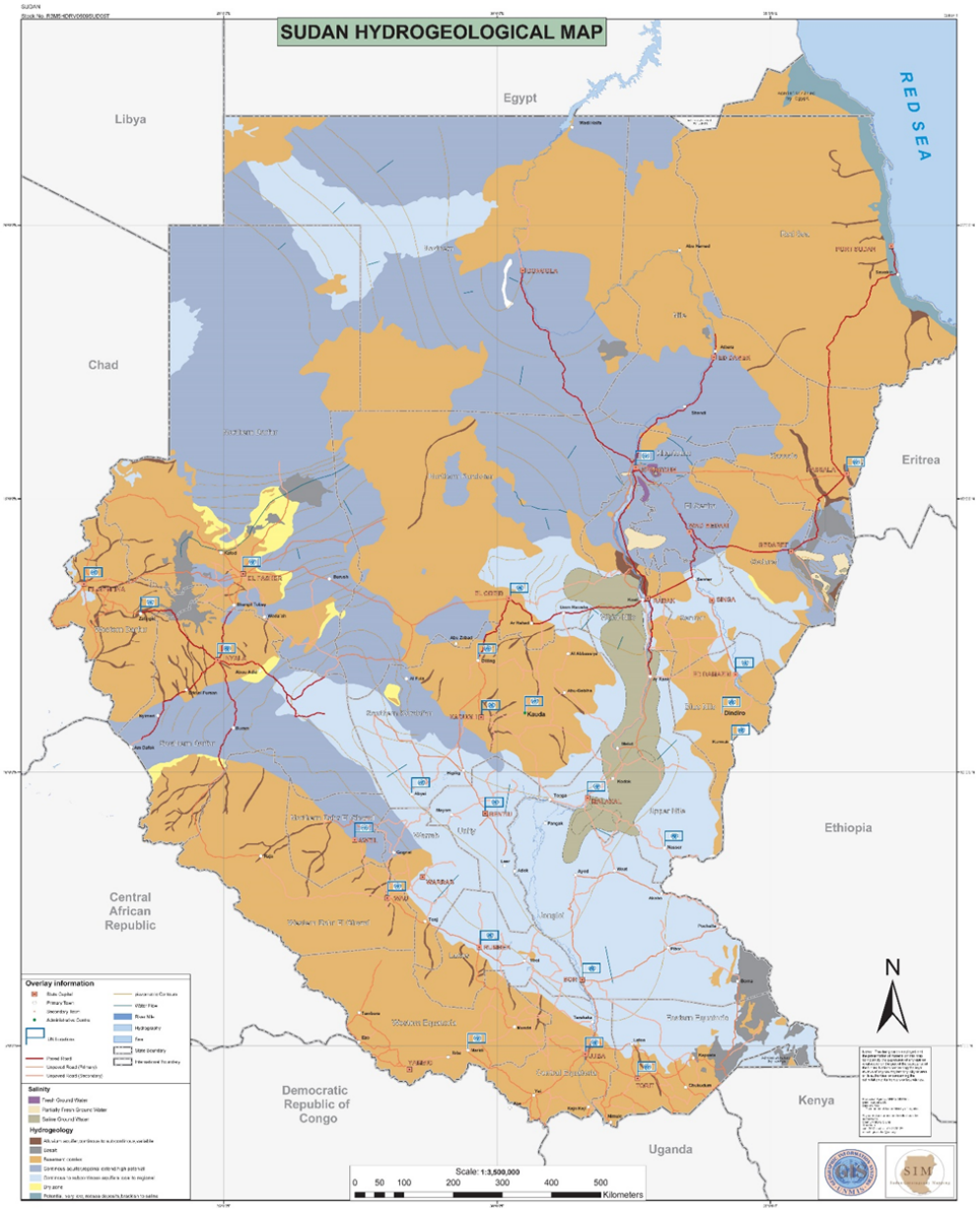


Figure 9 Hydrogeology of Sudan[16]

[15] http://nileis.nilebasin.org/system/files/Nile%20SoB%20Report%20Chpater%202%20-%20Water%20resources.pdf

[16] http://freepages.genealogy.rootsweb.ancestry.com/~springport/pictures218/sudan/Map1085SudanHydrogeologicalMap_August2006.jpg

177. The main aquifers are:

- Nubian sandstone aquifer system: This covers an area of approximately 2 million square kilometres spanning parts of The Sudan, Egypt, Libya, and Chad. The aquifer holds fossil (nonrenewable) water originating from the Pleistocene period when more humid conditions prevailed in the region. It varies in thickness from 200 to 600 metres, is highly porous and has high transmissivity (up to 4,000 m3 /day). Other notable consolidated sedimentary aquifers in the region include the Umm Ruwaba, Gezira, and Al Atshan aquifers in The Sudan. The Umm Ruwaba is the second most important groundwater aquifer in The Sudan following the Nubian sandstone aquifer.
- Victoria artesian aquifer: This occupies an area underlain by Precambrian basement rocks and is distinguished by abundant precipitation, a well-developed surface drainage system, and complex geomorphology and structure produced by neotectonic movements. The aquifer is extremely abundant in surface water, which is present in numerous swamps, rivers, and lakes. It also has many mineral springs, some of which issue warm water
- Upper Nile artesian aquifer: This lies in the extreme southern part of Bahr el Ghazal, White Nile, and Sobat plains. These plains constitute an internal recharge and accumulation area for the aquifer, while surrounding mountains (which are composed of metamorphic rocks, Precambrian granites, and Quaternary sediments), serve as an external recharge area. The northern parts of the basin are underlain by rocks of the Nubian series and have water occurring at depths of 25 to 100 metres, with sufficiently high artesian yields. In the Precambrian varieties, groundwater is encountered at depths varying from 3 to 60 metres. In spite of the limited reserves of water accumulating in the weathering crust; they are widely used for water supply. The alluvial deposits of the external recharge area of the basin contain fresh and brackish pheriatic waters occurring at depths of 6 to 10 metres.
- Nile Valley aquifer: This consists of fluvial and reworked sands, silts, and clays ranging in thickness from a few metres to over 300 metres. This high storage capacity combined with high transmissivity and active replenishment from the Nile River and irrigation canals makes the aquifer a highly valued resource. Nile Delta aquifer: Like the Nile Valley aquifer, this consists of sand and gravel with intercalated clay lenses. The aquifer, which is up to 1,000 metres thick in some areas and has high transmissivity (up to 25,000 m3 /day) is an equally valuable resource.

178. There is high variability in the recharge of these aquifers, with rates ranging from a few millimetres to over 400 mm per year. Figure 10 illustrates the structure of the aquifers and the typical recharge rates.

179. The Nubian sandstone aquifer system has fossil water and very low modern-day recharge rates, partly due to the long travel time to reach the deep aquifer. The aquifer is recharged by Nile water seepage in a few areas, by precipitation in some mountain regions, and by groundwater influx from the Blue Nile/Main Nile Rift system. Groundwater infiltration by the above mechanisms is small compared to the natural groundwater flow in the aquifer (estimated to be in the order of 109 m3 per year) that results from discharge in depressions, evaporation in areas where the groundwater table is close to the earth's surface, and leakage into confining beds.

180. To supplement surface water, annual groundwater abstraction has grown to roughly 16 bcm. With an annual recharge rate of about 4 bcm (El Toum, 1999), it is clear that Sudan is not harvesting its groundwater resources in a sustainable manner. Groundwater withdrawal in Sudan is quite costly, as most aquifers are located at depths between 40 and 400 meters. However, under current trends, reliance on groundwater resources is unlikely to abate.[17]

181. The quality of groundwater in the Nile region is highly variable, and depends on numerous factors such as the type of rock, type of water source, the residence time of water, and level of anthropogenic influence.

182. In general, the groundwaters across the region are fresh and fit for human consumption with respect to physico-chemical quality. There are some localized cases of high salinity and naturally elevated levels of iron and manganese in the groundwater. There are also isolated cases where the physico-chemical quality is potentially harmful to human health.

[17] UNDP Project Document, Government of Sudan, United Nations Development Programme, 3925: Implementing NAPA Priority Interventions to Build Resilience in the Agriculture and Water Sectors to the Adverse Impacts of Climate Change in Sudan (2009)

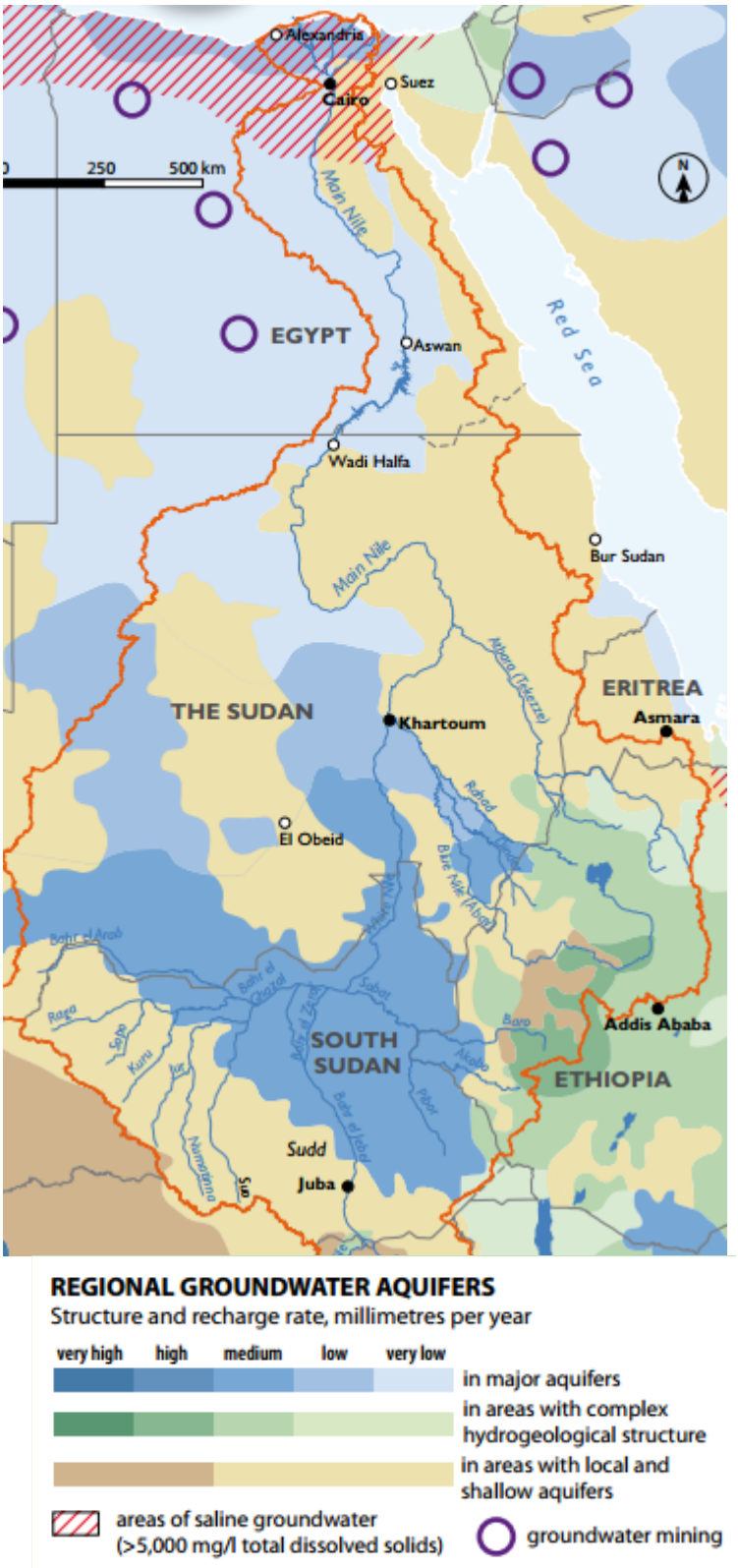


Figure 10 Groundwater aquifers rate of recharge

183. Water in the Nubian sandstone aquifer system is mainly of sodium bicarbonate type, with calcium and magnesium bicarbonate types near recharge zones. The waters are largely fit for human consumption

except where water is highly mineralized. Water in the next most important aquifer, the Umm Ruwaba is mostly fit for consumption, but there are areas where salinity may exceed 5,000 mg/L[18].

184. With respect to bacteriological quality, the picture is mixed, with some sources being contaminated with bacteria of faecal origin and others being totally free of contamination. Bacterial contamination does not occur naturally but as a result of anthropogenic influence. Across the basin, elevated levels of nitrates occasionally occur from poor domestic waste disposal and agriculture (farm animals and fertilizers). This is most severe near large urban areas located close to shallow aquifers

185. Project specific groundwater studies have not been undertaken, however there have been a number of studies done and earlier pilot programmes that provide insight into groundwater conditions.

5.3.1 Performance Criteria

186. The following performance criteria are set for the project:

- no significant decrease in the quality and quantity of groundwater as a result of construction and operational activities in proximity to the projects;
- pump tests to determine sustainable pump regimes to prevent over-extraction
- effective implementation of site-specific EDSCPs and other measures to protect groundwater.

187. By following the management measures set out in the EMSF the project will not have a significant impact on water quality across the broader area.

5.3.3 Monitoring

188. Refer to Table 9 for the monitoring requirements for groundwater.

189. During the project groundwater quality in any new bores should be assessed initially and then periodically. Initial assessment should cover a wide range of parameters (eg depth to water, pH, DO, conductivity, nitrates, phosphates, faecal coliforms, heavy metals, turbidity, hydrocarbons) to provide a baseline and to confirm suitability for intended use. Subsequent monitoring parameters will be determined on need.

190. Ongoing monitoring should form part of the operation of the boreholes.

5.3.4 Reporting

191. All water quality monitoring results and/or incidents will be tabulated and reported as outlined in the EMSF. The HCENR must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level with respect to water quality is exceeded.

[18] http://nileis.nilebasin.org/system/files/Nile%20SoB%20Report%20Chpater%202%20-%20Water%20resources.pdf

Table 9 Groundwater management measures

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
GW 1: Increase of gross pollutants, hydrocarbons, metals and other chemical pollutants into the groundwater and/or surface water environment.	GW1.1: Conduct regular surface and groundwater quality monitoring in location where the groundwater is likely to be impacted, including assessing the changes to groundwater quality.	Construction and operation phase	State Coordinator	Weekly and as required with reporting to HCENR and UNDP
	GW1.2: Prevent contaminated surface water from entering aquifers via boreholes and wells - protect from runoff and flooding and keep surrounds clean.	All phases	All Personnel	Weekly
	GW1.3: Designated areas for storage of fuels, oils, chemicals or other hazardous liquids should have compacted impermeable bases and be surrounded by a bund to contain any spillage. Refuelling to be undertaken in areas away from water systems.	Entire construction and operation phase	All Personnel	Weekly with reporting to HCENR and UNDP
	GW1.4: Check all vehicles, equipment and material storage areas daily for possible fuel, oil and chemical leaks. Undertake refuelling at designated places away from water systems.	All phases	All Personnel	Daily and maintain records
	GW 1.5: Minimise the use of herbicides and use only biodegradable herbicides that have minimal impact on water quality and fauna. Use only as per directions	All phases	All Personnel	Weekly reporting to HCENR and UNDP

5.4 Erosion, Drainage and Sediment Control

5.4.1 Background

192. The country is a vast plain of deposition, for two reasons; the general slope of the ground is very gentle and the rainfall is insufficient to produce persistent runoff that escapes the area via the Nile. The lower ground of Sudan is a plain of desert erosion in the north, and a plain of accumulation or aggradation in the south. The hilly regions of Sudan take their character from the underlying rocks; colcanic masses are sculpted by runing water where they form high country and tend to develop naturally terraced hills and pleateau structure (Boma), diversified by steep-sided sugar-loaf hills where erosion has removed the sides of a vent and left only the tougher central plug (Andrew 1948).

