FP139

Building resilience in the face of climate change within traditional rain fed agricultural and pastoral systems in Sudan

Sudan

November, 2025

Interim Evaluation Report

This report presents the Interim Evaluation of the Green Climate Fund (GCF)-funded project “Building resilience in the face of climate change within traditional rain fed agricultural and pastoral systems in Sudan”. The evaluation was independently commissioned by the Accredited Entity (AE), UNDP, and submitted to GCF. GCF assumes no responsibility for the accuracy of the

Interim Evaluation of UNDP/GCF 'Building resilience in the face of climate change within traditional rain fed agricultural and pastoral systems in Sudan' project.

Final Draft Report

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August-Sept 2025

Project title: Building resilience in the face of climate change within traditional rain-fed agricultural and pastoral systems in Sudan	**UNDP PIMS ID number:** 5813 **GCF Project ID number**: FP139
Evaluation timeframe: July -September 2025	Focal area: Climate Change Adaptation
GCF executing entity: UNDP. **Implementing partner:** Higher Council for Environment and Natural Resources (HCENR)	Project start date: 29 September 2020. End date: Planned end date is 28 September 2025, the project has been extended to March 2027.
GCF funding: $25,645,114 co-finance: $15,540,000	**Country**: Sudan

Acknowledgements

The Evaluator would like to express gratitude to all the project teams, partners and stakeholders who participated in the evaluation. We would like to particularly acknowledge the Project Management Unit and UNDP Country Office for facilitating the evaluation activities, sharing information and data as well as the facilitating access to stakeholders for interviews.

Disclaimer

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1.3 Acronyms and Abbreviations

ARC – Agricultural Research Corporation

AWP – Annual Work Plan

CCA – Climate Change Adaptation

CO – Country Office (UNDP Sudan)

CPD – Country Programme Document

CSO – Civil Society Organization

CTA – Chief Technical Advisor

EIAs – Environmental Impact Assessments

ENRM – Environmental and Natural Resource Management

ESMF – Environmental and Social Management Framework

ESMP – Environmental and Social Management Plan

ESS – Environmental and Social Standards

FAA – Funded Activity Agreement

FNC – Forest National Corporation

FNCs – Farmer and Nomadic Cooperatives (context-specific)

FNS – Food and Nutrition Security

FP – Funding Proposal

GALS – Gender Action Learning System

GAP – Gender Action Plan

GBV – Gender-Based Violence

GCF – Green Climate Fund

GHG – Greenhouse Gas

GRM – Grievance Redress Mechanism

HCENR – Higher Council for Environment and Natural Resources

IDPs – Internally Displaced Persons

IE – Interim Evaluation

IRM – Independent Redress Mechanism (GCF)

Jubrakas – Women-led home gardens (Sudan-specific term used in project)

LNOB – Leaving No One Behind

M&E – Monitoring and Evaluation

MoAF / MoAFo – Ministry of Agriculture and Forestry

MoFEP – Ministry of Finance and Economic Planning

MoU – Memorandum of Understanding

NAP – National Adaptation Plan

NDA – National Designated Authority

NDC – Nationally Determined Contribution

NGO – Non-Governmental Organization

O&M – Operation and Maintenance

PB – Project Board

PM – Project Manager

PMU – Project Management Unit

POPP – Programme and Operations Policies and Procedures (UNDP)

PRF – Performance Results Framework

PwDs – People with Disabilities

RBM – Results-Based Management

S&E – Social and Environmental

SDG – Sudanese Pound (currency)

SDGs – Sustainable Development Goals

SECU – Social and Environmental Compliance Unit (UNDP)

SES – Social and Environmental Standards

SESP – Social and Environmental Screening Procedure

SIPs – Social Inclusion Plans (previously Indigenous Peoples Plans)

SRA – Strategic Reserve Authority

SRM – Stakeholder Response Mechanism (UNDP)

ToC – Theory of Change

UNDAF / UNSDF – United Nations Development Assistance Framework / United Nations Sustainable Development Framework

UNDP – United Nations Development Programme

USD – United States Dollar

1.4 Project information table

Project Title	Building resilience in the face of climate change within traditional rain-fed agricultural and pastoral systems in Sudan		
UNDP Project ID (PIMS #):	5813	LPAC meeting Date:	15 September 2020
GCF Project ID:	14630	Project Document (ProDoc) Signature Date (date project began):	21 September 2020
ATLAS Business Unit, Award # Project. ID:	Award ID: 00130072 / Project Output ID: 00123540	Planned starting date:	29 September 2020
Country(ies):	Sudan	Date (latest) project manager hired:	2024
Region:	Arab States	Inception Workshop date:	December 2020
Focal Area:	Climate Change Adaptation	Midterm Review completion date:	Delayed (previously planned in September 2023)
Focal Area Strategic Objective:	Climate Change Adaptation (LDCF)	Planned closing date:	28 September 2025, project extended to March 2027.
Executing Agency/ GCF Executing Entity)::	Higher Council for Environment and Natural Resources (HCENR)		
Project Financing	Planned - (US$)	At IE (US$) (spent as of June 2025)	
[1] GCF financing:	25,645,114	7,057,427	
[2] UNDP contribution:	540,000	290,397	
[3] Government:	15,000,000	6,515,488	
[4] Other partners:	000	000	
[5] Total co-financing [2 + 3+ 4]:	15,540,000	6,805,884.	
PROJECT TOTAL COSTS [1 + 5]	41,185,114	13,863,312	

Executive summary

Project Description: The project *"Building resilience in the face of climate change within traditional rainfed agricultural and pastoral systems in Sudan (FP139)"* is a Green Climate Fund (GCF) and UNDP-supported initiative implemented by the Higher Council for Environment and Natural Resources (HCENR). Its overall objective is to enhance the resilience and adaptive capacity of vulnerable subsistence agro-pastoralist and nomadic pastoralist communities in Sudan's dryland zones, which are increasingly affected by recurrent droughts, land degradation, and fragile water and food systems. The project seeks to improve food security, livestock productivity, and water access while strengthening institutional capacities for climate-resilient planning and governance.

The project has three main components: (i) improving resilience of food production systems through drought-resilient seeds, women-led farms, and sustainable agricultural practices; (ii) enhancing water security through construction and rehabilitation of hafirs, sand dams, and water yards; and (iii) strengthening institutional and community capacities through extension services, training, and participatory governance. With a GCF contribution of USD 25.6 million, complemented by USD 15 million in government co-financing and USD 0.54 million from UNDP, the project is being implemented following UNDP NIM implementation modality across nine states (West, Central, and East Darfur; West and South Kordofan; Kassala; Red Sea; Northern; and Khartoum). Originally approved in 2020 for six years (2021–2025), the project has been granted an 18-month no-cost extension to March 2027 due to delays caused by political instability, conflict, and COVID-19 disruptions.

Evaluation objectives, scope, and methods: The purpose of this Interim Evaluation (IE) was to assess progress and identify the necessary changes to be made to set the project on-track to achieve its intended results. With this in mind, the IE focused on the review the project's strategy and its risks to sustainability, assessment of project results against the targets, draw lessons that can both improve the sustainability of benefits from this project. The methodology of the IE encompassed a comprehensive desk review of project documentation and semi-structured interviews with key stakeholders. Throughout the process, purposive sampling aimed to capture a diverse range of stakeholder perspectives, ensuring gender responsiveness and inclusivity in data collection and analysis.