193. In southern Sudan rainfall is greater, smoother outlines are more common, and except where soil erosion has been acclerated to completion by destruction of vegetation, hills are protected from the effects of insolation.

5.4.2 Soils

194. Figure 11 provides a map of soil types across Sudan.

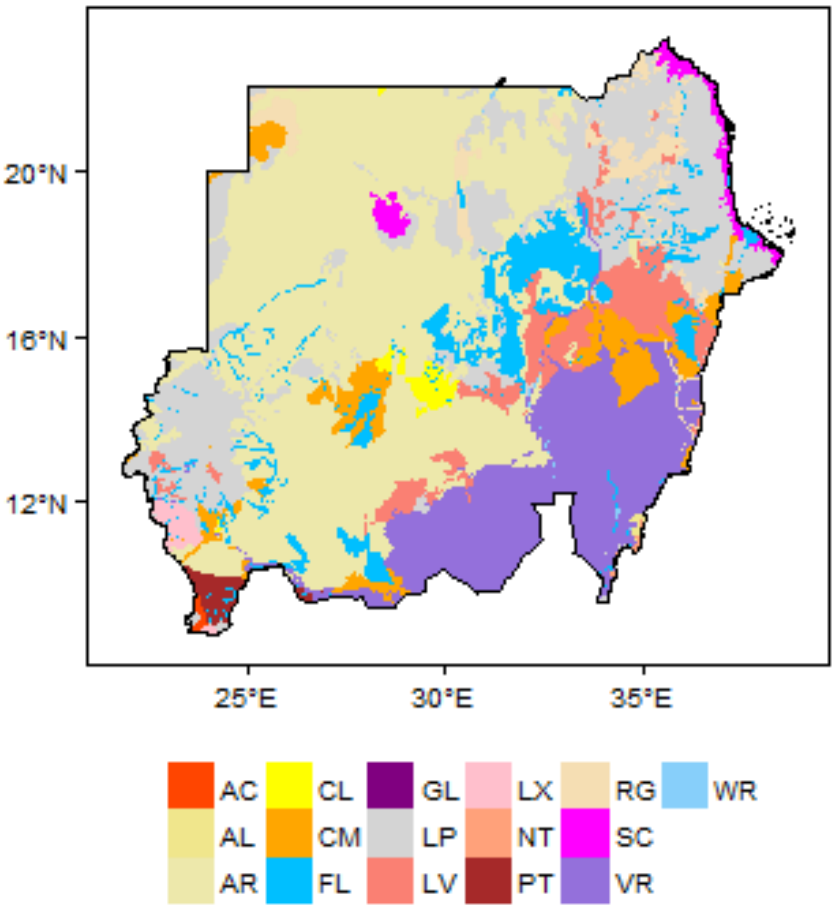


Figure 11 Soils of Sudan (key for soils described below, wr = water resource)

195. The broad types of soil found in Sudan and shown in Figure 11 are:

- AC = Acrisols – very acid with a clar-rich subsoil. Acrisols are notorious for their susceptibility to erosion and capping once left bare. As their productivity is low, they are best left under natural vegetation.

- AL = Alisols - strongly acid soils that have accumulation of high activity clays in the subsoil. Very prone to erosion.
- AR = Arenosols – sandy soil. Prone to wind erosion.
- CL = Calcisols – soils with significant accumulation of calcium carbonates. Can often be successful with irrigation. Lack of vegetation makes them prone to wind and water erosion.
- CM = Cambisols – moderately developed soils
- FL = Fluvisols – soils in floodplains, lakes, deltas or marine deposits. High agricultural potential.
- GL = Gleysols – saturated by groundwater for long periods.
- LP = Leptosols – shallow soils over hard rock
- LV = Luvisols – soild with clay accumulation in subsoil. Prone to erosion on slopes.
- LX = Lixisols – leached, slightly acid soil with a clay-enriched subsoil. Prone to erosion.
- NT = Nitisols – deep red with well developed, nut-shaped structure. Erosion on slopes.
- PT = Plinthosols – soils with accumulation of iron that hardens irreversibly when exposed to air and sunlight
- RG = Regosols – weakly developed soils in unconsolidated material. Prone to erosion.
- SC = Solonchaks – soil with accumulation of salt. Little agricultural value apart from extensive grazing.
- VR = Vertisols – soil with shrinking and swelling clays. Can be susceptible to droughts.

196. Soil erosion depends on several parameters such as type of soil, slope, vegetation, the nature of topography and rainfall intensity. The loss of soil stability and soil erosion can takes place due to the removal of vegetation cover, and numerous construction activities. It can cause the loss of soil fertility and induce slope instability. Land preparation for the project could result in blockage or alteration of natural flow paths causing changes in the drainage patterns in the area. Effective and efficient mitigation measures can not only reduce, but could improve the conditions over the existing conditions.

197. As discussed in section on Surface Water, rainfall occurs mostly in the middle of the year (Figure 6). Rainfall can have a significant impact on the ability to manage environmental impacts, particularly in terms of managing drainage, erosion and sedimentation. Therefore activities which involve significant disturbance of soil or operating with drainage lines and waterways should be planned to be undertaken during the drier months. It is also important to ensure that all required erosion and sediment control mechanisms are in place before the onset of the wet season.

198. Activities that have the potential to cause erosion should be undertaken with the likely weather conditions in mind.

5.4.3 Performance Criteria

199. The following performance criteria are set for the projects:

- no build-up of sediment in the aquatic environments and/or surface and/or groundwater as a result of construction and operation activities;
- no degradation of water quality on or off site of all projects;
- all water exiting the project site and/or into groundwater systems is to have passed through best practice erosion, drainage and sediment controls; and
- effective implementation of site-specific EDSCP.

200. By following the management measures set out in the EMSF, construction and operation activities of the projects will not have a significant impact as a result of sedimentation across the broader area.

5.4.4 Monitoring

201. Sediment and erosion control monitoring needs are outlined in Table 10. The program is subject to review and update at least every two months from the date of issue. The State Coordinator will be required to:

- Conduct (or organise) site inspections on a weekly basis or after rainfall events exceeding 20mm in a 24 hour period;
- develop a site-specific checklist to document non-conformances to this EMSF or any applicable EDSCPs; and
- communicate the results of inspections and/or water quality testing and ensure that any issues associated with control failures are rapidly rectified and processes are put in place to ensure that similar failures are not repeated.

5.4.5 Reporting

202. All sediment and erosion control monitoring results and/or incidents will be tabulated and reported as outlined in the EMSF. The HCENR must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level with respect to erosion and sediment control is exceeded.

Table 10 Erosion, Drainage and Sediment Control Measures

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
E1: Loss of soil material and sedimentation to the surface and/or groundwater systems from site due to earthwork activities	E1.1: Develop and implement an EDSCP for any surface works, embankments and excavation work, water crossings and stormwater pathways.	Construction phase	All Personnel	Maintain records
	E1.2: Ensure that erosion and sediment control devices are installed, inspected and maintained as required.	Construction phase	All Personnel	Maintain records
	E1.3: Schedule/stage works to minimise cleared areas and exposed soils at all times.	Pre and during construction	State Coordinator	Maintain records
	E1.4: Incorporate the design and location of temporary and permanent EDSC measures for all exposed areas and drainage lines. These shall be implemented prior to pre-construction activities and shall remain onsite during work	Pre and during construction	State Coordinator	Maintain records
	E1.5: Schedule/stage proposed works to ensure that major vegetation disturbance and earthworks are carried out during periods of lower rainfall and wind speeds.	Pre and during construction	State Coordinator	Maintain records
	E1.6: Strip and stockpile topsoil for use during revegetation and/or place removed soils back on to agricultural lands.	Pre and during construction	State Coordinator	Maintain records
	E1.7: Schedule/stage works to minimise the duration of stockpiling topsoil material. Vegetate stockpiles if storage required for long periods.	During construction	All Personnel	Maintain records
	E1.8: Locate stockpile areas away from drainage pathways, waterways and sensitive locations.	Pre and during construction	State Coordinator	Maintain records

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
E1: Loss of soil material and sedimentation to the surface and/or groundwater systems from site due to earthwork activities	E1.9: Design stormwater management measures to reduce flow velocities and avoid concentrating runoff.	Pre and during construction	State Coordinator	Maintain records
	E1.10: Include check dams in drainage lines where necessary to reduce flow velocities and provide some filtration of sediment. Regularly inspect and maintain check dams.	Pre and during construction	State Coordinator	Maintain records
	E1.11: Mulching shall be used as a form of erosion and sediment control and where used on any slopes (dependent on site selection), include extra sediment fencing during high rainfall.	During construction	All Personnel	Maintain records
	E1.12: Bunding shall be used either within watercourses or around sensitive/dangerous goods as necessary.	During construction	All Personnel	Maintain records
	E1.13: Vegetated buffer strips shall be incorporated where necessary/possible during construction to reduce water velocity.	During construction	State Coordinator	Maintain records
	E1.14: Silt fences or similar structures to be installed to protect from increased sediment loads.	During construction	Contractors	Maintain records
	E1.15: Excess sediment in all erosion and sediment control structures (eg. sediment basins, check dams) shall be removed when necessary to allow for adequate holding capacity.	During construction	Contractors	Maintain records
E2: Soil Contamination	E2.1: If contamination is uncovered or suspected (outside of the project footprints), undertake a Stage 1 preliminary site contamination investigation. The contractor should cease work if previously unidentified contamination is encountered and activate management procedures and obtain advice/permits/approval (as required).	Construction phase	All Personnel	Daily and maintain records

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
E2: Soil Contamination	E2.2: Adherence to best practice for the removal and disposal of contaminated soil/ material from site (if required), including contaminated soil within the project footprints.	Construction phase	All Personnel	Maintain records
	E2.3: Drainage control measures to ensure runoff does not contact contaminated areas (including contaminated material within the project footprints) and is directed/diverted to stable areas for release.	Construction phase	All Personnel	Inspect regularly and maintain records
	E2.4: Avoid importing fill that may result in site contamination and lacks accompanying certification/documentation. Where fill is not available through on site cut, it must be tested in accordance with geotechnical specifications.	Construction phase	All Personnel	Maintain records

5.5 ECOLOGY

5.5.1 Background

203. The Sudan is essentially a country of vast plains, interrupted by rolling country and a few widely separated groups of hills or mountains. It is divided from south to north by the Nile and its affluents.

204. Broadly speaking, therefore, the effect of topography on vegetation is small and is confined to:

- the mountain massifs of Gebel Marra, and the Immatong and Dongotona Mountains;
- the smaller hills of the Nuba Mountains, the Red Sea, and Ingessana Hills;
- the upland country of the Southern Sudan and the Nile-Congo watershed; and
- the Nile valley and its tributaries.

205. The rainfall increases from 0 mm in the north to south 700 mm in the south, producing country varying from barren desert to closed tall forests. The rainfall period similarly varies. In Central Sudan the effective rainfall is concentrated within a period of 4-5 months and during the bulk of the year the plain is coverd with dry parched herbage and drought-resisting trees and shrubs that can survive the dry season. Southwards the rainfall period legthens until in the extreme south rain occurs in varying amounts almost throughout the year. This distribution of rainfall is reflected in the types of vegetation, which pass from thorny almost leafless drought-resistant types in the north to evergreen and deciduous forests in the south. Figure 12 shows the broad graduation from one type of vegetative cover to the next from north to south.

206. Most of the land in Sudan can be classified as desert, semi-desert, and arid savannah. Some 50.7 per cent of this surface area is classed as bare rocks, bare soil and other unconsolidated materials (such as wind-blown sands free of vegetation in hyper-arid areas). A further 10% is classed as trees, 11.8% as shrubby vegetation, and 13.8% as herbaceous vegetation. Bare land is mainly confined to the latitudes norht of Khartoum and in all the northern States[19].

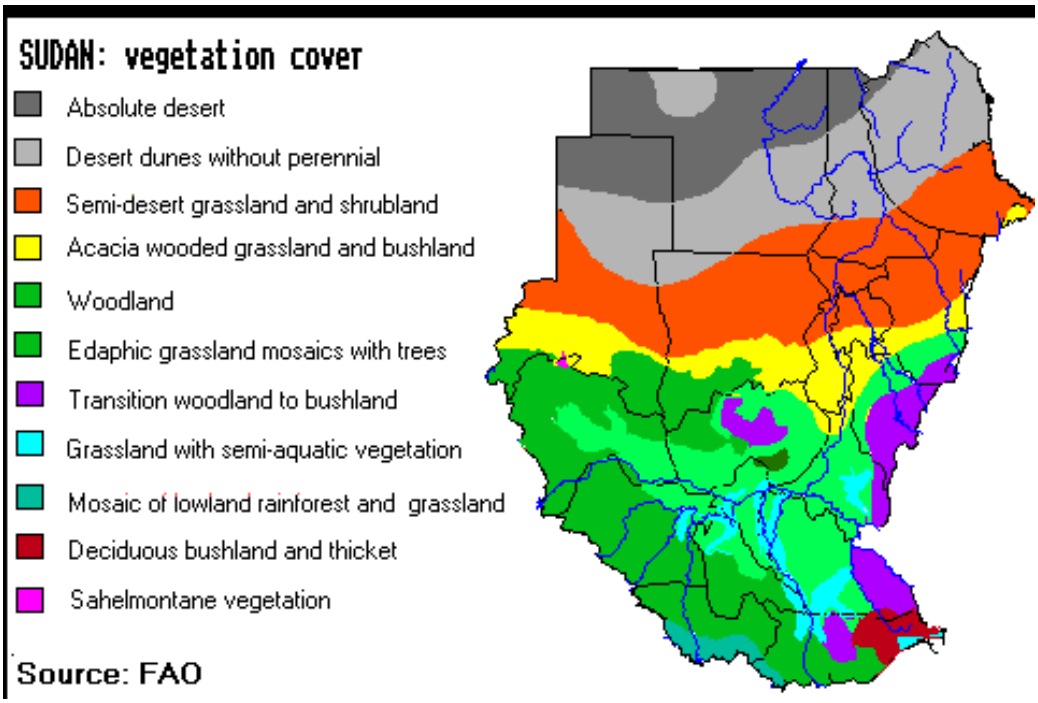


Figure 12 Vegetation cover in Sudan

[19] UNEP 2009 Environmental Governance in Sudan – An Expert Review

5.5.2 Protected Areas

207. Table 11 lists the national parks and reserves of Sudan.

Table 11 National Parks and Reserves of Sudan[20]

Protected Area	Management type	Size in hectares	IUCN Category	Latitude	Longitude	Creation date
Bandingilo	National Park	94.576	II	6.92364100000	93.83363200000	1/1/1992
Boma	National Park	21.902	II	10.25039700000	77.09652300000	1/1/1978
Bengangai	Game Reserve	9.955		40.49819100000	139.91502400000	1/1/1975
Lantoto	National Park	169.241	IV	50.98326700000	-1.08398700000	1/1/1954
Ashana	Game Reserve	859.146	III	-44.84168800000	168.35443200000	
Rahad	Game Reserve	29.866	Ia	-36.22535200000	175.37478700000	
Tokar	Game Reserve	238.929	III	-44.35449300000	170.82836600000	
Chelkou	Game Reserve	199.107	Ia	-46.75266900000	167.59045900000	1/1/1915
Kidepo	Game Reserve	105.528	II	19.22458200000	72.94803900000	1/1/1981
Fanyikango Island	Game Reserve	1379.809	Ia	-36.22353700000	175.38132700000	
Shambe	National Park	109.509	Ia	-36.22505700000	175.35428000000	
Southern	National Park	204.085	UA	54.27000000000	-5.77000000000	1/1/2002
Dinder	National Park	23.893	IV	51.76964400000	0.85793900000	1/1/1983

208. .As the project is focussed primarily on existing farmlands, significant impacts to flora and fauna are not anticipated. The project will create additional habitat that may be suitable for use by some native animals (eg shelter belts and small dams).

209. The increase in surface water will be relatively smalll, therefore the risk of increased water-borne insect disease vectors is considered low, particularly as it is not uncommon for water storages to be completely emptied during dry periods (either through movement of water from one storage to another as part of management, or through lack of water). Periods of total dring have been shown to be beneficial from an ecological and pathogen reduction point of view.

210.

5.5.3 Performance Criteria

211. The following performance criteria are set for the construction of the projects:

- no clearance of vegetation outside of the designated clearing boundaries;
- no death to native fauna because of clearing activities;
- no deleterious impacts on aquatic environments and terrestrial habitats;
- no introduction of new weed species because of construction activities; and
- no increase in existing weed proliferation within or outside of any project footprint because of construction activities.

5.5.4 Monitoring

212. A flora and fauna impact mitigation program will be implemented (Table 12).

213. Weed monitoring will be undertaken and appropriate action taken in the event of alien or noxious species being identified.

214. The delivery organisation will when undertaking works, compile a weekly report to HCENR outlining:

- any non-conformances to this EMSF;
- the areas that have been rehabilitated during the preceding week; and
- details of the corrective action undertaken.

[20] https://www.nationalparks-worldwide.com/sudan.htm

5.5.5 Reporting

215. All flora and fauna monitoring results and/or incidents will be tabulated and reported as outlined in the EMSF. The HCENR must be notified in the event of any suspected instances of death to native fauna and where vegetation if detrimentally impacted.

Table 12 Flora and Fauna Management Measures

Issue	Control Activity (and Source)	Action Timing	Responsibility	Monitoring and Reporting
FF1. Habitat loss and disturbance of fauna	FF1.1 Limit vegetation clearing and minimise habitat disturbance through adequate protection and management of retained vegetation.	During construction	State Coordinator	Daily and maintain records
	FF1.2: Minimise noise levels and lighting intrusion throughout construction and operation in the vicinity of any sensitive locations.	During construction	State Coordinator	Daily and maintain records
	FF1.3: Ensure that all site personnel are made aware of sensitive fauna/habitat areas and the requirements for the protection of these areas.	During construction	Contractor	Maintain records
	FF1.4 Minimise disturbance to on-site fauna and recover and rescue any injured or orphaned fauna during construction and operation.	During construction	Contractor	Daily and maintain records, report
FF2. Introduced flora and weed species	FF2.1: Implement an ESCP to reduce the spread of weeds through erosion and sediment entering any waterways and therefore spreading.	Pre and during construction	Contractor	Maintain records
	FF2.2: Revegetate disturbed areas using native and locally endemic species that have high habitat value.	During construction	State Coordinator	As required and maintain records
	FF2.3: Minimise disturbance to remnant vegetation, particularly canopy trees.	During construction	State Coordinator	Daily and maintain records
	FF2.4: Seed is to be weed free	Operation	State Coordinator	Maintain records
	FF2.5: Environmental weeds and noxious weeds within the project footprints shall be controlled	During and post construction	State Coordinator	Weekly and maintain records
FF3: Water borne vectors	FF3.1: Water storages to be monitored for the presence of pest organisms and managed to minimise their potential.	Operation	Water Committees	Weekly and maintain records

5.6 SOCIAL MANAGEMENT

5.6.1 Background

216. Sudan includes many religious, ethnic and socio-economic groups. Prevailing issues of access to resources, economic opportunity and power against the background of such diversity has unfortunately resulted in some of Africa's longest-running conflicts since the country became independent in 1956. These conflicts have included those between Muslim-Christian, Arab-African and nomad-farmer groups[21]. Over 97% of the population of Sudan are Sunni Muslims with a very small Christian minority[22]

217. Sudanese Arabs are by far the largest ethnic group in Sudan. While the majority speak Sudanese Arabic, some other Arab tribes speak different Arabic dialects like Awadia and Fadnia tribes and Bani Arak tribes who speak Najdi Arabic; and Rufa'a, Bani Hassan, Al-Ashraf, Kinanah and Rashaida who speak Hejazi Arabic[23].

218. Traditional subsistence agriculture dominates the Sudanese economy, with over 70% of the population dependent upon crop production and/or livestock husbandry to support their livelihoods. Agriculture accounted for about 30.4% of GDP in 2012 and is responsible for the vast majority of employment, roughly between 60% and 80% of the Sudanese population. The sector is a major source of raw materials, food and foreign exchange, while also accounting for almost all of domestic food supply (sorghum, millet and animal production), and for more than 60% of the national energy consumption, in form of fuel-wood and other biomass sources.

219. Table 13 lists some of the key socio-political features of each of the project target States.

Table 13 Socio-political features of each State

State	Socio-political features
West Darfur	○ Approximately 80% of the state's economy is based on agriculture and livestock production. ○ History of chronic food insecurity with greater than 40% of the population unable to obtain a health daily diet ○ Poverty incidence: 55.6 ○ Average learning of reading and writing in 15 to 24 years of age: 44 ○ Main ethnic groups: Arab, Nubian, other/mixed
Central Darfur	○ Most economic activities are focused on agriculture and pastoralism. About 80% of the state's population is comprised on farmers and pastoralists. ○ High poverty rates have led to a growing misuse of resources as evidenced by overgrazing and denuding of forests. ○ Poverty incidence: 55.6 ○ Average learning of reading and writing in 15 to 24 years of age: 44 ○ Main ethnic groups: Arab, other/mixed
East Darfur	○ Economic activity is dominated by pastoralism and agriculture, with about 90% of the population being pastoralists and farmers ○ Faces a number of impacts associated with climate change, particularly related to water. and serious degradation of rangelands ○ Numbers of displaced people from other states of the region

[21] http://www.nyulawglobal.org/globalex/Sudan.html
[22] https://web.archive.org/web/20120605132439/http://www.sd.undp.org/sudan%20overview.htm
[23] https://en.wikipedia.org/wiki/Sudan#Demographics

	○ Poverty incidence: 61.2 ○ Average learning of reading and writing in 15 to 24 years of age: 46 ○ Main ethnic group: Arab
South Kordofan	○ Over 85% of the state's population lives in rural areas and depends on a mix of traditional and mechanized agriculture ○ At present, Southern Kordofan lacks to infrastructure to accommodate rapid population growth. ○ Being at the center of a long running civil conflict, the state is characterized by widespread poverty, lack of basic services, poor infrastructure and continued land disputes. ○ Poverty incidence: 60.0 ○ Average learning of reading and writing in 15 to 24 years of age: 54 ○ Main ethnic groups: Arab, Nubian, other/mixed ○ South Kordofan hosts a number of different ethnic Nuba groups. The cattle herding Hawazma and Misseriya tribes constitute the second largest group after the Nuba. In addition, there are over 64 other ethnic groups living in South Kordofan, often inhabiting the same geographic areas.[24] ○ Almost all parts of South Kordofan are affected by displacement. The state currently hosts approximately 40,209 refugees from South Sudan, 179,665 IDPs and 5,000 returnees from South Sudan. ○ South Kordofan has experienced approximately half of all the registered conflict incidences in the southern states. ○ Natural resource-based conflicts constitute the most prevalent form of dispute among communities, be they inter-tribal, as well as intra-communal. ○ Policital/security (SPLM-N vs SAF) conflict has also occurfed.
West Kordofan	○ Transhumance and Nomadic tribes dominate the population and economy of Western Kordofan. ○ Most of the population is found where water and other services are available. ○ Poverty incidence: 60.0 ○ Average learning of reading and writing in 15 to 24 years of age: 54 ○ Main ethnic groups: Arab, Fur, other/mixed ○ In 2019, 58,300 South Sudanese refugees and approximately 9,000 IDPs resided in the state, displacement does not appear as a trigger or driver of conflict[25]
Kassala	○ The economy is dominated by agricultural activities. As a result, water and agriculture, and to a lesser extent health, were identified as the primary sectors of concern. ○ Kassala's vulnerable rural population - 85% of which are living below the poverty line and relying on subsistence agriculture. ○ Poverty incidence: 36.3

[24] UNDP Conflict Analysis of Sudan 2019
[25] UNDP Conflict Analysis of Sudan 2019

	○ Average learning of reading and writing in 15 to 24 years of age: 52 ○ Main Ethnic groups: Arab, other/mixed
Red sea	○ Supports varied and diverse coastal and marine habitats, including coral reefs, mangroves, and seagrass beds. ○ An overarching concern across inland and coastal areas is water scarcity. ○ Constant condition of food insecurity and has relied on external assistance, particularly in rural areas. ○ Poverty incidence: 57.7 ○ Average learning of reading and writing in 15 to 24 years of age: 51 ○ Main ethnic groups: Arab, Beja
North	○ The local economy depends upon both irrigated and rainfed agriculture. ○ Mix of drought and flooding with adverse effects on crop yields, rangelands, animal production, and river bank erosion. ○ Poverty incidence: 36.2 ○ Average learning of reading and writing in 15 to 24 years of age: 89 ○ Main ethnic groups: Arab, other/mixed
Khartoum	○ Rapid urban growth combined with rising temperatures, rainfall variability, and river fluctuations have placed serious pressure on Khartoum's resources ○ Poverty incidence: 26.0 ○ Average learning of reading and writing in 15 to 24 years of age: 89 ○ Main ethnic group: Arab

5.6.1.1 Conflict – past and present

220. The country lived about two decades of civil war. Troubles and conflicts since 2003 (Darfur's crises) and troubles and conflicts since 2011 (After CPA) in Kordofan and Blue Nile.

221. Sudan has been in the midst of a political crisis since long-serving ruler Omar al-Bashir was overthrown in April 2019. Following military removal from power in 2019, a transitional democratic government was formed and Sudan is undergoing a major transition.

222. Political agreement including a ceasefire and humanitarian assistance was signed. The Sudanese peace process consists of meetings, written agreements and actions that aim to resolve the War in Darfur, the Sudanese conflict in South Kordofan and Blue Nile (the Two Areas), and armed conflicts in central, northern and eastern Sudan. According to latest development and official notes, peace agreement is expected to be signed soon.

223. Currently, no armed frictions and population movements are normal.

224. Sudan today has an unprecedented opportunity. With the recent change of the regime in Khartoum, there is a possibility to implement a reform agenda which could address many of the conflicts that have impacted the 5 southern states of White Nile, Blue Nile, South Kordofan West Kordofan and North Kordofan for many decades.[26]

225. Climate change is a root cause of increasing poverty, migration and conflict. It spells greater vulnerability for communities, as it enhances the competition for land and water. As such, it constitutes a structural foundation of conflict in the 5 southern states of Sudan.

[26] UNDP (2019) Conflict analysis for Southern Region of Sudan, 2019

226. It is important to understand the role of structural poverty and climate change. Both factors play an important role in contributing to and reinforcing conflict dynamics and intensity. Most of the conflicts in the southern states of Sudan relate to competition over natural resources: land, water, and resources extraction

227. Although by no means the only factor, climate change is a major contributor to intensifying conflict. Strategies to reduce conflict therefore necessarily need to take account of this nexus between climate change and conflict, anticipating and focusing on mitigating measures including land rehabilitation and management. Appropriate governance interventions can also assist with mitigation, demonstrated by existing, successful development projects in support of enhanced water management and canals.

228. The direct dependence of Sudanese communities on the natural environment for survival has contributed to competition and conflict over scare natural resources. It is expected that the project activities will not create or exacerbate conflict over natural resources but rather reduce the risk of conflict to occur by improving natural resource management and incorporating good practices, lessons learned and conflict-resolution strategies into the project design.

5.6.1.2 Gender

229. Gender disparities are marked in Sudan, with differences within regions and by ethnic group. MDG indicators show pronounced inequalities between men and women. Women in Southern Sudan experience one of the poorest quality of life indices in the world and have suffered disproportionally from the effects of the war through abduction, heavy workload, physical and psychological violence, little legal protection and lack of access to basic social services. The majority of women still remain outside the political process in Sudan. The Interim Constitution of Southern Sudan (ICSS) provides for a minimum quota of 25% women in government service as well as a bill of rights that promotes gender equality and equal protection provides the legal basis for government efforts at balancing the gender equation. Yet, women remain a minority in all aspects of governance, civil service, leadership, and in seeking access to justice, whether it is through the statutory institutions or customary mechanisms of dispute resolution. This is particularly the case at the state and local levels of governance.[27]

230. A separate Gender Analysis and Action Plan has been prepared for the project.

231. The project has been designed with the assistance of stakeholders and aims to provide benefits to the broader community. Records of stakeholder consultation are contained within Appendix 2 Notwithstanding, as with any project that involves construction, some dissatisfaction can occur and conflicts may arise. It is important that potential areas of tension are recognised early and appropriate actions taken to avoid or minimise conflict.

232. The project and its sub-projects do not require involuntary resettlement or acquisition of land although they may impact on land during construction activities which will be temporary in nature.

5.6.2 Performance Criteria

233. The following performance criteria are set for the project:

- the community has been provided its free prior informed consent and project elements have been designed with their informed consultation and participation throughout the project;
- all stakeholders are appropriately represented;
- avoid adverse impacts to local community during construction and operations and where not possible, minimise, restore or compensate for these impacts;
- cultural heritage is not adversely impacted;
- community health and safety is protected and overall well-being benefits derived from the project;
- complaint and grievance mechanisms are put in place and proactively managed; and
- long-term social benefits are achieved.