Progress Summary

The BRCC Project was designed as a transformative and comprehensive initiative to strengthen the resilience and adaptive capacity of vulnerable agro-pastoralist and pastoralist communities in Sudan's drylands. The design was ambitious and aligned with Sudan's national climate priorities, and highly relevant: activities such as climate-resilient seed distribution, rangeland rehabilitation, and shelterbelts continue to be valued by communities as urgent responses to food insecurity and resource competition.

The project had directly reached 876,754 people (49% women) and indirectly benefited 1.88 million (50% women) through interventions in seeds, rangeland rehabilitation, water management, and training, highlighting strong outreach. Performance across components has been uneven. Component 1 has delivered strong biophysical results, with sorghum and millet yields rising by 40–60% (and in some areas up to 300%), rehabilitation of 4,312 hectares of rangeland generating 2,052.51 Gg of annual GHG sequestration, and women-led home gardens and nurseries contributing to food security and income. Yet gaps remain in perception surveys, microfinance support, and scaling of rangeland rehabilitation. Component 2 has underperformed severely, with no measurable improvements in water fetching time, irrigation expansion, or household water access. Despite feasibility studies and partial rehabilitation of 17 water yards and 11 hafirs, most planned construction stalled, and no training or sandug microfinance schemes were established, leaving water-related outcomes unmet. Component 3 achieved strong outreach, with 8,141 farmers and pastoralists trained (well above target) and 658 extension workers engaged, alongside cooperative formation and manuals. However, institutional depth, systematic knowledge management, and exchange learning remain weak.

However, the outbreak of war in 2023 fundamentally altered the operating context. Six of nine project states became inaccessible, project assets were destroyed, the PMU was dissolved, and donor funding suspended. This conflict-driven disruption, compounded by high inflation, currency depreciation, and procurement delays, brought most field activities to a halt and eroded institutional continuity. Demographic shifts caused by displacement—for example, Northern State's population reportedly quintupled due to IDP influx—further heightened pressures on scarce resources and intensified the need for conflict-sensitive resilience measures.

Governance and management weaknesses have further reduced effectiveness. The Project Board played a role in approving plans and budgets, but its irregular meetings limited oversight, particularly during crisis periods. UNDP's quality assurance role requires strengthening through more frequent board sessions, quarterly reviews, and audits. Technical committees had mixed results, with decentralized agricultural committees fostering engagement but a centralized water committee limiting local participation. The PMU has suffered from instability, with dissolution after the war, high turnover of project managers, no Chief Technical Advisor, and lack of gender and safeguards expertise.

Despite the severe setbacks caused by the war, the project is now positioned for a new phase of resilience and opportunity. The conflict has increased its relevance by deepening rural vulnerabilities, making climate adaptation interventions more urgent. Strengthened partnerships between UNDP and HCNER, with thematic directors serving as National Coordinators, have improved alignment, ownership, and coordination. The PMU is now better equipped through continuous UNDP training, stronger stakeholder engagement, and sustained communication with beneficiaries, while UNDP field offices and reinforced technical teams stand ready to accelerate delivery. **These combined improvements place the project in a stronger position to restart and scale up implementation in response to the post-war reality and urgent community needs**.

Financial performance has been low: only 28% of GCF funds were delivered by mid-term, with Output 1 showing the strongest but seed-heavy spending, Output 2 lagging at 17%, Output 3 modest at 28%, and management costs disproportionately high at 71% of allocation, raising sustainability concerns. Co-financing reporting also lacks transparency, with 43% of government commitments delivered but without itemized breakdowns, and UNDP delivering 54% of its commitment through reallocation to operational costs.

Safeguards implementation has been largely procedural, with limited evidence of mitigation on the ground and no site-specific ESMPs applied. The 2023 conflict rendered the original SESP and ESMF outdated, and while updated SES and conflict sensitivity assessments were initiated, they remain incomplete due to unavailability of the HCENR to accompany the team for field missions, leaving a critical safeguards gap. The Gender Action Plan (GAP) is also off track: apart from seed interventions (41% women participants), most GAP indicators were rated "Red," with gender resources underutilized and no dedicated gender expertise. LNOB commitments for youth and people with disabilities were not operationalized, though IDPs were more recently included.

In conclusion, the project demonstrates strong community relevance and promising field-level results in agriculture, but systemic weaknesses, governance gaps, and the war's disruptive impact have left most resilience outcomes off track. The latest improvements, including stronger government partnerships and enhanced PMU and UNDP capacities, place the project in a much stronger position to restart and scale up implementation, ensuring it can effectively respond to the post-war reality and address urgent community needs. To maximize its remaining potential, the project must reassess its target population, reinforce conflict-sensitive planning, strengthen UNDP-HCENR coordination and oversight, and prioritize sustainability . At the same time, safeguards and gender integration must be revitalized to ensure inclusivity, accountability, and resilience in Sudan's rapidly evolving context.

IE Ratings and Achievement Summary Table

Measure	IE Rating	Achievement Description
Project Strategy	N/A	• The project design is transformative and comprehensive, addressing maladaptive practices and supporting climate resilience through integrated interventions in food security, water, livestock, and governance. • The 2023 war fundamentally altered the operating context, requiring a reassessment of target populations and benefit distribution, while ensuring adjustments, the project should remain anchored in the project's core climate adaptation mandate. • The Performance Results Framework (PRF) is structurally sound and SMART-aligned but lacks annual targets and relies partly on rough baseline estimates, weakening its utility for year-to-year planning and accurate monitoring. • The Theory of Change (ToC) is robust and evidence-based but would have been stronger with an explicit feedback loop from local pilots to policy reform, and its assumption of easy community adoption of new practices remains untested and risky. • The project design was gender-responsive, with a Gender Action Plan (GAP), sex-disaggregated indicators, and a commitment to target at least 35% women beneficiaries, embedding gender considerations into seeds, farms, home gardens, and water governance activities. • The project is highly relevant to rural communities, addressing food security, water, rangeland, and livelihood needs—relevance heightened by the 2023 war, which increased vulnerability and competition over resources. • It is strategically aligned with national frameworks, contributing to Sudan's NDC (2021), NAP (2016), and UNDP CPD (2018–2021) through adaptation in agriculture, water, rangelands, and inclusive governance
Project Effectiveness/ Progress Towards Results	Objective Achievement Rating: Moderately Unsatisfactory (MU)	• The project has progressed in a moderately unsatisfactory manner toward achieving its objectives, with most targets off track despite notable groundwork and tangible results on the ground under output 1. • To date, it has directly benefited 876,754 people (49% women) and indirectly reached 1,877,033 people (50% women) through seeds, water, and livelihood interventions, demonstrating good outreach achievements. • However, progress against impact-level indicators is limited and it is falling short on systemic outcomes related to water security, institutional frameworks, and climate information services, leaving its broader resilience objectives only partially achieved at mid-term.
	Component 1 Achievement Rating: Moderately Satisfactory (MS)	• The project has delivered tangible productivity and environmental gains, already surpassing its end-of-project crop yield target with reported increases of 40–60% in sorghum and millet and achieving up to 70–300% yield improvements for sorghum and groundnuts in some areas, with even higher gains locally. Certified drought-resilient seeds and sustainable farming practices (Activities 1.1 and 1.2) have reached thousands of farmers, while 4,312 hectares of rangeland rehabilitation generated an estimated 2,052.51 Gg of annual GHG sequestration, advancing mitigation co-benefits. Women-led home gardens, nurseries, and tree plantations (Activity 1.4) provided food, income, and environmental protection, offering important entry points for women's empowerment. • Despite these strong biophysical results, the softer institutional and behavioural dimensions of resilience remain underdeveloped. No perception surveys were conducted to capture whether communities view resilience measures positively or if