[27] UNDP Project Document, Government of Sudan, United Nations Development Programme, 3925: Implementing NAPA Priority Interventions to Build Resilience in the Agriculture and Water Sectors to the Adverse Impacts of Climate Change in Sudan (2009):

234. Local stakeholders and community members have a key role to play in the implementation and monitoring of the project.

235. Consultation with stakeholders will continue. This will help ensure that stakeholders continue to be aware of the project, its progress and any changes in the project. It will also assist in identifying any issues as they arise.

236. HCENR will be responsible for advisory support and extensions services to local beneficiaries along with being responsible for distributing material inputs and providing technical training and backstopping in the implementation of programme activities.

5.6.3 Reporting

237. Records of all consultations are to be kept and reported on monthly basis.

238. The HCENR must be notified in the event of any individual or community complaint or dissatisfaction and ensure the Grievance Redress Mechanism is complied with.

Table 14: Social Management Measures

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
SM1: Land tenure	SM 1.1: Carry out community consultation on the purpose and benefits of project elements	Pre-construction	HCENR	Maintain records
	SM 1.2: Get community buy-in on designs and implementation strategies	Pre-construction	HCENR	Maintain records
	SM 1.3: Ensure compliance with the Grievance Redress Mechanism process	Entire construction and operation phase	HCENR	Maintain records
	SM1.4: If indigenous land is involved, ensure that FPIC is achieved (refer Appendix 1 – IPPF)	Entire construction and operation phase	HCENR	Maintain records
	SM1.5: Consultation to be undertaken and agreement to have been obtained prior to use of any land, including communal land.	Pre-construction and during	HCENR	Maintain records
SM2: Public nuisance caused by construction/operation activities (eg noise, dust etc)	SM 2.1: Carry out community consultation prior to undertaking activities	Pre-construction	HCENR	Maintain records
	SM 2.2: Implement appropriate management plans (refer to Noise, Air, ESCP, and Waste sections of the ESMF)	Construction and operation	State Coordinator and HCENR	Daily and maintain records
	SM 2.3: Ensure compliance with the Grievance Redress Mechanism process	All phases	HCENR	Maintain records
SM3: Gender Mainstreaming	SM3.1: Implement Gender Action Plan and IPPF (Appendix 4)	All phases	HCENR	Maintain records

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
SM3: Gender Mainstreaming	SM3.2: Ensure equitable participation by women and men in community workshops and trainings	All phases	HCENR	Maintain records
	SM3.3: Consider gender issues in the planned detailed site investigations	Design/construction phase	HCENR	Maintain records
	SM3.4: Ensure that women participate in training and any maintenance or operations opportunities for communities, arising out of installations of weather monitoring equipment.	Construction and operation phases	HCENR	Maintain records
	SM3.5: Communications, training and gender materials used for dissemination of information must be suitable for local cultures and languages, particularly for ethnic minorities.	All phases	HCENR	Maintain records
	SM3.6: Collect gender disaggregated data where feasible	All phases	HCNER	Maintain records
SM4: Social Equity/Conflict Management	SM4.1: Seek to use local workforce where possible.	Construction	HCNER	Maintain records
	SM4.2: Ensure appropriate representation of all stakeholders eg in make up of village committees, resource management groups, workforce etc.	All phases	HCNER	Maintain records
	SM4.3: Identify any historic or existing grievances or areas of tension and work between groups to bridge differences and create common understanding and goals.	Pre-construction	HCNER	Maintain records
	SM4.4: Establishment of joint mediation committees, using traditional mediation practices where possible and creating linkages to formal and administrative mechanisms.	Pre-construction	HCNER	Maintain records

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
SM4: Social Equity/Conflict Management	SM4.5: Introduction and communication of inclusive natural resources management systems at the local level, guided by clear principles and regulations.	All phases	HCNER	Maintain records
	SM4.6: Implementation of inclusive decision-making processes at local level, including regular consultations between local government, traditional authorities and communities. Where appropriate, commercial and other actors should be included	All phases	HCNER	Maintain records
	SM4.7: Strengthening the capacities of national and local actors for more inclusive engagement in the development and implementation of stakeholder/gender/IP plans and activities.	Pre-implementation and during	HCNER	Maintain records
	SM4.8: Project members are to follow UNDP security protocols eg TRIP, registration and approval from UNDSS must be obtained prior to travel to the project target areas.	All phases	UNDP/UNDSS	Maintain records

5.7 WASTE MANAGEMENT

5.7.1 Background

239. As the implementing agency, the HCENR advocate good waste management practice. The preferred waste management hierarchy and principles for achieving good waste management is as follows:

- waste avoidance(avoid using unnecessary material on the projects);
- waste re-use (re-use material and reduce disposing);
- waste recycling (recycle material such as cans, bottles, etc.); and
- waste disposal (all petruscible and/or contaminated waste to be dumped at approved landfills).

240. The key waste streams generated during construction and operation are likely to include:

- the excavation wastes unsuitable for reuse during earthworks;
- wastes from construction and drilling equipment maintenance. Various heavy vehicles and construction equipment will be utilised for the duration of the construction and drilling phase. Liquid hazardous wastes from cleaning, repairing and maintenance of this equipment may be generated. Likewise leakage or spillage of fuels/oils within the site needs to be managed and disposed of appropriately;
- non-hazardous liquid wastes will be generated through the use of workers' facilities such as toilets; and
- Typical farm wastes.

241. Workers involved in construction and operational activities should be familiar with methods minimising the impacts of waste through the waste heirachy – minimise, reduce, reuse. By doing these activities, the projects should minimise the impact of waste generated by the project.

5.7.2 Performance Criteria

242. The following performance criteria are set for the construction of the projects:

- waste generation is minimised through the implementation of the waste hierarchy (avoidance, reduce, reuse, recycle);
- no litter will be observed within the project area or surrounds as a result of activities by site personnel;
- no complaints received regarding waste generation and management; and
- any waste from on-site portable sanitary facilities will be sent off site for disposal by a waste licensed contractor.

5.7.3 Monitoring

243. A waste management monitoring program has been developed for the projects (Table 15). The program is subject to review and update at least every two months from the date of issue.

5.7.4 Reporting

244. The HCENR as implementing agency must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level with respect to waste is exceeded.

Table 15 Waste Management Measures

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
WT1: Production of wastes and excessive use of resources	WT1.1: Preference shall be given to materials that can be used to construct the project that would reduce the direct and indirect waste generated.	Pre and during construction	Contractor	Maintain records
	WT1.2: Daily waste practices shall be carried out unless these are delegated to the activities of external waste management bodies.	During construction	State Coordinator	Daily and maintain records
	WT1.3: The use of construction materials shall be optimised and where possible a recycling policy adopted.	During construction	State Coordinator	Maintain records
	WT1.4: Separate waste streams shall be maintained at all times i.e. general domestic waste, construction and contaminated waste. Specific areas on site shall be designated for the temporary management of the various waste streams.	During construction	State Coordinator	Daily and maintain records
	WT1.5: Any contaminated waste shall be disposed of at an approved facility.	During construction	State Coordinator	Maintain records
	WT1.6: Recyclable waste (including oil and some construction waste) shall be collected separately and disposed of correctly.	During construction	State Coordinator	Maintain records
	WT1.7: Waste sites shall be sufficiently covered to ensure that wildlife does not have access.	During construction	State Coordinator	Daily
	WT1.8: Disposal of waste shall be carried out in accordance with the Government of Sudan requirements.	During construction	State Coordinator	Maintain records
	WT1.9: Fuel and lubricant leakages from vehicles and plant shall be immediately rectified.	During construction	State Coordinator	Daily and maintain records

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
WT1: Production of wastes and excessive use of resources	WT1.10: Major maintenance and repairs shall be carried out off-site whenever practicable.	During construction	State Coordinator	Maintain records
	WT1.11: Where possible, fuel and chemical storage and handling shall be undertaken at central fuel and chemical storage facilities, such as petrol stations.	During Construction	State Coordinator	Maintain records
	WT1.12: On-site storage of fuel and chemicals shall be kept to a minimum.	During Construction	Contractor	Maintain records and report any incidents
	WT1.13: Any waste oils and lubricants are to be collected and transported to recyclers or designated disposal sites as soon as possible.	During Construction	State Coordinator	Maintain records
	WT1.14: Any dangerous goods stored on site shall be stored in accordance with Sudanese regulations.	During Construction	Contractor	Maintain records

5.8 AIR QUALITY

5.8.1 Background

245. Air pollution in Sudan is considered limited compared with other countries, because Sudan is an agricultural country. Transport is the main source of air pollutant in Sudan urban centres. It is common to burn municipal and agricultural waste. Wood and animal waste are common domestic fuel sources

246. All construction activities have the potential to cause air quality nuisance.

247. The project areas are predominantly village or rural in character. Existing air quality reflects those environments, with dust being the main air quality nuisance.

248. Workers involved in construction and operation activities should be familiar with methods minimising the impacts of deleterious air quality and alternative construction procedures as contained in Sudanese legislation or international good practice.

249. Significant air quality issues are not expected as a result of the project. None the less, some standard air quality management measures have been included as part of the ESMF.

5.8.2 Performance Criteria

250. The following performance criteria are set for the construction of the projects:

- release of dust/particle matter must not cause an environmental nuisance;
- undertake measures at all times to assist in minimising the air quality impacts associated with construction and operation activities; and
- corrective action to respond to complaints is to occur within 48 hours.

5.8.3 Monitoring

251. Air impact mitigation measures have been developed for the project (Table 16). The program is subject to review and update at least every two months from the date of issue. Importantly:

- the requirement for dust suppression will be visually observed by site personnel daily and by HCENR and UNDP staff when undertaking routine site inspections; and
- Vehicles and machinery emissions – visual monitoring and measured when deemed excessive.

5.8.4 Reporting

252. All air quality monitoring results and/or incidents will be tabulated and reported as outlined in the EMSF. The HCENR must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level with respect to air quality is exceeded.

Table 16 Air Quality Management Measures

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
A.1 Increase in dust levels at sensitive receptors	A1.1: Implement effective dust management measures in all areas during design, construction and operation.	Pre and during construction	All Personnel	Daily and maintain records
	A1.2: Restrict speeds on roads and access tracks.	During construction	State Coordinator	Daily and maintain records
	A1.3: Manage dust/particulate matter generating activities to ensure that emissions do not cause an environmental nuisance at any sensitive locations	During construction	State Coordinator	Daily and maintain records
	A1.4: Construction activities should minimise risks associated with climatic events (check forecasts).	During construction	State Coordinator	Daily and maintain records
	A1.5: Implement scheduling/staging of proposed works to ensure major vegetation disturbance and earthworks are minimised.	Entire construction	Contractor	Maintain records
	A1.6: Locate material stockpile areas as far as practicable from sensitive receptors. Cover if appropriate.	During construction	State Coordinator	Maintain records
	A1.7: Source sufficient water of a suitable quality for dust suppression activities complying with any water restrictions.	During construction	State Coordinator	Maintain records
	A1.8: Schedule revegetation activities to ensure optimum survival of vegetation species.	During construction	State Coordinator	Maintain records
	A1.9: Rubbish receptacles should be covered and located as far as practicable from sensitive locations	During construction	State Coordinator	Daily and Maintain records

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
A2. Increase in vehicle / machinery emissions	A2.1 Ensure vehicles/machines are switched off when not in use.	During construction	State Coordinator	Daily and maintain records
	A2.2 Ensure only vehicles required to undertake works are operated onsite.	During construction	State Coordinator	Daily and maintain records
	A2.3 Ensure all construction vehicles, plant and machinery are maintained and operated in accordance with design standards and specifications.	During construction	Contractor	Maintain records
	A2.4 Develop and implement an induction program for all site personnel, which includes as a minimum an outline of the minimum requirements for environmental management relating to the site.	Pre and during construction	Contractor	Maintain records
	A2.5 Locate construction vehicle/plant/equipment storage areas as far as practicable from sensitive locations.	During construction	Contractor	Daily and maintain records
	A2.6 Direct exhaust emissions of mobile plant away from the ground.	During construction	Contractor	Daily and maintain records

5.9 NOISE AND VIBRATION

5.9.1 Background

253. All construction and operation activities have the potential to cause noise nuisance. Vibration disturbance to nearby residents and sensitive habitats is likely to be caused through the use of vibrating equipment. Blasting is not required to be undertaken as part of this project.

254. The use of machinery or introduction of noise generating facilities could have an adverse effect on the environment and residents if not appropriately managed.

255. Contractors involved in construction activities should be familiar with methods of controlling noisy machines and alternative construction procedures as contained within specific WHERE legislation or in its absence, international good practice may be used if the legislation has not been enacted.

256. Potential noise sources during construction may include:

- ✓ heavy construction machinery;
- ✓ power tools and compressors;
- ✓ delivery vehicles.

257. The project is not expected to cause any significant noise and vibration impacts. None the less, standard mitigation measures have been included in the EMSF to encourage best practice.

5.9.2 Performance Criteria

258. The following performance criteria are set for the construction of the projects:

- ✓ noise from construction and operational activities must not cause an environmental nuisance at any noise sensitive place;
- ✓ undertake measures at all times to assist in minimising the noise associated with construction activities;
- ✓ no damage to off-site property caused by vibration from construction and operation activities; and
- ✓ corrective action to respond to complaints is to occur within 48 hours.

5.9.3 Monitoring

259. A standardised noise management program has been developed for the projects (Table 17). The program is subject to review and update at least every two months from the date of issue. Importantly, the contractor will:

- ✓ ensure equipment and machinery is regularly maintained and appropriately operated; and
- ✓ carry out potentially noisy construction activities during ‘daytime’ hours only.