		adoption is spreading beyond direct beneficiaries, and microfinance arrangements for women and seed access remain at baseline. • Planned interventions such as wadi cultivation training, water management manuals, and large-scale rangeland guidelines were not delivered, while conflict and funding shortages since 2023 halted activities in Darfur and Khartoum, reducing geographic coverage. Shelterbelts and afforestation showed early promise but stalled due to resource constraints.
	Component 2 Achievement Rating: Moderately Unsatisfactory (MU)	• Progress on water-related outputs is very limited, despite their central importance to the project's resilience objectives. • Key indicators show no advancement: women and girls continue to spend an average of 60 hours per month fetching water, irrigated crop areas remain at zero hectares, and none of the planned hundreds of thousands of beneficiaries have gained reliable access to improved water sources. • Institutional measures to ensure sustainability have also lagged, with no sandug microfinance schemes introduced to cover operation and maintenance (O&M) costs, leaving perception-based indicators unmeasured. • While Activity 2.1 achieved some groundwork—such as feasibility studies, one solar-powered pump, and the rehabilitation of 17 water yards and 11 hafirs—most planned construction (48 new yards, 38 rehabilitations) was not delivered, and no O&M training was carried out. Activity 2.2 (sand dams) and Activity 2.3 (hafirs and ponds) stalled at the feasibility stage, with no physical works, pumping units, manuals, or training delivered. Escalating costs, funding shortages, and the outbreak of war in 2023 further compounded delays.
	Component 3 Achievement Rating: Unsatisfactory (MU)	• Capacity-building for the farmer and pastoralist level and made notable progress with extension services. Against a target of 2,500, the project trained 8,141 farmers and pastoralists—surpassing even the end-of-project target of 5,500—through farmer and pastoral field schools and community-based sessions. These covered a wide range of climate-resilient practices, including cropping techniques, rangeland and water management, nursery establishment, and food processing, with strong gender participation in earlier years. • For extension workers, 658 staff were trained against a mid-term target of 800, representing solid progress despite conflict disruptions. Cooperative training further led to the establishment of nine cooperatives, while the development of a technical manual on climate adaptation packages in 2023 strengthened knowledge resources and provided a basis for replication. • However, the component shows gaps in institutional depth and sustainability. Capacity-building began without a structured training needs assessment, which limited its alignment to institutional requirements. Knowledge products were only partially completed, leaving gaps in institutional memory. Planned exchange visits and broader expansion of pastoral schools were not realized due to funding shortfalls and conflict disruptions in 2023.
Project Efficiency/ Implementation & Adaptive Management	Moderately Unsatisfactory (MU)	• The Project Board has consistently approved work plans and budgets, but its irregular and infrequent meetings have weakened governance and oversight; stronger UNDP quality assurance is needed through biannual meetings, quarterly reviews, and annual audits. • Technical committees showed mixed effectiveness: decentralized agricultural committees improved local engagement and decision-making, while the centralized water committee limited participation, reducing ownership and relevance.

		• Financial delivery remains very low, with only USD 7.06m (28%) of GCF funds spent, far below mid-term expectations. • Co-financing contributions show partial progress: HCENR reports 43% delivery but without itemized evidence, limiting accountability, while UNDP delivered 54% of its pledge, reallocating funds from an international CTA to operations and staff support. • The project produced four APRs (2021–2024) with reasonable narrative accounts but lacking consistent evidence; no quarterly reports were issued despite UNDP POPP and project requirements. • Data collection lacks standardization and validation, undermining accuracy: beneficiary counts vary, indirect figures rely on rough estimates, and yield increases are based on field impressions rather than scientific methods. • A positive step is the systematic collection of gender-disaggregated data for direct beneficiaries and the recent inclusion of IDPs, showing progress toward gender-responsive and conflict-sensitive monitoring. • Private sector engagement and farmer association involvement have fallen short of design ambitions, with the private sector limited to procurement roles and farmer organizations sidelined in favor of government-led delivery. • The project lacked a structured communication strategy, relying on ad hoc outreach through workshops, manuals, and field schools; without a coordinated framework, efforts were fragmented, reducing effectiveness in behaviour change, ownership, and visibility.
Sustainability	Institutional framework and governance: Moderately Likely (ML).	• Communities have demonstrated strong ownership of livelihood-linked interventions (rangelands, seed systems, nurseries, shelterbelts), reinforcing their relevance for food security and resilience. • The water infrastructure component stalled at preparatory stages, with no O&M systems in place; planned sandug schemes were not established, and government pledges for O&M are uncertain amid conflict and fiscal stress. • Capacity-building, while central to sustainability, has been delivered on a modest scale and risks being treated as a one-off exercise rather than a continuous process.
	Financial: Moderately Unlikely (MU).	• The project has faced major gaps in establishing the microfinance mechanisms envisioned in its design, leaving sustainability at risk. Although micro-credit was positioned as a critical tool for ensuring farmers' continued access to seeds and inputs, implementation focused almost exclusively on seed distribution and storage, with no delivery of financial services. • Similarly, the planned sandug schemes to support operation and maintenance (O&M) of water infrastructure were never developed, leaving hafirs and water yards dependent on water tariffs and government co-financing—an approach already recognized as risky. • Sudan's current fiscal constraints and conflict-driven economic decline severely limit government capacity to sustain or scale interventions, making long-term success heavily reliant on external donor financing.
	Socio-economic: Unlikely (MU	• Conflict and insecurity since April 2023 have been the most disruptive factors, halting operations in most states, destroying assets, displacing PMU staff, and reshaping demographics through large-scale IDP influxes, which has placed extreme pressure on scarce resources.

	Environmental: Moderately Likely (ML).	• The risk of conflict over natural resources has sharply increased, requiring the project to integrate conflict sensitivity into planning, implementation, and monitoring to ensure interventions reduce competition and support social cohesion. • Despite challenges, communities have shown strong ownership and willingness to engage, sustaining activities such as seed exchanges, home gardens, and rangeland management even during disruptions, indicating strong potential for long-term resilience if further supported. • The project contributes positively to environmental sustainability by promoting ecosystem-based adaptation approaches that restore rangelands, conserve ecosystem services, and strengthen communities' ability to withstand climate and economic shocks. • However, Sudan's high exposure to extreme climate events—droughts, floods, and dust storms—poses significant risks to the durability of project outcomes, as these shocks can damage water infrastructure, undermine rangeland rehabilitation, or reduce the effectiveness of seed distribution.

Recommendations summary table: The following are a mix of recommendations for corrective actions and forward-looking recommendations: more details on the recommendations available in section 4.3.

Table 1: Recommendations table

#	IE Recommendation	Entity Responsible	Priority	Timeframe
1	Urgently expedite critical assessments on conflict sensitivity and social and environmental risks.	HCNER/PMU	High	Sep-Oct 2025
2	Reassess target population and distribution of benefits based on updated conflict and safeguards assessments.	HCNER/PMU	High	Nov-Dec 2026
3	Ensure that any project adjustments after the SES update and conflict sensitivity assessments are not affecting the original project	HCNER/PMU	High	Nov-Dec 2026
4	Revise and update the Gender Action Plan (GAP) once the SES assessment and the conflict sensitivity assessment are concluded.	HCNER/PMU	Medium	Nov-Dec 2026
5	Develop and implement a sustainability and replication strategy.	HCNER/PMU	High	Q1 2026
6	Expedite fund transfers to align with seasonal activity cycles.	UNDP	Medium	ASAP
7	Decentralize the water technical committee to the state level. The	HCNER/PMU	Medium	Q1 2026
8	Restructure the PMU to reflect the new operational reality.	HCNER/UNDP	Medium	Q4 2025
9	Develop detailed M&E guidelines and strengthen field-level data systems.	HCNER/PMU	Medium	Q4 2025
10	Strengthen project governance and reporting mechanisms.	HCNER/UNDP	Medium	Q4 2025
11	Develop and implement a structured communication strategy.	HCNER/PMU	Low	Q1 2026
12	Strengthen the capacity of the Project Management Unit (PMU) by providing systematic training and orientation for all personnel on UNDP and GCF rules, policies, and procedures, as well as on core	UNDP	Medium	Q4 2025 – Q1 2026

	project management principles such as Results-Based Management (RBM).			

1. Introduction

1.1 Purpose, and scope

The purpose of the Interim Evaluation (IE) was to assess implementation of the project and progress towards the achievement of the project objectives and outcomes/outputs as specified in the UNDP Project Document and GCF Funded Activity Agreement (FAA) and assess early signs of project success or failure with the goal of identifying the necessary changes to be made to set the project on-track to achieve its intended results. The Interim Evaluation also reviewed the project's strategy and its risks to sustainability.

The IE took into consideration assessment of the project in line with the following evaluation criteria from the GCF IEU TOR (GCF/B.06/06) and GCF Evaluation Policy, along with guidance provided by the Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC). Additional evaluation criteria can be assessed, as applicable. The IE assessed the following.

- **Implementation and adaptive management** – seeks to identify challenges and propose additional measures to support more efficient and effective implementation. The following aspects of project implementation and adaptive management will be assessed: management arrangements, work planning, finance and co-finance, project-level monitoring and evaluation systems, stakeholder engagement, reporting, and communications.
- **Risks to sustainability** – seeks to assess the likelihood of continued benefits after the project ends. The assessment of sustainability at the Interim Evaluation stage considers the risks that are likely to affect the continuation of project outcomes. The IE should validate the risks identified in the Project Document, Annual Project Reports, and the ATLAS Risk Management Module and whether the risk ratings applied are appropriate and up to date.
- **Relevance, effectiveness and efficiency** - seeks to assess the appropriateness in terms of selection, implementation and achievement of FAA and project document results framework activities and expected results (outputs, outcomes and impacts).
- Coherence in climate finance delivery with other multilateral entities - looks at how GCF financing is additional and able to amplify other investments or de-risk and crowd-in further climate investment.
- **Gender equity** - ensures integration of understanding on how the impacts of climate change are differentiated by gender, the ways that behavioural changes and gender can play in delivering paradigm shift, and the role that women play in responding to climate change challenges both as agents but also for accountability and decision-making.
- **Country ownership** of projects and programmes - examines the extent of the emphasis on sustainability post project through country ownership; on ensuring the responsiveness of the GCF investment to country needs and priorities including through the roles that countries play in projects and programmes.
- **Innovativeness in results areas** - focuses on identification of innovations (proof of concept, multiplication effects, new models of finance, technologies, etc.) and the extent to which the project interventions may lead to a paradigm shift towards low-emission and climate-resilient development pathways.
- **Replication and scalability** – the extent to which the activities can be scaled up in other locations within the country or replicated in other countries (this criterion, which is considered in document GCF/B.05/03 in the context of measuring performance could also be incorporate d in independent evaluations).
- **Unexpected results, both positive and negative** - identifies the challenges and the learning, both positive and negative, that can be used by all parties (governments, stakeholders, civil society, AE, GCF, and others) to inform further implementation and future investment decision-making.

The IE provides evidence-based information that is credible, reliable, and useful and comply with the UNDP/GCF Evaluation Guidelines. The IE was undertaken in line with United Nations Evaluation Group (UNEG) principles concerning independence, credibility, utility, impartiality, transparency, disclosure, ethical, participation, competencies, and capacities. The evaluation process has been independent of UNDP and project partners. The opinions and recommendations in the evaluation are those of the Evaluator and do not necessarily reflect the position of any stakeholders.

The IE was carried out between August- September 2025 with online engagement with project stakeholders.

1.2 IE Approach

The Interim Evaluation (IE) employed a collaborative, consultative, participatory, and utilization-focused approach to ensure relevance and maximize the usefulness of its findings. The evaluation utilized a **Participatory Evaluation (PE)** framework, engaging key stakeholders, including representatives from the Sudan Government and UNDP, to jointly determine critical aspects of the process, such as the stakeholders to consult, timing and extent of fieldwork, and project documents to review. This collaborative approach facilitated a comprehensive understanding of the evaluation framework and ensured the process was tailored to uncover improvement opportunities within the project. Importantly, the consultant team emphasized inclusivity by involving primary stakeholders as active participants in the evaluation process, rather than merely sources of information. This included creating opportunities for both women and men community members to analyze, reflect, and contribute to decision-making and action.

Additionally, the evaluation followed a **utilization-focused approach**, which prioritizes the needs and expectations of the intended users of the evaluation from the very beginning. By addressing these needs, the evaluation ensured that its findings, lessons, and recommendations were actionable and valuable to stakeholders.

To assess achieved results, the evaluation applied a **Contribution Analysis** methodology. This involved three key steps: (1) assessing and reconstructing the Theory of Change (ToC) to evaluate its alignment with project outcomes, (2) gathering empirical evidence to determine the extent to which results aligned with the ToC, and (3) analyzing this evidence while accounting for other influencing factors to establish how the project contributed to its outcomes. This methodology ensured that the evaluation provided a clear and evidence-based understanding of the project's contributions to its intended objectives and results.

An important tool developed for the IE process was an Evaluation Question Matrix (Annex 3). This matrix defined evidence that will be used for each question, guided the data collection process, and used to display data obtained from various sources that relate to relevant evaluation criteria and questions. The matrix contains Evaluative Criteria Questions, i.e. sets of questions and sub questions, detailing each review criteria, indicators; sources; and methodology.

The IE adopted a systematic approach to analysis, ensuring validity and transparency in the relationship between findings, conclusions, and recommendations. Findings from diverse evidence streams were consolidated through an evaluation triangulation grid that cross-referenced the findings from various sources (interviews, documentation, etc.) against the questions in the evaluation matrix.

1.3 Phases of the IE

The primary phases of the IE Implementation included the development and presentation of the IE Inception Report, IE mission for primary data collection, presentation of initial IE findings to key stakeholders and reporting.

IE inception phase: The purpose of the inception report was to define the overall approach and set out the conceptual framework to be applied in the evaluation. The inception report included the understanding of the evaluation objectives, evaluation questions and possible evidence to be generated, defined the methodology, and provides information on data sources and collection, sampling, and key indicators. This phase included a review of project documentation, review of evaluation questions, and the establishment of criteria for assessing project outcomes. Stakeholder analysis has also been conducted to identify all parties relevant to the evaluation. The inception report has been crucial for ensuring that all parties have a clear understanding of the evaluation scope, methods, and expected deliverables.