5.9.4 Reporting

260. All noise monitoring results and/or incidents will be tabulated and reported as outlined in the EMSF. The HCENR must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level with respect to noise is exceeded

Table 17 Noise and Vibration Management Measures

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
N1: Increased noise levels	N1.1: Select plant and equipment and specific design work practices to ensure that noise emissions are minimised during construction and operation including all pumping equipment.	All phases	Contractor	Maintain records
	N1.2: Specific noise reduction devices such as silencers and mufflers shall be installed as appropriate to site plant and equipment.	Pre and during construction	Contractor	Maintain records
	N1.3 Minimise the need for and limit the emissions as far as practicable if noise generating construction works are to be carried out outside of normal business hours.	Construction phase	All Personnel	Daily and maintain records
	N1.4: Consultation with nearby residents in advance of construction activities particularly if noise generating construction activities are to be carried out outside of normal business hours.	Construction phase	All Personnel	Maintain records
	N1.5 The use of substitution control strategies shall be implemented, whereby excessive noise generating equipment items onsite are replaced with other alternatives.	Construction phase	All Personnel	Daily and maintain records
	N1.6 Provide temporary construction noise barriers in the form of solid hoardings where there may be a significant impact on specific residents.	Construction phase	State Coordinator	Daily and maintain records
	N1.7 All incidents complaints and non-compliances related to noise shall be reported in accordance with the site incident reporting procedures and summarised in the register.	Construction phase	State Coordinator	Maintain records
	N1.8 The contractor should conduct employee and operator training to improve awareness of the need to minimise excessive noise in work practices through implementation of measures.	Pre and during construction	Contractor	Maintain records

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
N2. Vibration due to construction	N2.1: Identify properties, structures and habitat locations that will be sensitive to vibration impacts resulting from construction and operation of the project.	Pre and during construction	Contractor	Maintain records
	N2.2: Design to give due regard to temporary and permanent mitigation measures for noise and vibration from construction and operational vibration impacts.	Pre-construction	Contractor	Maintain records
	N2.3: All incidents, complaints and con-compliances related to vibration shall be reported in accordance with the site incident reporting procedures and summarised in the register.	Construction phase	State Coordinator	Maintain records
	N2.4: During construction, standard measure shall be taken to locate and protect underground services from construction and operational vibration impacts.	Construction phase	State Coordinator	Maintain records

5.10 Emergency Management Measures

261. In the event of actions occurring, which may result in serious health, safety and environmental (catastrophic) damage, emergency response or contingency actions will be implemented as soon as possible to limit the extent of environmental damage.

262. The delivery organisation will need to incorporate emergency responses into the project complying with the requirements under the Occupational, Health and Safety Policy of the delivery organisation and the relevant WHERE legislation.

5.10.1 Performance Criteria

263. The following performance criteria are set for the construction of the projects:

- ✓ no incident of fire outbreak;
- ✓ no failure of water retaining structures;
- ✓ no major chemical or fuel spills;
- ✓ no preventable industrial or work related accidents;
- ✓ provide an immediate and effective response to incidents that represent a risk to public health, safety or the environment; and
- ✓ minimise environmental harm due to unforeseen incidents.

5.10.2 Monitoring

264. Emergency response measures has been identified for the projects (Table 18). The program is subject to review and update at least every two months from the date of issue. Importantly, visual inspections will be conducted by State Coordinator daily with reporting to HCENR and UNDP staff on a weekly basis (minimum) noting any non-conformances to this EMSF.

5.10.3 Reporting

265. The HCENR and UNDP staff must be notified immediately in the event of any emergency, including fire or health related matter including those that have resulted in serious environmental harm.

Table 18 Emergency Management Measures

Issue	Control activity (and source)	Action timing	Responsibility	Monitoring & reporting
E1. Fire and Emergency management and prevention strategies implemented	E1.1: Flammable and combustible liquids bunding/storage areas to be designed in accordance with appropriate international standards	Pre and during construction	Contractor	Weekly check and maintain records
	E1.2: Fire extinguishers are to be available on site	During construction	Contractor	Maintain records
	E1.3: No open fires are permitted within the project area	During construction	Contractor	Daily
	E1.4: Communication equipment and emergency protocols to be established prior to commencement of construction activities.	Pre and during construction	State Coordinator and Contractor	Maintain records
	E1.5: Train all staff in emergency preparedness and response (cover health and safety at the work site).	During construction	Contractor	Maintain records
	E1.6: Check and replenish First Aid Kits	During construction	Contractor	Monthly maintain records
	E1.7: Use of Personal Protection Equipment	During construction	All Personnel	Daily and maintain records of issue

6 BUDGET FOR ESMF IMPLEMENTATION

266. A budget estimate has been prepared for the implementation of the ESMF as follows:

Item	Cost
ESMF Updating and Auditing	$20,000
General ESMF Expenses	$20,000
Ecological Monitoring (two assessments/year)	$140,000
Water Quality Monitoring	$120,000
Water Quality Sample Laboratory Analysis	$100,000
Sediment Sample Field Testing	$80,000
Sediment Sample Laboratory Analysis	$50,000
Erosion, Drainage and Sediment Control	$200,000
Stakeholder Engagement	$100,000
Training	$100,000
Grievance Redress Mechanism	$50,000
Total	$990,000

Note – monitoring to be undertaken as required throughout life of the project.

267.

Appendices

Appendix 1
Indigenous Peoples Planning Framework

Building Resilience in the Face of Climate Change Within Traditional Rainfed Agricultural and Pastoral Systems in Sudan

Indigenous People's Planning Framework

23 August 2022

CONTENTS

EXECUTIVE SUMMARY

This safeguard document is called the Indigenous People Planning Framework (IPPF) and it has been prepared for the "Building Resilience in the Face of Climate Change within Traditional Rainfed Agricultural and Pastoral Systems in Sudan" project. The IPPF is part of the overall project and part of the project's Environment and Social Management Framework (ESMF).

The Project will be implemented by the Higher Council for Environment and Natural Resources (HCENR). Safeguard implementation will be carried out by social and environmental safeguards focal persons of the National Project Management Unit and State Project Management Units.

This document is considered a living document and shall be modified and updated in line with the changing situation or scope of the activities. Detailed Indigenous Peoples Plans (IPP) will be developed when and if necessary, in close consultation with stakeholders, HCENR, UNDP and GCF.

7 INTRODUCTION

268. This Indigenous People's Planning Framework (IPPF) has been prepared in support of a project proposal for "Building Resilience in the Face of Climate Change within Traditional Rainfed Agricultural and Pastoral Systems in Sudan" by the Government of Sudan (GoS) to the Green Climate Fund (GCF). This project is supported by UNDP in its role as a GCF Accredited Entity. Indigenous Peoples are known to live within the project area, therefore both UNDP and GCF standards for Indigenous Peoples are triggered, as such, an IPPF has been prepared for the project. (GCF).

7.1 PURPOSE OF THE FRAMEWORK

269. GCF Standard 7 and UNDP Standard 6 - Indigenous Peoples are triggered for this project as there is potential that ethnic minorities/indigenous peoples are found in the project area. Therefore, an Indigenous Peoples Planning Framework (IPPF) has been developed to ensure that indigenous peoples are sufficiently and meaningfully consulted leading to their free, prior and informed consultation (FPIC) to project interventions, that they will have equal opportunity to share the project benefits, and that any potential negative impacts are properly mitigated.

270. The IPPF will form a basis for project implementation and monitoring and evaluation of how the project deals with indigenous peoples issues. If necessary, at project implementation stage, Indigenous People Plans (IPPs) will be developed, based on this IPPF, after target village cluster and village-level stakeholder engagement is commenced and results of social screening confirm impacts on IP communities.

271. This IPPF has been prepared to guide the formulation of project components, ensuring equal distribution of project benefits between Indigenous Peoples and Ethnic Minorities and non-Indigenous Peoples/Ethnic Minorities who are affected by the Project. The principal objectives of the IPPF are to:

    a. Screen project components early to assess their impacts on Indigenous Peoples and Ethnic Minority households;

    b. ensure meaningful participation and consultation with Indigenous Peoples/Ethnic Minorities living in the project locations in the process of preparation, implementation, and monitoring of project activities;

    c. prepare this Indigenous People's Planning Framework to mitigate any possible and unintended adverse impacts;

    d. ensure that Indigenous Peoples/Ethnic Minorities receive culturally appropriate social and economic benefits from the project;

    e. define the institutional arrangement for screening, planning and implementation of Indigenous Peoples/Ethnic Minorities plans for projects; and

    f. outline the monitoring and evaluation process of the review and implementation of the plan.

7.2 BACKGROUND

272. The GoS with support from UNDP, is formulating a project on adaptation to climate change impacts within traditional rainfed agricultural and pastoral communities. The project will seek to improve the resilience of vulnerable communities to climate change impacts.

273. The project recognises that, as per the GCF Indigenous Peoples Policy, "indigenous peoples often have identities and aspirations that are distinct from mainstream groups in national societies and are disadvantaged by traditional models of mitigation, adaptation and development. In many instances, they are among the most economically marginalized and vulnerable segments of the population. The economic, social and legal status of indigenous peoples frequently limit their capacity to defend their rights to, and interests in, land, territories and natural and cultural resources, and may restrict their ability to participate in and benefit from development initiatives and climate change actions."

7.3 Overview of the Project

7.3.1 Project Objective

274. The proposed project aims to build resilience of subsistence farmer and pastoral communities and physical assets and livelihoods to climate change risks, by mainstreaming a number of farming practices, such as seed selection, water management, pest management, pasture and livestock management and improved livelihood support systems.

275. The project will enhance resilience by climate-proofing current productive activities through the introduction of new management schemes and technologies. Many of the interventions are targeted towards public goods – communal rangelands for livestock grazing, village-level water supply, and decentralized irrigation systems – while other interventions aim to increase the adaptive capacity of households that are most vulnerable to climate change by introducing drought-resistant seed varieties, vegetable gardens for women-headed households, and livestock nutrition and disease prevention programmes.

7.3.2 Project Target Areas

276. The Project target areas are focussed on a total of 211,773 subsistence farming households distributed among 138 villages across the nine states:

West Darfur: A total of 2,829 households in 5 villages in the Genana and Krenik localities.

Central Darfur: A total of 7,727 households in 13 villages in the Zalingi and Azoom localities.

East Darfur: A total of 47,700 households in 10 villages in the El Dain, Firdous and Asalia localities.

Western Kordofan: A total of 5,683 households in 27 villages in the Asalam, Al Nohoud, and Alsunut localities.

South Kordofan: A total of 10,350 households in 23 villages in the El Goz and Dilling localities

Kassala state: A total of 74,208 households in 16 villages in the Kassala, Telkuk, and Nhar Atbra localities.

Red Sea state: A total of 52,000 households in 15 villages in the Agig, Dordaib/Haya, and Guneb Olib localities.

Northern state: A total of 8,929 households in 18 villages in the Dongola, Marawi, and Al Dabaha localities.

Khartoum: A total of 2,347 households in 11 villages in rural areas of the Omdurman and Sharg El Nil.

277. The target states and target areas are shown on Figure 1.

Figure 13 Locations of Project Target Areas in Sudan

7.3.3 Summary of Activities

278. The proposed project will have the following activities:

Output 1: Resilience of food production systems and food insecure communities improved in the face of climate change in Sudan, benefiting at least 200,000 households and farmer and pastoralist with 35% women:

- ✓ Activity 1.1: Introduction of drought-resilient seed varieties of sorghum, millet, groundnut and wheat that have demonstrated greater yields in the face of climatic changes through village procurement systems
- ✓ Activity 1.2: Introduce sustainable practices in agricultural production at the community level. This involves the introduction of greater irrigation efficiency in the management of water resources through the introduction of integrated women's farms, home gardens, and demonstration plots
- ✓ Activity 1.3: Introduction of rangeland management practices that reduce pastoral stress on communal lands through demonstration farms and rangeland rehabilitation techniques

Activity 1.4: Establish shelterbelts/agroforestry to improve productivity and reduce land and environmental degradation. This involves the plantation of trees to absorb energy from dust storms and protection of cultivatable areasOutput 2: Improved access of water for human, livestock and irrigation to sustain livelihoods in the face of climatic risks in the nine targeted states benefiting at least 200,000 households:

- ✓ Activity 2.1: Construct/rehabilitate water yards and drilling of shallow/borehole for drinking water for human and livestock and small-scale irrigation in targeted locations. This involves increasing the access to water by installing communal water infrastructure
- ✓ Activity 2.2: Establish sand water-storage dams in support of small-scale irrigation in targeted localities and villages. This involves the blocking seasonal wadis for groundwater storage and exploitation

- Activity 2.3: Construct improved Hafirs and upgrade of existing ones, excavating natural pond and cistern to increase availability of drinking water. This involves the construction of water storage infrastructure.

Output 3: Strengthened capacities and knowledge of institutions and communities on climate change resilience and adaption:

- ✓ Activity 3.1: Train extension officers and other government stakeholders on climate change resilience and adaptation related issues. This involves the development of training materials tailored to local circumstances and delivered through a series of workshops
- Activity 3.2: Build capacity of beneficiaries for coping with climate change risks and local operation & maintenance of project interventions. This involves a series of seminars and workshops to raise awareness among village leaderships councils about climate change coping strategies.

8 Overview of Indigenous Peoples/Ethnic Minorities in the Project Area

279. Although there is no accurate demographic data on Sudan, the US Department of State's 2015 Human Rights Report states that the population includes more than 500 different ethnic and sub-ethnic groups. While many linguistically and culturally identify as Arab, others identify as African, although there is no reliable data on this breakdown. [28]

280. Prominent non-Arab groups include the Nubians, who live along the Nile River in northern Sudan, the Beja who reside in eastern Sudan, the Fellata located mainly in Gezira, the Nuba (a collective term for the different tribal groups inhabiting the Nuba Mountains) in South Kordofan and the Fur, Massalit and Zaghawa located in the Darfur region. The distribution of the main ethnic groups is shown in Figure 2.