IE primary data collection: The objective of this phase was to gather first-hand data from beneficiaries and project other stakeholders. The IE was carried out between August and September 2025 with online engagement with project stakeholders and partners. For this IE, evidence was gathered by reviewing documents, interviewing key selected stakeholders and forming other ad hoc observations. The data collected during this phase formed the backbone of the evaluation, providing essential insights into the project's implementation and effectiveness. Field visits to project sites were not possible due a combination of security situation and limited timeframe for the IE.

Data analysis: Data analysis was based on observed facts, evidence, and available data. Findings were specific, concise, and supported by quantitative and/or qualitative information that is reliable, valid and generalizable.

Information was analysed and consulted with project team or commissioning unit, and then an evaluation report draft was developed. All analysis has been based on observed facts, evidence and data. The broad range of data provided strong opportunities for triangulation and validation. This process is essential to ensure a comprehensive and coherent understanding of the data sets, which was generated by the evaluation.

Presentation of initial IE findings: This phase aimed to share preliminary findings with stakeholders to validate the information and gather additional feedback. A Mission wrap-up meeting & presentation of initial findings was conducted at the end of the IE mission to present preliminary findings, assessments, conclusions and emerging recommendations. Feedback from stakeholders during this phase was used to refine and finalize the evaluation report, ensuring it accurately reflects the project's outcomes and the perspectives of those involved.

Drafting evaluation report: The final phase involved compiling this comprehensive evaluation report which includes detailed findings, conclusions, and recommendations. The report integrates all data and analyses from the evaluation process and is crafted to provide clear evidence-based conclusions about the project's effectiveness and impact. The final report is essential for accountability and learning. It is used to inform future projects, improve ongoing strategies, and fulfill reporting obligations to donors or other key entities.

1.4 Methodology

a. Data collection methods

To strengthen the robustness of the evaluation evidence, a mix method was used to generate qualitative and quantitative data to best describe project results based on the results framework as outlined in the project document. The evaluation used methods of document review and interviews for data collection to obtain answer all of the evaluation questions outlined in the TOR. The evaluation had three levels of data collection and validation of information:

- A desk review of project documentation where both qualitative and quantitative data have been collected. See annex 2 for list of documents.
- Semi-structured interviews with key stakeholders for qualitative data collection and field visit to key project sites and focus group discussion with beneficiaries (Annex 6 list of 16 persons engaged (33% females). Annexes 5 and 6 includes interview guide and focus group guide respectively.

An evaluation matrix was developed as a base for gathering of qualitative inputs for analysis. The evaluation matrix defined the objective for gathering non-biased, valid, reliable, precise, and useful data with integrity to answer the evaluation questions.

Desk review*:* The initial stage involved the review of project documentation and associated documents. An information package was provided by the PROJECT management team to the IE team. The evaluator reviewed all relevant sources of information, such as the project document, project reports – including annual reports, progress reports, project files, previous evaluations, national strategic and policy documents, and any other materials that the evaluator considers useful for an evidence-based evaluation assessment. See annex 2 for list of documents reviewed.

The key output of the desktop review was to collect data and information as potential evidence that underpin evaluation and also help the evaluator to familiarize with the work context in details.

Semi-structured interviews*:* Engaging stakeholders has been critical for the success of the evaluation. The project involved multi-stakeholders and teams in different capacities and the IE engaged with various stakeholders to cover different perspectives taking into account the principle of gender responsiveness. The IE team has taken into account the geographical coverage, representative diversity, gender balance etc. and inclusivity of key stakeholders and beneficiaries in designing the interview schedule and locations that were visited. Engaging stakeholders was done mainly based on online engagement as country mission was not possible.

The main purpose of the engagement was to collect evidence that support IE process and findings and gain sufficient understanding of their perspectives on the program successes and challenges. All interviews were undertaken in full confidentiality.

Field visit: Field visits to project sites were not possible due a combination of security situation and limited timeframe for the IE.

Sampling: Purposive sampling was used to achieve the level of rigor that is required for a robust evaluation. The evaluation responded to the existing diversity across the project stakeholder groups. In essence, the purposive approach to sampling was used to identify the key informants who are best suited to provide detailed responses to the evaluation questions, to accurately reflect given elements of the work experience. This also allowed for additional data generation at any stage of the evaluation, to facilitate results reliability and completeness.

Gender responsiveness has been integrated throughout the evaluation process including gender balance during the engagement with stakeholders by ensuring both genders are engaged, and assessing the gender integration in the project design and delivery, and ensuring that data collection and analysis are gender sensitive. The evaluation assessed the delivery against the gender action plan, and used gender-disaggregated data of personnel engaged by the project to identify barriers and differentiate roles that may be more suited to each gender. The evaluation also checked whether all "people count" indicators are gender segregated and if the project had reported women ratio in related indicators.

b. Data analysis methods

The data analysis method involved:

Descriptive analysis: A descriptive analysis of the PROJECT was used to understand and describe its main components, including related activities; partnerships; modalities of delivery; etc. Descriptive analysis preceded more interpretative approaches during the evaluation.

Content analysis: A content analysis of relevant documents and the literature was conducted to identify common trends and themes, and patterns for each of the key evaluation issues (as the main units of analysis). Content analysis was used to flag diverging views and opposite trends and determine whether there was need for additional data generation.

Thematic analysis: Responses collected from semi-structured interviews and field visit observations were analyzed through thematic analysis, this is a method of analyzing qualitative data. The evaluator has closely examined the data to identify common themes – topics, ideas and patterns of meaning that come up repeatedly from interviews and other sources.

Quantitative analysis: A simplified analysis was conducted on all quantitative measures (for example number of beneficiaries) by reviewing and validating project datasets on quantitative indicators. The generated statistics were used to develop emergent findings and inform the triangulation process.

Triangulation: In this evaluation, triangulation involved validation of data through cross verification from at least two sources, and evaluation findings and conclusions were synthesized based on triangulated evidence from the desktop review and interviews. This process was essential to ensure a comprehensive and coherent understanding of the data sets, which have been generated by the evaluation.

Evaluation criteria and ratings: The different scales for rating various criteria are shown in the table below in accordance with the Guidelines defined in the evaluation ToRs. See Annex 5 for Evaluation criteria and ratings.

Evaluation Matrix: An evaluation matrix was developed (refer to Annex 3), which outlines how each evaluation question is aligned with specific indicators and corresponding evidence. For each question, the matrix identifies relevant data sources, as well as the methods used for data collection and analysis. This structured approach ensured that evidence for each question was systematically gathered and categorized. Additionally, multiple sources of evidence were analyzed and triangulated to strengthen the reliability and validity of findings.

a. Evaluation roles and responsibilities

- The evaluation has been undertaken by an international independent evaluator/consultant (Mohammad Alatoom). The evaluator was contracted by UNDP to conduct the evaluation as per the ToR (Annex 1).
- The UNDP Sudan Country Office (CO) is the commissioning unit for this evaluation, and has been responsible for liaising with stakeholders, collecting secondary data and providing logistical support for the evaluator to engage with stakeholders. The commissioning unit has also been consulted with along the process starting from the inception phase for identifying the stakeholders to be engaged, secondary data availability and accessibility, and reviewing the inception report. Later the commissioning unit played an important role in performing QA role on the evaluation report content.
- The Project Management Unit (PMU) has been the main source for the secondary data that was provided in a timely manner for the evaluation team. In addition, the PMU team has been also interviewed for primary data collection.