[28] Australian Government (2016) DFAT Country Information Report Sudan 27 April 2016

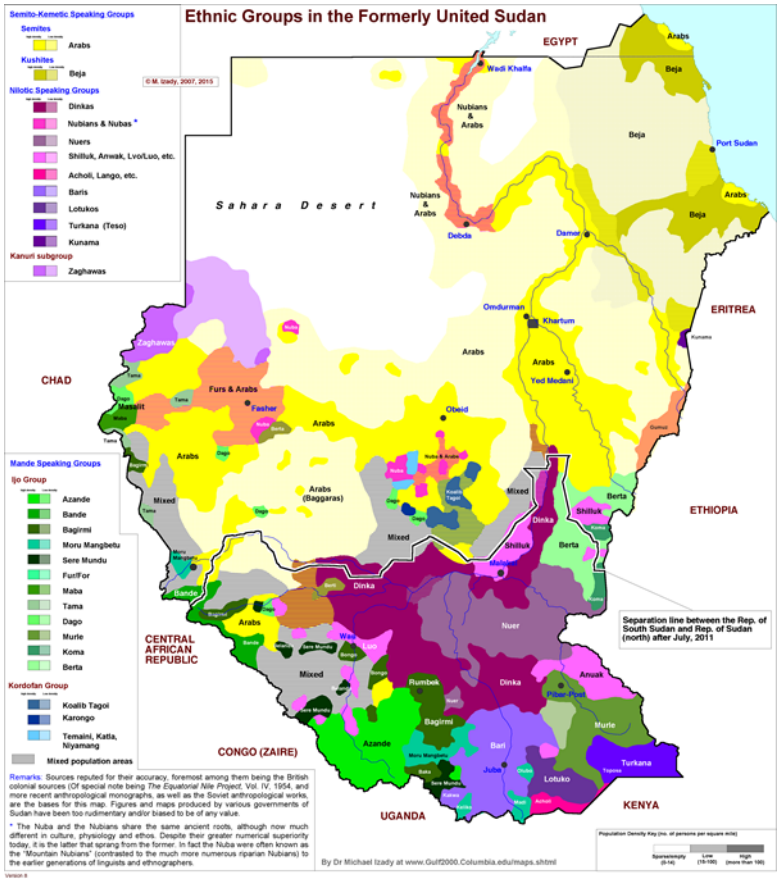


Figure 14 Indigenous Peoples and Ethnic Minority Map

281. Socio-political characteristics for each of the target states are given in *Table 19*.

Table 19 Socio-political characteristics of the target states

State	Socio-political features
West Darfur	Approximately 80% of the state's economy is based on agriculture and livestock production. History of chronic food insecurity with greater than 40% of the population unable to obtain a health daily diet Poverty incidence: 55.6 Average learning of reading and writing in 15 to 24 years of age: 44 Main ethnic groups: Arab, Nubian, other/mixed
Central Darfur	Most economic activities are focused on agriculture and pastoralism. About 80% of the state's population is comprised on farmers and pastoralists. High poverty rates have led to a growing misuse of resources as evidenced by overgrazing and denuding of forests. Poverty incidence: 55.6 Average learning of reading and writing in 15 to 24 years of age: 44 Main ethnic groups: Arab, other/mixed
East Darfur	Economic activity is dominated by pastoralism and agriculture, with about 90% of the population being pastoralists and farmers Faces a number of impacts associated with climate change, particularly related to water. and serious degradation of rangelands Numbers of displaced people from other states of the region Poverty incidence: 61.2 Average learning of reading and writing in 15 to 24 years of age: 46 Main ethnic group: Arab
South Kordofan	Over 85% of the state's population lives in rural areas and depends on a mix of traditional and mechanized agriculture At present, Southern Kordofan lacks to infrastructure to accommodate rapid population growth. Being at the center of a long running civil conflict, the state is characterized by widespread poverty, lack of basic services, poor infrastructure and continued land disputes. Poverty incidence: 60.0 Average learning of reading and writing in 15 to 24 years of age: 54 Main ethnic groups: Arab, Nubian, other/mixed South Kordofan hosts a number of different ethnic Nuba groups. The cattle herding Hawazma and Misseriya tribes constitute the second largest group after the Nuba. In addition, there are over 64 other ethnic groups living in South Kordofan, often inhabiting the same geographic areas.[29]

[29] UNDP Conflict Analysis of Sudan 2019

	Almost all parts of South Kordofan are affected by displacement. The state currently hosts approximately 40,209 refugees from South Sudan, 179,665 IDPs and 5,000 returnees from South Sudan. South Kordofan has experienced approximately half of all the registered conflict incidences in the southern states. Natural resource-based conflicts constitute the most prevalent form of dispute among communities, be they inter-tribal, as well as intra-communal. Policital/security (SPLM-N vs SAF) conflict has also occurfed.
West Kordofan	Transhumance and Nomadic tribes dominate the population and economy of Western Kordofan. Most of the population is found where water and other services are available. Poverty incidence: 60.0 Average learning of reading and writing in 15 to 24 years of age: 54 Main ethnic groups: Arab, Fur, other/mixed In 2019, 58,300 South Sudanese refugees and approximately 9,000 IDPs resided in the state, displacement does not appear as a trigger or driver of conflict[30]
Kassala	The economy is dominated by agricultural activities. As a result, water and agriculture, and to a lesser extent health, were identified as the primary sectors of concern. Kassala's vulnerable rural population - 85% of which are living below the poverty line and relying on subsistence agriculture. Poverty incidence: 36.3 Average learning of reading and writing in 15 to 24 years of age: 52 Main Ethnic groups: Arab, other/mixed
Red sea	Supports varied and diverse coastal and marine habitats, including coral reefs, mangroves, and seagrass beds. An overarching concern across inland and coastal areas is water scarcity. Constant condition of food insecurity and has relied on external assistance, particularly in rural areas. Poverty incidence: 57.7 Average learning of reading and writing in 15 to 24 years of age: 51 Main ethnic groups: Arab, Beja
North	The local economy depends upon both irrigated and rainfed agriculture. Mix of drought and flooding with adverse effects on crop yields, rangelands, animal production, and river bank erosion. Poverty incidence: 36.2 Average learning of reading and writing in 15 to 24 years of age: 89

[30] UNDP Conflict Analysis of Sudan 2019

	Main ethnic groups: Arab, other/mixed
Khartoum	Rapid urban growth combined with rising temperatures, rainfall variability, and river fluctuations have placed serious pressure on Khartoum's resources Poverty incidence: 26.0 Average learning of reading and writing in 15 to 24 years of age: 89 Main ethnic group: Arab

8.1.1 Assumptions Underpinning the Development of the Indigenous People's Planning Framework

282. The following assumptions have been made in the preparation of this IPPF:

the community has been provided its free prior informed consent and project elements have been designed with their informed consultation and participation throughout the project

none of the interventions will require the displacement of people;

none of the interventions will be conducted in protected areas or sensitive locations;

cultural heritage is not adversely impacted;

long-term social benefits are achieved.

9 RELEVANT LEGAL FRAMEWORK AND REGULATIONS

9.1 SUDAN LEGISLATION, POLICIES AND REGULATIONS APPLICABLE TO IPS

283. The following legislation is relevant to the project (*Table 20*):

Table 20 Relevant Sudanese legislation

Year	Legislation/Policy Decision	Remarks
1899	**Title to Land Ordinance**	The Ordinance recognised private property in the form of individually-registered cultivated lands in the extreme north and central riverain Sudan. During the colonial period, land ownership was pursued through a series of land legislation. One major policy of this Ordinance was "to expand cultivation while safeguarding the inhabitants' rights and encouraging the formulation of a Sudanese proprietary class." (Warburg, 1970: 156 cited in Komey, 2009: 4). Towards that end, a number of land settlement commissions were appointed in the northern and central districts. Similar structures did not exist in the Nuba Mountains, Darfur, southern Blue Nile and South Sudan, and no land registration was pursued in these areas. Consequently, no individual private land ownership was formally recognised in these regions (Bolton, 1954: 187 and Warburg, 1970: 159 cited in Komey 2009).
1925	**Land Settlement & Registration Ordinance**	The Ordinance consolidated a 1903 Land Acquisition Ordinance, which empowered the government to acquire land for irrigation schemes and other public purposes, and a 1905 Land Settlement Ordinance, which established an adjudication system to settle claims to waste and unoccupied lands. Such lands were declared government property barring evidence to the contrary. This Ordinance is the main reference for land settlement and registration procedures in Sudan, including Darfur. Some adjustments have been made to this Ordinance, in 1984, to align it with the 1984 Civil Transaction Act.
1930	**Land Property Cancellation Act**	This Act stipulates that if the Wali deems a piece of land anywhere as permanently or temporarily required for public purposes, an announcement is made in the Gazette, and based on this it becomes possible to anyone delegated by the Wali to perform any of the following activities: • Enter any land in the area of interest and survey it • Dig the land • Prepare the land for whichever purpose it is needed for • Demarcate the boundaries of the land of interest • Cut and remove any crops or trees if they hinder demarcation. No one is allowed to step in that land without prior permission of the owner, unless the owner has received a one week notice. Per the Act, the Government pays compensation of damage caused by the above activities, if any, and the Wali pays or expresses willingness to pay an amount that will cover damage that might have been caused by the above-mentioned activities.
1932	**a) Native Courts Ordinance b) Central Forests Act**	a) The Ordinance consolidated a series of previous documents defining the respective roles of Native Administration authorities in the judicial sphere, setting up a system of local courts alongside state courts. b) Affirms government ownership of forests and responsibility of forests protection.
1951	**Local Government Act (or Ordinance)**	The Act came in the wake of a series of initiatives paving the way for local government-building during the 1930s and 1940s. The Ordinance sanctioned the creation of local councils entrusted with collecting taxes and providing social services. Local security and conflict management remained responsibilities of the NA.
1961	**Local Government Act**	The Act established local councils at the district level, led by a government-appointed commissioner and with members chosen from among local rural and urban elites, the NA, and leading civil servants. The main implementing party was the Ministry of Interior, which took over local government responsibilities from the Colonial Administrative Secretary.

9.2 GCF AND UNDP INDIGENOUS PEOPLES STANDARDS

9.2.1 GCF Policy and Standard

284. The Governing Instrument for the GCF, as well as other policies, reflect the importance of fully and effectively engaging with indigenous peoples in the design, development and implementation of the strategies and activities to be financed by GCF, while respecting their rights.

285. The GCF Indigenous Peoples Policy assists GCF to incorporate considerations related to indigenous peoples into its decision-making while working towards the goals of climate change mitigation and adaptation. The Policy allows GCF to anticipate and avoid any adverse impacts its activities may have on indigenous peoples' rights, interests and well-being, and when avoidance is not possible to minimise, mitigate and/or compensate appropriately and equitably for such impacts, in a consistent way and to improve outcomes over time.

GCF Performance Standard 7: Indigenous Peoples objectives:

(a) Ensure full respect for indigenous peoples

(i) Human rights, dignity, aspirations;

(ii) Livelihoods;

(iii) Culture, knowledge, practices;

(b) Avoid/minimize adverse impacts;

(c) Sustainable and culturally appropriate development benefits and opportunities;

(d) Free, prior and informed consent in certain circumstances.

9.2.2 UNDP Standard 6: Indigenous Peoples

286. The promotion and protection of the rights of indigenous peoples, especially concerning their lands, territories, traditional livelihoods, cultures and resources, are necessary to achieve UNDP's goals of advancing human rights, respecting indigenous peoples identities and improving their well-being.

287. This Standard applies to all Projects which may affect the human rights, lands, natural resources, territories, and traditional Social and Environmental Standards 37 livelihoods of indigenous peoples regardless of (i) whether the Project is located within or outside of the lands and territories inhabited by the indigenous peoples in question, (ii) whether or not title is possessed by the affected indigenous peoples over the lands and territories in question, or (iii) whether the indigenous peoples are recognized as indigenous peoples by the country in question.

288. The objectives of Standard 6 are:

To recognize and foster full respect for indigenous peoples' human rights as recognized under Applicable Law, including but not limited to their rights to self-determination, their lands, resources and territories, traditional livelihoods and cultures

To support countries in their promotion and protection of indigenous peoples' rights, through implementation of domestic laws, policies, and Project activities consistent with the State's human rights obligations

To ensure that UNDP Projects that may impact indigenous peoples are designed in a spirit of partnership with them, with their full and effective participation, with the objective of securing their free, prior, and informed consent (FPIC) where their rights, lands, resources, territories, traditional livelihoods may be affected

289. UNDPs Standard 6 is consistent with the GCF Indigenous Peoples Policy and PS7.

To promote greater control and management by indigenous peoples over developments affecting them, including their lands, resources and territories, ensuring alignment of Projects with indigenous peoples' distinct vision and self-identified development priorities

To avoid adverse impacts on the rights of indigenous peoples, their lands, resources and territories, to mitigate and remedy residual impacts, and to ensure provision of just and equitable benefits and opportunities for indigenous peoples in a culturally appropriate manner

10 Overview of Institutional Arrangements for the Indigenous People's Planning Framework

290. The IPPF implementation will follow the Project Implementation arrangement (*Figure 15*).

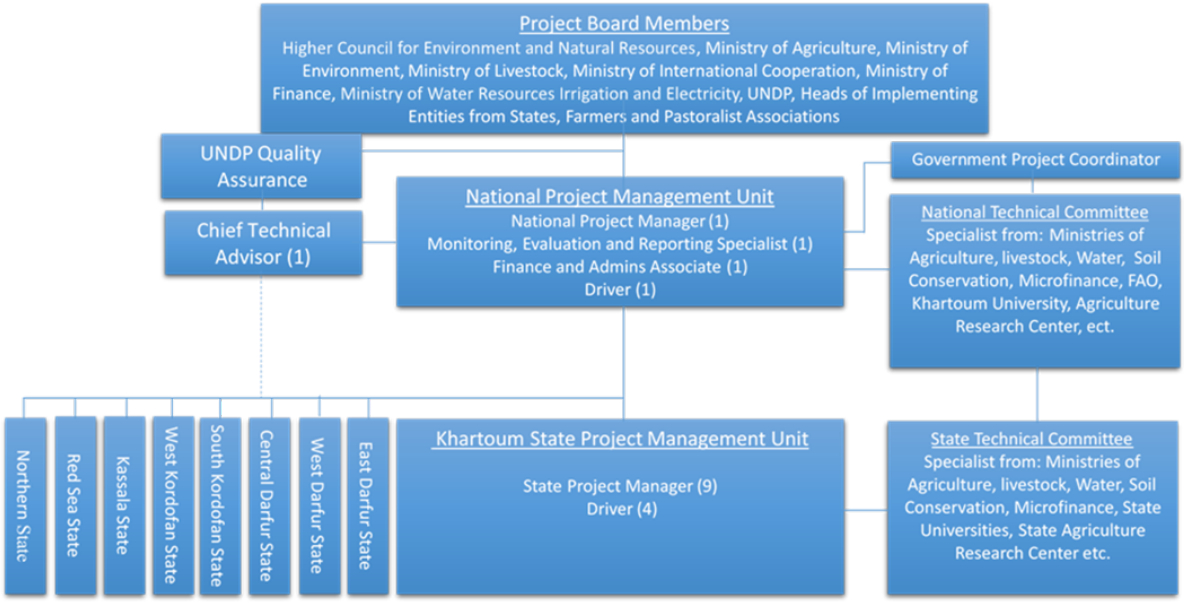


Figure 15 Project Implementation Arrangement

291. The IPPF will be assessed for each sub-project by the State PMUs and NPMU and UNDP prior to any works being undertaken. The IPPF identifies potential risks to the environment and social matters from the projects and outlines strategies for managing those risks and minimising undesirable environmental and social impacts. Further, the IPPF provides a Grievance Redress Mechanism for those that may be impacted by the projects that do not consider their views have been heard.

292. The HCENR will be responsible for the supervision of the IPPF. The UNDP with gain the endorsement of the GCF and will ensure the IPPF is adequate and followed. The PMU will ensure timely remedial actions are taken by the contractor where necessary.

10.1 Screening

293. Screening of sub-activities shall take place and if IPs are found in the project area, a Social Assessment shall be carried out. Based on the Social Assessment, an IPP may need to be prepared to mitigate impacts to IPs and maximize benefits of project sub-components. At the time of the first visit to target villages, the Project focal person or relevant official with social expertise will undertake a screening for indigenous peoples with the help of indigenous people leaders and local authorities. The checklist for screening indigenous people (*Table 21*) will indicate whether or not the indigenous peoples are found in the project area and further identify potential social issues on indigenous peoples because of the investments.