- HCNER, as the National Designated Authority (NDA) has been actively involved in the evaluation process, participating in all stages, including the project design, interviews, and review of the evaluation report. This engagement ensured that the NDA's perspectives and insights are fully integrated into the evaluation findings and recommendations.

1.5 Ethical Considerations

The IE consultant were held to the highest ethical standards and were required to sign a code of conduct upon acceptance of the assignment. This evaluation was conducted in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluation'[1]. The evaluator ensured to safeguard the rights and confidentiality of information providers, interviewees, and stakeholders through measures to ensure compliance with legal and other relevant codes governing collection of data and reporting on data. The evaluator also ensured security of collected information before and after the evaluation and protocols to ensure anonymity and confidentiality of sources of information where that is expected. The information knowledge and data gathered in the evaluation process has been solely used for the evaluation and not be used for other purposes without the express authorization of UNDP and partners.

1.6 Limitations

The methodology and approach for this Interim Evaluation have been developed with careful consideration of several significant challenges and constraints that shape the scope and feasibility of the evaluation process. These include:

- **Security situation in Sudan** – The majority of the project's target sites are currently experiencing political instability and insecurity. As a result, in-country travel to these locations was not feasible, making field visits impossible for this evaluation, and the engagement was totally online.
- **Compressed evaluation timeline** – The evaluation commenced in early August 2025, with the draft report required soon after in order to meet the GCF Interim Evaluation submission deadline. This short timeframe made the IE implementation very challenging. On top of this, it took quite a while until a formal approval was obtained from the Sudanese Government to start stakeholders engagement, this has delayed the IE.
- **Limited Human Resources** – The evaluation was undertaken by a single international evaluator without the support of a national consultant to facilitate on-the-ground beneficiary engagement, or local-level data collection, however, the UNDP team and PMU have supported access to stakeholders and data.

Another experienced constraint related to data collections was stakeholders' availability for interview and response rate to the interviews. In response the project management team facilitated engagements with all stakeholders to ensure availability during the data collection phase and tried to find alternatives for those who are not available during the mission, including online engagement where possible.

1.7 Structure of the Report

The IE report follows the format suggested by the IE ToR and guidelines, with a description of the methodology, a description of the project and findings organized around: Project Strategy, Progress towards results, Project Implementation and Adaptive Management, and Sustainability. Conclusions, Recommendations and Lessons Learnt complete the report. Consistently with requirements, certain aspects of the Project are rated, according to

[1] UNEG Ethical Guidelines for Evaluation, 2020, available here.

the rating scale of the Guidelines. Co-financing information is presented in the chapter under financial management.

2. Project Description and Background Context

2.1 Development context

Sudan's drylands are experiencing intensified drought cycles and erratic rainfall, undermining traditional livelihoods and pushing vulnerable communities further into poverty. Institutional gaps in adaptation planning, resource governance, and infrastructure development compound these risks. There is strong evidence confirming that Sudan's climate has been changing over the past decades. First, there has been a steady decline in annual precipitation throughout Sudan. This is most pronounced in the Darfur States, where the data record from the sole meteorological station over the 40-year period from 1952-1992 indicates that rainfall has been declining by about 5.12 mm per year on average. Other areas such as Khartoum and South Kordofan show similar rainfall patterns (decline of 4.90 and 3.99 mm per year, respectively). These trends are reflected by mean annual normal rainfall isohyets[2].

There has also been a steady increase in temperature throughout Sudan over the period 1960-2010. During the March-June and June-September periods, temperatures have been increasing between 0.2°C and 0.4°C per decade, on average. The decadal trend of increasing temperature is more intense during the March-June period. When averaged across all seasons, temperatures in the 2000-2009 period are roughly 0.8°C to 1.6°C warmer than they were in the 1960-1969 period[3].

These changes have posed profound adverse impacts for rural livelihoods. For faming activities, roughly 90% of cultivated areas depend exclusively on rainfall, with fluctuations in crop yield attributed almost solely to fluctuations in rainfall patterns[4]. While irrigated agriculture is also practiced, it is minor in scope and limited to small areas along wadis and in small plots near hand-dug wells. For pastoralist activities, increasingly erratic rainfall patterns, as well as drought episodes, have led to the deterioration of natural rangelands. Declining rangeland productivity has been accompanied by an increase in seasonal fires, excessive grazing in communal lands, and by large livestock populations unsustainably concentrated around perennial water sources.

Such mounting evidence of decreasing rainfall and increased temperatures, have reduced available grazing lands, have led to crop failures, high livestock mortality and increased rural to urban migration. These climate-related impacts have also aggravated urban health and sanitation concerns. Together this evidence suggests that drought has been a major stress factor on farmer and pastoralist communities and has worsened regional conflicts over environmental resources.

2.2 Problems that Project Seeks to Address

The entry point for the theory of change underlying the project concept is the acute vulnerability of subsistence agro-pastoralist and nomadic pastoralist communities in Sudan's dryland zones to the increasing frequency of drought, a vulnerability that is compounded by deep poverty and reliance upon traditional rainfed agricultural practices that are proving to be increasingly unsustainable in the face of climate change.

National barriers

[2] Meteorological station locations from which rainfall data was collected; Middle: Change in average annual rainfall in Sudan, 1990-2000 compared to 1960-2000; Bottom: Change in average annual rainfall in Sudan, 2000-2010 compared to 1960-2000.

[3] Based on annual average temperature trends for a subset of 6 meteorological stations located across Sudan for the period 1960-2010.

[4] GCF funding proposal.

The project concept is specifically tailored to address and overcome institutional and local barriers that inhibit resilience-building by vulnerable populations with respect to climate change. There are several institutional barriers, as summarized in the bullets below. Each of these barriers is directly linked to the project's strategic components, namely improved resilience of food production systems, improved access to water, and strengthened capacity.

- Weak drought contingency planning: Sudan's current drought contingency planning framework contains a weak component for ensuring food reserves in the face of drought. The Strategic Reserve Authority (SRA) was established in September 2000 and is an autonomous body answerable to the Minister of Finance and National Economy. Its key objectives are to build a strategic reserve of commodities, collecting data on production, estimate consumption and determine surplus/deficits, provide services based on cost recovery, contribute to national income, and invest in neglected services. To date, the SRA has been ineffective in achieving these objectives due to the lack of a clear strategic vision, a shortage of funds, and a lack of a transparent system to allocate scarce food stores among competing entities. This barrier is linked to all three of the project's strategic components.
- Low Institutional Capacity: Institutional capacities to address some of the urgent adaptation needs are inadequate especially in relation 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. Thus far, progress has been limited by a general weakness of capacity in areas including strategic development planning and coordination across state/federal ministries.
- Limitations in food security research: The government's Agricultural Research Corporation (ARC) has research stations across the ten targeted states. These stations have prioritized developing early maturing and drought tolerant varieties, improved crop husbandry practices, water harvesting technologies, and livestock improved husbandry practices. However, research is primarily on-station and farmer participation (on-farm research) is limited. This is a significant barrier as the benefits of community engagement (e.g., awareness-raising, personal investment of time/resources) is unrealized. Additionally, linkages with other government agencies, NGOs and the private sector are weak resulting in poor dissemination of improved technologies. This barrier is primarily linked to the project's food security and enhanced capacity strategic components.
- Limited smallholder access to financing: Financial and micro-finance institutions are limited due to the risks associated with a changing climate and unstable markets. Financial service providers (i.e., banks, microfinance institutions, and insurance companies) are discouraged from lending to farmers and livestock owners. As a result, smallholder rain-fed farmers and pastoralists have very limited access to finance and improved opportunities to improve their production. This has prevented investments in land preparation, the ability to have climate-resilient production practices (e.g., rainwater harvesting) and has kept many families (especially single female-headed households) in continuous cycles of poverty and food insecurity. Consequently, farmers and pastoralists have had trouble entering markets, have poor access to inputs and lack critical agricultural/livestock advisory- and extension services. This barrier is linked to all three of the project's strategic components.
- Limited data infrastructure: Effective adaptation needs reliable data. Currently, there is limited local information that can be used as the basis to establish climate change patterns, vulnerability, adaptive capacity, mitigation options and technologies that will ensure sustainable response systems and minimize

impacts and risks associated with climate change. Several knowledge and research gaps related to climate change such as risk/vulnerability assessments/mapping, improved varieties and cultural practices, water and soil conservation have been identified as of very high importance. This barrier is primarily linked to the project's enhanced capacity strategic component.

Local barriers

In addition, there are several local project implementation barriers that are unique to water supply/demand, agricultural production, and rangeland management that need to be overcome, which GCF funding will be able to directly address. At the local level, these barriers are largely socio-economic in nature rather than technical, reflecting issues related to community practices, available financial resources, and coordination. Overcoming these local barriers is based on the key assumptions that the engagement of local communities and government agencies will be sustained over the course of project implementation activities. Overcoming these local barriers is also based on the assumption that external climatic factors such as severe drought or flash flooding do not adversely impact project activities. The specific nature of local project implementation barriers are summarized in the bullets below and each is directly linked to the project's strategic components.

- Water supply/demand barriers: While it is well recognized among policymakers that sustainable water management in drought prone areas requires a participatory approach, projects and policies have often failed to reflect this understanding, leading to unrealized project replication potential at best, or failures in project implementation at worst. Too often a "silo" approach has been adopted to address water supply issues without due consideration to water demand aspects across the multiple sectors affected (i.e., agriculture, households, livestock). Hence, a key barrier in water management is the institutional reliance on linear management approaches to project/policy development in water supply/demand management.
- Alternative farming practices barriers: Despite widespread perceptions among dryland agro-pastoralists that a) there has been an appreciable decrease in rainfall amount; b) a concurrent increase in temperature; and c) a good understanding of the range of local risk-reducing options available, there is typically little effective action that can be taken by a large fraction due to the relatively high cost of farm inputs and limited or no access to credit. Hence, a key barrier in agricultural production is the socioeconomic limitations of agro-pastoralists to adjust their farming/pastoralist activities.
- Alternative rangeland management barriers: Absent climate change, traditional communal rangeland management practices in Sudan have been an effective basis for managing land resources sustainably in a way that supports local resilience and sustainable livelihoods. With increasingly erratic rainfall, however, these systems have been breaking down, leading to overgrazing, deterioration, and conflict. In addition, there are mounting pressures on rangelands that are perceived as potential target for investment, including for mining and large-scale industrial activities. Against this background, there is minimal coordination and negligible partnering among pastoralists and between such communities and outside entities. Hence, a key barrier in rangeland management is the lack of local capacity to reimagine and implement alternative communal rangeland management strategies in response to climatic and other drivers. The project addresses this barrier through local capacity building to inform and build consensus on alternate communal rangeland management schemes.

2.3 Project strategy and Theory of Change

The project's long-term vision is a transition by dryland communities towards more climate resilience through improved food/water security, enhanced livestock productivity, and heightened community resilience achieved through the strategic investments discussed above that have either not been addressed in previous projects or have yet to be implemented in the target communities. These are innovative interventions relative to currently maladaptive farming and pastoral practices that recent research supports the conclusion that such interventions have reduced adverse climate change impacts and show significant upscaling potential. The project's overall impact is the enhanced resilience and adaptive capacity of vulnerable agro-pastoralists relative to their management of agricultural, livestock, and water resources under a changing climate

The project is designed to:

- Introduce sustainable practices. The project seeks to disseminate a set of sustainable technologies and practices through the distribution of drought-resistant, early maturing seeds, establishment of integrated women-led sustainable farms, rehabilitation of communal rangelands, development of multi-purpose tree nurseries, and establishment of shelterbelts to shield cultivatable plots from dust storms.
- Install water supply and distribution infrastructure. The project seeks to increase the availability of, and access to, water resources for humans and animals through the construction and/or rehabilitation of hafirs (i.e., underground reservoirs designed for water storage), water yards (i.e., pump, above ground storage tank, and small-scale water distribution system), and sand dams (i.e., reinforced concrete wall built across a seasonal sandy river in order to retain rainwater and recharge groundwater). Climate-related factors as well as intra-group conflicts, have had a cumulative and destructive impact on water supply infrastructure, leading to significant deterioration and low yields, with a poor environment where animals and people intermingle. Improving access to water through improved/rehabilitated and/or construction of additional/new water sources will reduce vulnerability to increased water scarcity by mitigating water-related conflict in the project areas.
- Enhance local governance capacity to address climate resilience. 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.
- Promote empowerment of women. The project's women-focused activities will help to overcome local barriers such as limited access to financing and low capacity by directly aligning the project with government commitments to gender equality as outlined in its National Policy for the Empowerment of Women (2007), formulated by the Ministry of Social Welfare, Women and Child.

The project contributes to climate-resilient rural development in rural Sudan through the sustained impact of project measures that have high potential for replicability and scale.

The expected outcome of the project is the alleviation of the adverse impact of changes in temperature and rainfall patterns on the livelihoods of subsistence agro-pastoralists and nomadic pastoralists. To achieve this outcome, the project established 3 major outputs as follows:

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 of farmers and pastoralists 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; and