Table 21 Indigenous Peoples/Ethnic Minorities Screening

When to do the screening?		At time of first consultation with village				
What information to be collected?		Demographic data of IPs and EMs who live within the project catchment				
How to collect the information?		It can be obtained from ethnic leaders, village leaders, census….				
Who will do the screening?		Consultants or MCENR focal persons				
State:						
Locality	**Name of villages within Cluster**	**Total Pop.**	**Name of indigenous/ethnic group within the project catchment**	**Number of IP/EM HHs**	**IP Population**	
					Total	**Female**

294. Prior to implementation, each sub-activity will be assessed to identify whether any previously unidentified adverse impacts to EMs are likely and whether the need for FPIC and an IPP is triggered using the questions in *Table 22*.

295. An Indigenous Peoples Plan (IPP) will be developed if indigenous peoples communities are found to be present in or have collective attachment to areas affected under the respective project implementation plan. Appendix 1 contains the outline for an IPP.

296. IPPs will be submitted to the GCF as part of the implementation plan. Prior to the commencement of the implementation, the IPP shall be disclosed on the UNDP and/or HCENR website and the GCF website (if required). A copy of the IPP, including in local language, shall be placed in the local government offices of the target areas where indigenous peoples can access it.

Table 22 FPIC Screening

No.	FPIC Screening Questions	Yes / No
1	Will the activity involve the relocation/resettlement/removal of an indigenous population from their lands?	
2	Will the activity involve the taking, confiscation, removal or damage of cultural, intellectual, religious and/or spiritual property from indigenous peoples?	
3	Will the activity adopt or implement any legislative or administrative measures that will affect the rights, lands, territories and/or resources of indigenous peoples (e.g. in connection with the development, utilization or exploitation of mineral, water or other resources; land reform; legal reforms that may discriminate de jure or de facto against indigenous peoples, etc.)?	
4	Will the activity involve natural resource extraction such as logging or mining or agricultural development on the lands/territories of indigenous peoples?	

5	Will the activity involve any decisions that will affect the status of indigenous peoples' rights to their lands/territories, resources or livelihoods?	
6	Will the activity involve the accessing of traditional knowledge, innovations and practices of indigenous and local communities?	
7	Will the activity affect indigenous peoples' political, legal, economic, social, or cultural institutions and/or practices?	
8	Will the activity involve making commercial use of natural and/or cultural resources on lands subject to traditional ownership and/or under customary use by indigenous peoples?	
9	Will the activity involve decisions regarding benefit-sharing arrangements, when benefits are derived from the lands/territories/resources of indigenous peoples (e.g. natural resource management or extractive industries)?	
10	Will the activity have an impact on the continuance of the relationship of the indigenous peoples with their land or their culture?	

11 COMMUNICATION

11.1 PUBLIC CONSULTATION AND DISCLOSURE

297. The Project will adopt full consultation and stakeholder participation for relevant project components during implementation. The consultation framework is designed to help to ensure that indigenous peoples are well informed, consulted and mobilized to participate in the investments to be supported under the Project. Their participation will not only make project activities more sustainable but also provide benefits with more certainty, or protect them from any potential adverse impacts of investments to be financed by the project.

298. Consultations with and participation of indigenous peoples, their leaders and local government officials will be an integral part of the overall IPP, which should be prepared along with other required project reports. A free, prior, and informed consultation process involving indigenous groups would provide a comprehensive baseline data on social, economic and technical aspects of each investment particularly for those areas that have been identified with ethnic groups during the project screening. This also includes participatory mapping to determine exact location of construction sites, land size requirement and also location of IP communities.

299. The HCENR will undertake specific measures to consult with, and give opportunity to, indigenous populations to participate in decision making related to the investments, should they so desire. All target areas that have indigenous people communities and are candidates for project support will be visited (at the time of first consultation with communities) by the Project team including social safeguard focal person and relevant local authorities, including personnel with appropriate social science training or experience.

300. Prior to consultations, HCENR will send notice to the communities informing their leaders that they will be visited by the respective focal person and local authorities and that consultation will be conducted to seek support of the project intervention and to determine potential adverse impacts as well as possible support from the project in order to address the potential impact. The notice will request that

the communities shall invite to the meeting representatives of ethnic minorities and a representative cross-section of the community.

301. During the consultation, the community leaders and other participants will present their views with regards to the proposed activities. During the consultation, detailed procedures would be determined on a village-by- village basis to determine the potential impact and possible support for the project subcomponents.

302. Further, a conflict resolution system, through the established grievance mechanism, would be defined to ensure reflection of voices of the affected people. If a beneficiary community includes ethnic minority communities that do not belong to the majority ethnic group of the community, their representatives will be included in the conflict resolution mechanisms. This will ensure cultural appropriateness, and community involvement particularly of the ethnic groups in decision-making processes.

303. In the process, free, prior and informed consultations will be undertaken in a language spoken by, and location convenient to, potentially affected indigenous peoples. The views of indigenous peoples are to be taken into account during implementation of the project, while respecting their current practices, beliefs and cultural preferences.

304. The outcome of the consultations will be documented into the periodical reports and submitted to the GCF for review. During implementation of the project, an updated social assessment shall also be carried out to monitor the positive and negative impacts of the project, and obtain feedback from the project-affected people. Based on the outcome of the social assessment, further measures shall be taken to ensure full benefits and mitigation of the negative impacts envisaged.

305. If necessary, additional activities for institutional strengthening and capacity building of indigenous people communities living within the project area shall be carried out. If unexpected impacts are significant then the IPP may need to be updated.

11.2 Grievance Mechanism

306. During the construction and implementation phases of any project, a person or group of people can be adversely affected, directly or indirectly due to the project activities. The grievances that may arise can be related to social issues such as eligibility criteria and entitlements, disruption of services, temporary or permanent loss of livelihoods and other social and cultural issues..

307. Should such a situation arise, there must be a mechanism through which affected parties can resolve such issues in a cordial manner with the project personnel in an efficient, unbiased, transparent, timely and cost-effective manner. To achieve this objective, a grievance redress mechanism has been included in IPPF for this project.

308. The project allows those that have a complaint or that feel aggrieved by the project to be able to communicate their concern, complaints and/or grievances through an appropriate process. The Complaints Register and Grievance Redress Mechanism set out in this IPPF are to be used as part of the project and will provide an accessible, rapid, fair and effective response to concerned stakeholders, especially any vulnerable group who often lack access to formal legal regimes.

309. Where there is a community issue raised, the following information will be recorded:

    a. time, date and nature of enquiry, concern, complaints and/or grievances;

    b. type of communication (e.g. telephone, letter, personal contact);

    c. name, contact address and contact number;

    d. response and investigation undertaken as a result of the enquiry, concern, complaints and/or grievances; and

    e. actions taken and name of the person taking action.

310. Some enquiries, concern, complaints and/or grievances may require an extended period to address. The complainant(s) will be kept informed of progress towards rectifying the concern. All enquiries,

concern, complaints and/or grievances will be investigated and a response given to the complainant in a timely manner. A grievance redress mechanism has been included in the IPPF to address any complaints and/or grievances that may not be able to be resolved quickly.

311. Nominated PMU/contractor staff will be responsible for undertaking a review of all enquiries, concern, complaints and/or grievances and ensuring progress toward resolution of each matter.

312. While recognising that many complaints may be resolved immediately, the Complaints Register and Grievance Redress Mechanism set out in this IPPF encourages mutually acceptable resolution of issues as they arise. The Complaints Register and Grievance Redress Mechanism set out in this IPPF has been designed to:

    a. be a legitimate process that allows for trust to be built between stakeholder groups and assures stakeholders that their concerns will be assessed in a fair and transparent manner;

    b. allow simple and streamlined access to the Complaints Register and Grievance Redress Mechanism for all stakeholders and provide adequate assistance for those that may have faced barriers in the past to be able to raise their concerns;

    c. provide clear and known procedures for each stage of the Grievance Redress Mechanism process, and provides clarity on the types of outcomes available to individuals and groups;

    d. ensure equitable treatment to all concerned and aggrieved individuals and groups through a consistent, formal approach that, is fair, informed and respectful to a concern, complaints and/or grievances;

    e. to provide a transparent approach, by keeping any aggrieved individual/group informed of the progress of their complaint and/or grievance, the information that was used when assessing their complaint and/or grievance and information about the mechanisms that will be used to address it; and

    f. enable continuous learning and improvements to the Grievance Redress Mechanism. Through continued assessment, the learnings may reduce potential complaints and grievances.

313. Eligibility criteria for the Grievance Redress Mechanism include:

    a. Perceived negative economic, social or environmental impact on an individual and/or group, or concern about the potential to cause an impact;

    b. clearly specified kind of impact that has occurred or has the potential to occur; and explanation of how the project caused or may cause such impact; and

    c. individual and/or group filing of a complaint and/or grievance is impacted, or at risk of being impacted; or the individual and/or group filing a complaint and/or grievance demonstrates that it has authority from an individual and or group that have been or may potentially be impacted on to represent their interest.

314. Local communities and other interested stakeholders may raise a complaint and/or grievance at all times to the project team. Affected local communities should be informed about the IPPF provisions, including its grievance mechanism and how to make a complaint.

11.2.1 Grievance Redress Mechanism

315. The Grievance Redress Mechanism has been designed to be problem-solving mechanism with voluntary good-faith efforts. The Grievance Redress Mechanism is not a substitute for the legal process. The Grievance Redress Mechanism will as far as practicable, try to resolve complaints and/or grievances on terms that are mutually acceptable to all parties. When making a complaint and/or grievance, all parties must act at all times, in good faith and should not attempt to delay and or hinder any mutually acceptable resolution.

316. The Grievance Redress Mechanism has been designed to ensure that an individual and/or group are not financially impacted by the process of making a complaints and/or grievances. The Grievance Redress Mechanism will cover any reasonable costs in engaging a suitably qualified person to assist

in the preparation of a legitimate complaint and/or grievance. Where a complaint and/or grievance is seen to be ineligible, the Grievance Redress Mechanism will not cover these costs.

317. Information about the Grievance Redress Mechanism and how to make a complaints and/or grievances must be placed at prominent places for the information of the key stakeholders.

318. The Safeguards officer in the PMU will be designated as the key officer in charge of the Grievance Redress Mechanism. The Terms of Reference for these positions (as amended from time to time) will have the following key responsibilities:

    h. coordinate formation of Grievance Redress Committees before the commencement of constructions to resolve issues;

    i. act as the focal point at the PMU on Grievance Redress issues and facilitate the resolution of issues within the PMU;

    j. create awareness of the Grievance Redress Mechanism amongst all the stakeholders through public awareness campaigns;

    k. assist in redress of all grievances by coordinating with the concerned parties;

    l. maintain information on grievances and redress;

    m. monitor the activities of WHO on grievances issues; and

    n. prepare the progress for monthly/quarterly reports.

1. A two-tier Grievance Redress Mechanism structure has been developed to address all complaints in the project. The first trier redress mechanism involves the receipt of a complaint at the project and/or State level. The stakeholders are informed of various points of making complaints (if any) and the PMU collect the complaints from these points on a regular basis and record them. This is followed by coordinating with the concerned people to redress the Grievances. The State Coordinator of the PMU will coordinate the activities at the respective State level to address the grievances and would act as the focal point in this regard. The State Council for Environment and Natural Resources Officer in each State will be given the responsibility of this would coordinate with the State Coordinator in the PMU and HCENR in redressing the grievances. The designated officer of the Local Authorities is provided with sufficient training in the procedure of redress to continue such systems in future.

2. The complaints can be made orally (to the field staff), by phone, in complaints box or in writing to the UNDP, HCENR or the Construction Contractor. Complainants may specifically contact the State Coordinator and request confidentiality if they have concerns about retaliation. In cases where confidentiality is requested (i.e. not revealing the complainant's identity to UNDP, HCENR and/or the Construction Contractor). In these cases, the State Coordinator will review the complaint, discuss it with the complainant, and determine how best to engage project executing entities while preserving confidentiality for the complainant.

3. As soon as a complaint is received, the State Coordinator would issue an acknowledgement. The Community Development Officer receiving the complaint should try to obtain relevant basic information regarding the grievance and the complainant and will immediately inform the State Coordinator in the PMU.

4. The PMU will maintain a Complaint/Grievance Redress register at the State level. Keeping records collected from relevant bodies is the responsibility of PMU.

5. After registering the complaint, the State Coordinator will study the complaint made in detail and forward the complaint to the concerned officer with specific dates for replying and redressing the same. The State Coordinator will hold meetings with the affected persons / complainant and then attempt to find a solution to the complaint received. If necessary, meetings will be held with the concerned affected persons / complainant and the concerned officer to find a solution to the problem and develop plans to redress the grievance. The deliberations of the meetings and decisions taken are recorded. All meetings related to the Grievance Redress Mechanism, including the meetings of

the Grievance Redress Committee, must be recorded. The State Coordinator for the Grievances Redress Mechanism will be actively involved in all activities.

6. The resolution at the first tier will be normally be completed within 15 working days and the complaint will be notified of the proposed response through a disclosure form. The resolution process should comply with the requirements of the Grievance Redress Mechanism in that it should, as far as practicable, be informal with all parties acting in good faith. Further, the Grievance Redress Mechanism should, as far as practicable, achieve mutually acceptable outcomes for all parties.
7. Should the grievance be not resolved within this period to the satisfaction of the complainant, the grievance will be referred to the next level of Grievance Redress Mechanism. If the social safeguard and gender officer feels that adequate solutions can be established within the next five working days, the officer can decide on retaining the issue at the first level by informing the complainant accordingly. However, if the complainant requests for an immediate transfer to the next level, the matter must be referred to the next tier. In any case, where the issue is not addressed within 20 working days, the matter is referred to the next level.
8. Any grievance related to corruption or any unethical practice should be referred immediately to the Sudanese Office of the Attorney General and the Office of Audit and Investigation within the UNDP in New York.
9. The Safeguard Officer from the PMU will coordinate with the respective Commissioner of Local Government in getting these Committees constituted for each Province and get the necessary circulars issued in this regard so that they can be convened whenever required.
10. The Terms of Reference for the Grievance Redress Committee are:
    f. providing support to the affected persons in solving their problems;
    g. prioritize grievances and resolve them at the earliest;
    h. provide information to the PMU and HCENR on serious cases at the earliest opportunity;
    i. Coordinate with the aggrieved person/group and obtain proper and timely information on the solution worked out for his/her grievance; and
    j. study the normally occurring grievances and advise PMU, National and State Steering Committee on remedial actions to avoid further occurrences.
11. The Grievance Redress Committee will hold the necessary meetings with the aggrieved party/complainant and the concerned officer and attempt to find a solution acceptable at all levels. The Grievance Redress Committee would record the minutes of the meeting.
12. Grievance Redress Committee will communicate proposed responses to the complainant formally. If the proposed response satisfies the complainant, the response will be implemented and the complaint closed. In cases where a proposed response is unsatisfactory to the complainant, the Grievance Redress Committee may choose to revise the proposed response to meet the complainant's remaining concerns, or to indicate to the complainant that no other response appears feasible to the Grievance Redress Committee. The complainant may decide to take a legal or any other recourse if s/he is not satisfied with the resolutions due to the deliberations of the three tiers of the grievance redress mechanism.
13. In addition to the project-level and national grievance redress mechanisms, complainants have the option to access UNDP's Accountability Mechanism, with both compliance and grievance functions. The Social and Environmental Compliance Unit investigates allegations that UNDP's Standards, screening procedure or other UNDP social and environmental commitments are not being implemented adequately, and that harm may result to people or the environment. The Social and Environmental Compliance Unit is housed in the Office of Audit and Investigations, and managed by a Lead Compliance Officer. A compliance review is available to any community or individual with concerns about the impacts of a UNDP programme or project. The Social and Environmental Compliance Unit is mandated to independently and impartially investigate valid requests from locally impacted people, and to report its findings and recommendations publicly.

14. The Stakeholder Response Mechanism offers locally affected people an opportunity to work with other stakeholders to resolve concerns about the social and environmental impacts of a UNDP project. Stakeholder Response Mechanism is intended to supplement the proactive stakeholder engagement that is required of UNDP and its Implementing Partners throughout the project cycle. Communities and individuals may request a Stakeholder Response Mechanism process when they have used standard channels for project management and quality assurance, and are not satisfied with the response (in this case the project level grievance redress mechanism). When a valid Stakeholder Response Mechanism request is submitted, UNDP focal points at country, regional and headquarters levels will work with concerned stakeholders and Implementing Partners to address and resolve the concerns. Visit www.undp.org/secu-srm for more details. The relevant form is attached at the end of the EMSF (Appendix 4).
15. GCF also have their own Independent Redress Mechanism (IRM) which addresses complaints by people who believe they are negatively affected or may be affected by projects or programmes funded by the GCF. In the case of grievances in relation to affected indigenous peoples, the GCF Indigenous Peoples Specialist is also available. Further information and links to submit complaints can be found at: https://irm.greenclimate.fund/

12 BUDGET FOR INDIGENOUS PEOPLE'S PLANNING FRAMEWORK IMPLEMENTATION

319. All costs of related to Indigenous Peoples Planning Framework and/or Indigenous People's Plan implementation have been included in the overall budget for the project. The Indigenous People's Plan will include a detailed cost estimates and indicate source of funds for the required activities. HCENR and UNDP will provide a budget in a timely manner to ensure smooth implementation of Indigenous Peoples Planning Framework and Indigenous People's Plan.

ANNEXURE ONE: OUTLINE OF THE INDIGENOUS PEOPLES PLAN

An Indigenous People's Plan is required for all projects with impacts on Indigenous Peoples/Ethnic Minorities. Its level of detail and comprehensiveness is commensurate with the significance of potential impacts on Indigenous Peoples. This outline guides the preparation of an Indigenous Peoples Plan, although not necessarily in the order shown.

Executive Summary of the Indigenous Peoples Plan

This section concisely describes the critical facts, significant findings, and recommended actions.

Project Description

This section provides a general description of the project; discusses project components and activities that may bring impacts on Indigenous Peoples/Ethnic Minorities; and identify project area.

Social Impact Assessment

This section:

a. reviews the legal and institutional framework applicable to Indigenous Peoples/Ethnic Minorities in project context;

b. provides baseline information on the demographic, social, cultural, and political characteristics of the affected Indigenous Peoples/Ethnic Minorities; the land and territories that they have traditionally owned or customarily used or occupied; and the natural resources on which they depend;

c. identifies key project stakeholders and elaborate a culturally appropriate and gender-sensitive process for meaningful consultation with Indigenous Peoples/Ethnic Minorities at each stage of project preparation and implementation, taking the review and baseline information into account;

d. assesses, based on meaningful consultation with the affected Indigenous Peoples/Ethnic Minority communities, and the potential adverse and positive effects of the project. Critical to the determination of potential adverse impacts is a gender-sensitive analysis of the relative vulnerability of, and risks to, the affected Indigenous Peoples/Ethnic Minority communities given their particular circumstances and close ties to land and natural resources, as well as their lack of access to opportunities relative to those available to other social groups in the communities, regions, or national societies in which they live;

e. includes a gender-sensitive assessment of the affected Indigenous Peoples/Ethnic Minorities' perceptions about the project and its impact on their social, economic, and cultural status; and

f. identifies and recommends, based on meaningful consultation with the affected Indigenous Peoples/Ethnic Minorities communities, the measures necessary to avoid adverse effects or, if such measures are not possible, identifies measures to minimize, mitigate, and/or compensate for such effects and to ensure that Indigenous Peoples/Ethnic Minorities receive culturally appropriate benefits under the project.

Information Disclosure, Consultation and Participation

This section:

a. describes the information disclosure, consultation and participation process with the affected Indigenous Peoples/Ethnic Minority communities that can be carried out during project preparation;

b. summarizes their comments on the results of the social impact assessment and identifies concerns raised during consultation and how these have been addressed in project design;

c. in the case of project activities requiring broad community support, documents the process and outcome of consultations with affected Indigenous Peoples/Ethnic Minority communities and any agreement resulting from such consultations for the project activities and safeguard measures addressing the impacts of such activities;

d. describes consultation and participation mechanisms to be used during implementation to ensure Indigenous Peoples/Ethnic Minorities participation during implementation; and

e. confirms disclosure of the draft and final to the affected Indigenous Peoples/Ethnic Minority communities.

Beneficial Measures

This section specifies the measures to ensure that Indigenous Peoples/Ethnic Minorities receive social and economic benefits that are culturally appropriate, and gender responsive.

Mitigative Measures

This section specifies the measures to avoid adverse impacts on Indigenous Peoples/Ethnic Minorities; and where the avoidance is impossible, specifies the measures to minimize, mitigate and compensate for identified unavoidable adverse impacts for each affected Indigenous Peoples/Ethnic Minorities.

Capacity Building

This section provides measures to strengthen the social, legal, and technical capabilities of (a) government institutions to address Indigenous Peoples/Ethnic Minorities issues in the project area; and (b) Indigenous Peoples/Ethnic Minority organizations in the project area to enable them to represent the affected Indigenous Peoples/Ethnic Minorities more effectively.

Grievance Redress Mechanism

This section describes the procedures to redress grievances by affected Indigenous Peoples/Ethnic Minority communities. It also explains how the procedures are accessible to Indigenous Peoples/Ethnic Minorities and culturally appropriate and gender sensitive. It is anticipated this would utilized the already developed Grievance Redress Mechanism established under the Indigenous Peoples Planning Framework.

Monitoring, Reporting and Evaluation

This section describes the mechanisms and benchmarks appropriate to the project for monitoring, and evaluating the implementation of the Indigenous Peoples Plan. It also specifies arrangements for participation of affected Indigenous Peoples/Ethnic Minorities in the preparation and validation of monitoring, and evaluation reports.

Institutional Arrangement

This section describes institutional arrangement responsibilities and mechanisms for carrying out the various measures of the Indigenous Peoples Plan. It also describes the process of including relevant local organizations and/or NGOs in carrying out the measures of the Indigenous Peoples Plan.

Budget and Financing

This section provides an itemized budget for all activities described in the Indigenous Peoples Plan.

Appendix 2
Stakeholder Engagement

Appendix 3
Stakeholder Analysis

Stakeholder Analysis

Stakeholder	Level of knowledge about issues/project	Level of support for project	Possible strategies for engaging stakeholder
	1 = uninformed 2 = familiar 3 = expert	1 = actively opposed 2 = somewhat opposed 3 = neutral / undecided 4 = somewhat supportive 5 = Actively supportive	
National Ministries:			
HCENR	3	5	Engaged and participate in planned activities: implementation, follow-up and evaluation Mechanism for strong stakeholders linkages e.g.: meetings, workshops, field visits
Ministry of Agriculture and Forestry	3	5	
Ministry of Animal Wealth, Fisheries and Range land	3	5	
Ministry of Irrigation and Water Resources	3	5	
Ministry of Finance and National Economy	2	5	
State government departments/ministries:			
✓ State Ministry of Agriculture and Animal Wealth (Extension, Range, Forestry, Plant protection and	3	5	Formal correspondence Training/capacity building Workshops

Veterinary services departments)			Meetings Surveys Site visits
✓ State Water Resources corporations	3	5	
✓ State Ministry of Finance	2	5	
Other govt departments:			
Microfinance institutions			Formal correspondence Workshops Meetings Surveys
Seed Administration and research stations			
NGOs and CBOs			
IFAD projects in the project area Several NGOs are operating in the target states such as(Save the children, World Vision, Concern, Red Crest, CRS,CARE, Oxfam ,WFP,FAO,USAID and others)	2	4	Formal correspondence Workshops Meetings Surveys Field Visits Media
CBOs exist in almost all target areas.	2	5	
Locality leaders			
Farmer Union Leaders	2	5	Formal correspondence Workshops
Pastoralist Union Leaders	2	5	

Local Adminstralion Leaders, and locality/state levels (*Nazir*)	2	5	Meetings Surveys
Village Cluster Level leaders (*Sheikhs*)	2	5	
Village level leaders (*Omdas*)	2	5	
EM local administraion leaders (*Omdas or Sheikhs*)	2	5	
Others			
Faculties of Agriculture, Natural Resources and Veterinary Medicin in the target states	2	5	Meetings and workshops Reports and formal correspondence
Villagers / Communities	1	3	Media (radio, TV, newspapers, social media) Face to face meetings Community meetings and workshops Surveys Field visits

Appendix 4
UNDP Stakeholder Response Mechanism

Guidance for Submitting a Request to the Social and Environmental Compliance Unit (SECU) and/or the Stakeholder Response Mechanism (SRM)

Purpose of this form

- **If you use this form, please put your answers in bold writing to distinguish text**
- **The use of this form is recommended, but not required. It can also serve as a guide when drafting a request.**

This form is intended to assist in:

(1) Submitting a request when you believe UNDP is not complying with its social or environmental policies or commitments and you are believe you are being harmed as a result. This request could initiate a 'compliance review', which is an independent investigation conducted by the Social and Environmental Compliance Unit (SECU), within UNDP's Office of Audit and Investigations, to determine if UNDP policies or commitments have been violated and to identify measures to address these violations. SECU would interact with you during the compliance review to determine the facts of the situation. You would be kept informed about the results of the compliance review.

and/or

(2) Submitting a request for UNDP "Stakeholder Response" when you believe a UNDP project is having or may have an adverse social or environmental impact on you and you would like to initiate a process that brings together affected communities and other stakeholders (e.g., government representatives, UNDP, etc.) to jointly address your concerns. This Stakeholder Response process would be led by the UNDP Country Office or facilitated through UNDP headquarters. UNDP staff would communicate and interact with you as part of the response, both for fact-finding and for developing solutions. Other project stakeholders may also be involved if needed.

Please note that if you have not already made an effort to resolve your concern by communicating directly with the government representatives and UNDP staff responsible for this project, you should do so before making a request to UNDP's Stakeholder Response Mechanism.

Confidentiality If you choose the Compliance Review process, you may keep your identity confidential (known only to the Compliance Review team). If you choose the Stakeholder Response Mechanism, you can choose to keep your identity confidential during the initial eligibility screening and assessment of your case. If your request is eligible and the assessment indicates that a response is appropriate, UNDP staff will discuss the proposed response with you, and will also discuss whether and how to maintain confidentiality of your identity.

Guidance

When submitting a request please provide as much information as possible. If you accidentally email an incomplete form, or have additional information you would like to provide, simply send a follow-up email explaining any changes.

Information about You

Are you…

1. A person affected by a UNDP-supported project?

Mark "X" next to the answer that applies to you: Yes: No:

2. An authorized representative of an affected person or group?

Mark "X" next to the answer that applies to you: Yes: No:

If you are an authorized representative, please provide the names of all the people whom you are representing, and documentation of their authorization for you to act on their behalf, by attaching one or more files to this form.

3. First name:
4. Last name:
5. Any other identifying information:
6. Mailing address:
7. Email address:
8. Telephone Number (with country code):
9. Your address/location:
10. Nearest city or town:
11. Any additional instructions on how to contact you:
12. Country:

What you are seeking from UNDP: Compliance Review and/or Stakeholder Response

You have four options:

- Submit a request for a Compliance Review;
- Submit a request for a Stakeholder Response;
- Submit a request for both a Compliance Review and a Stakeholder Response;
- State that you are unsure whether you would like Compliance Review or Stakeholder Response and that you desire both entities to review your case.

13. Are you concerned that UNDP's failure to meet a UNDP social and/or environmental policy or commitment is haWHEREng, or could harm, you or your community? Mark "X" next to the answer that applies to you: Yes: No:

14. Would you like your name(s) to remain confidential throughout the Compliance Review process?

Mark "X" next to the answer that applies to you: Yes: No:

If confidentiality is requested, please state why:

15. Would you like to work with other stakeholders, e.g., the government, UNDP, etc. to jointly resolve a concern about social or environmental impacts or risks you believe you are experiencing because of a UNDP project?

Mark "X" next to the answer that applies to you: Yes: No:

16. Would you like your name(s) to remain confidential during the initial assessment of your request for a response?

Mark "X" next to the answer that applies to you: Yes: No:

If confidentiality is requested, please state why:

17. Requests for Stakeholder Response will be handled through UNDP Country Offices unless you indicate that you would like your request to be handled through UNDP Headquarters. Would you like UNDP Headquarters to handle your request?

Mark "X" next to the answer that applies to you: Yes: No:

If you have indicated yes, please indicate why your request should be handled through UNDP Headquarters:

18. Are you seeking both Compliance Review and Stakeholder Response?

Mark "X" next to the answer that applies to you: Yes: No:

19. Are you unsure whether you would like to request a Compliance Review or a Stakeholder Response? Mark "X" next to the answer that applies to you: Yes: No:

Information about the UNDP Project you are concerned about, and the nature of your concern:

20. Which UNDP-supported project are you concerned about? (if known):

21. Project name (if known):

22. Please provide a short description of your concerns about the project. If you have concerns about UNDP's failure to comply with its social or environmental policies and commitments, and can identify these policies and commitments, please do (not required). Please describe, as well, the types of environmental and social impacts that may occur, or have occurred, as a result. If more space is required, please attach any documents. You may write in any language you choose

    ✓

    ✓

23. Have you discussed your concerns with the government representatives and UNDP staff responsible for this project? Non-governmental organisations?

Mark "X" next to the answer that applies to you: Yes: No:

If you answered yes, please provide the name(s) of those you have discussed your concerns with

Name of Officials You have Already Contacted Regarding this Issue:

First Name	Last Name	Title/Affiliation	Estimated Date of Contact	Response from the Individual

24. Are there other individuals or groups that are adversely affected by the project?

Mark "X" next to the answer that applies to you: Yes: No:

25. Please provide the names and/or description of other individuals or groups that support the request:

First Name	Last Name	Title/Affiliation	Contact Information

Please attach to your email any documents you wish to send to SECU and/or the SRM. If all of your attachments do not fit in one email, please feel free to send multiple emails.

Submission and Support

To submit your request, or if you need assistance please email: project.concerns@undp.org

Appendix 5
Gender Analysis and Action Plan