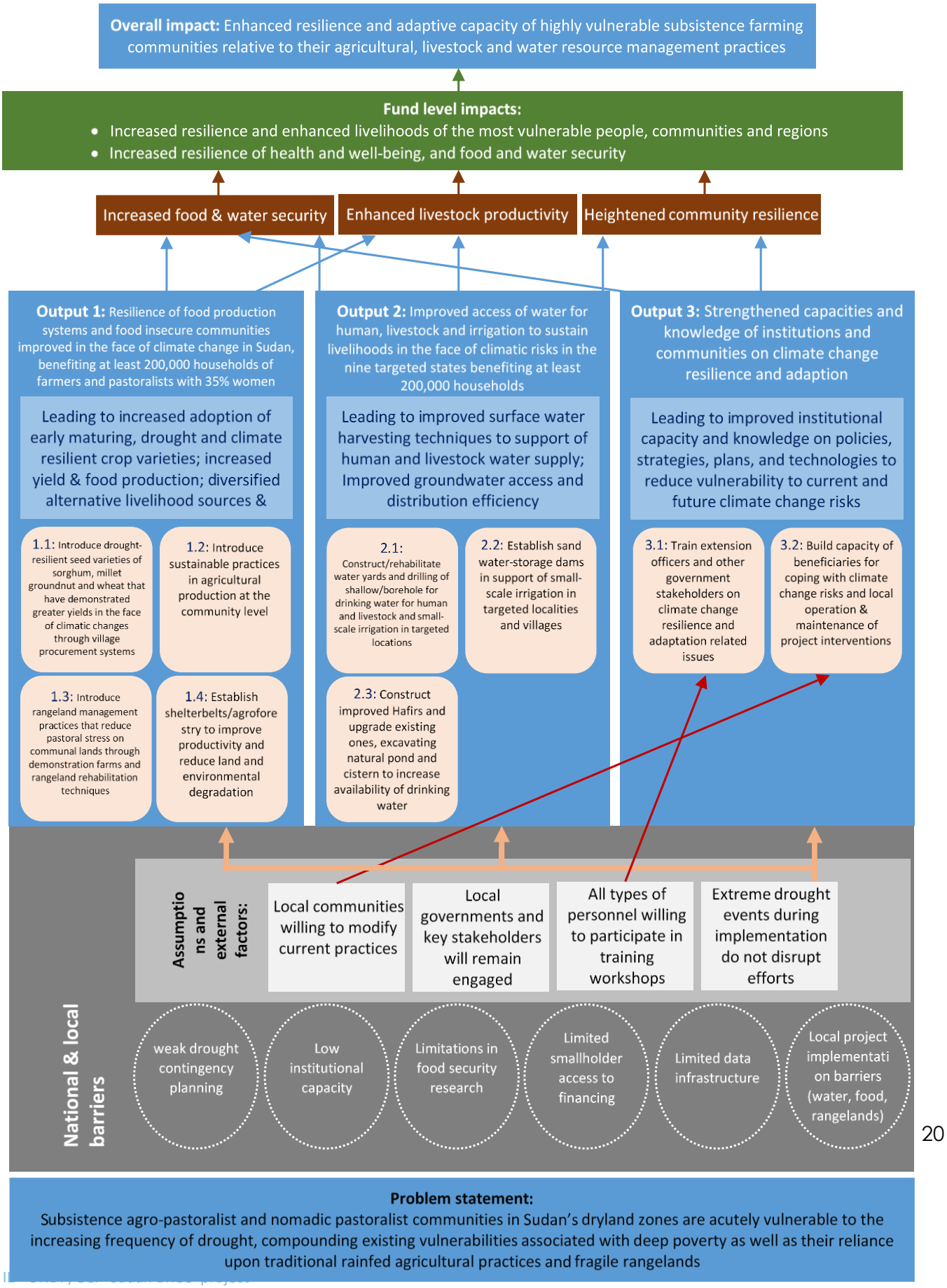
Output 3: Strengthened capacities and knowledge of institutions and communities on climate change resilience and adaptation.

Through the four interlinked activities under **Output 1**, the project will introduce climate-resilient and sustainable landuse practices in agricultural productions and rangeland management. The project will improve food security, restore degraded ecosystems, and support community-driven innovations that respond to changing climatic conditions—particularly in Sudan's vulnerable dryland zones.

Output 2 focuses on reducing water-related vulnerabilities in drought-prone dryland areas by increasing the availability, accessibility, and sustainable management of water for domestic use, livestock, and small-scale irrigation. These interventions aim to create over 5.8 million cubic meters of new and rehabilitated water storage capacity annually and enhance household water security, improve agricultural productivity, and reduce the risk of climate-induced conflicts over water resources.

Output 3 aims to build the technical, institutional, and social capacity necessary for sustaining climate-resilient development in Sudan's dryland communities through interventions that enable government actors and local institutions to design, implement, and scale up adaptation strategies, while empowering communities—especially vulnerable and female-headed households—to actively participate in and manage climate-resilient interventions.

Figure 1: Project Theory of Change (ToC)


Overall impact: Enhanced resilience and adaptive capacity of highly vulnerable subsistence farming communities relative to their agricultural, livestock and water resource management practices
Fund level impacts:
Increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions
Increased resilience of health and well-being, and food and water security
Increased food & water security
Enhanced livestock productivity
Heightened community resilience
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 of farmers and pastoralists with 35% women
Leading to increased adoption of early maturing, drought and climate resilient crop varieties; increased yield & food production; diversified alternative livelihood sources &
1.1: Introduce 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
1.2: Introduce sustainable practices in agricultural production at the community level
1.3: Introduce rangeland management practices that reduce pastoral stress on communal lands through demonstration farms and rangeland rehabilitation techniques
1.4: Establish shelterbelts/agroforestry to improve productivity and reduce land and environmental degradation
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
Leading to improved surface water harvesting techniques to support of human and livestock water supply; Improved groundwater access and distribution efficiency
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
2.2: Establish sand water-storage dams in support of small-scale irrigation in targeted localities and villages
2.3: Construct improved Hafirs and upgrade existing ones, excavating natural pond and cistern to increase availability of drinking water
Output 3: Strengthened capacities and knowledge of institutions and communities on climate change resilience and adaption
Leading to improved institutional capacity and knowledge on policies, strategies, plans, and technologies to reduce vulnerability to current and future climate change risks
3.1: Train extension officers and other government stakeholders on climate change resilience and adaptation related issues
3.2: Build capacity of beneficiaries for coping with climate change risks and local operation & maintenance of project interventions
Assumptions and external factors:
Local communities willing to modify current practices
Local governments and key stakeholders will remain engaged
All types of personnel willing to participate in training workshops
Extreme drought events during implementation do not disrupt efforts
National & local barriers
weak drought contingency planning
Low institutional capacity
Limitations in food security research
Limited smallholder access to financing
Limited data infrastructure
Local project implementation barriers (water, food, rangelands)
Problem statement:
Subsistence agro-pastoralist and nomadic pastoralist communities in Sudan's dryland zones are acutely vulnerable to the increasing frequency of drought, compounding existing vulnerabilities associated with deep poverty as well as their reliance upon traditional rainfed agricultural practices and fragile rangelands

2.4 Project location, funding, and timeframe

Project sites

The focus of the project is on 211,773 subsistence agro-pastoralist and nomadic pastoralist households distributed among 138 villages across 9 states in Sudan. These are the primary beneficiaries of project activities. These households correspond to a population of about 1,181,538 people, or roughly 10% of the total population in the targeted villages. In addition, a further 2,499,712 people are indirect beneficiaries of project activities. Community selection was based on several common characteristics shared across the targeted villages, namely subsistence agro-pastoralists and nomadic pastoralists who are highly vulnerable to climate change with few opportunities for household income diversification and adaptation. Despite their vulnerability, local populations have little access to measures and practices that can increase their resilience in the face of climate change.

Considering the ongoing conflict, six of these nine initially selected states are identified as less secure, and the government has instructed the project to withhold project activities in these states. Currently the project is implemented in Kassala, Northern State and Red Sea State. The activities in West Darfur, East Darfur, Central Darfur, South Kordofan, West Kordofan and Khartoum are currently on hold.

Project funding

The total budget of the project is USD 41,185,114 million, of which USD 25,645,114 million is GCF grant, USD 15 million is government co-financing and USD 0.54 million is UNDP co-financing.

Project timeframe

The project started on the Sep 21, 2020 and is in its 5th year of implementation, and it is originally due to be closed on 28 Sept 2025, extended to 21 March 2027.

2.5 Main stakeholders

The project is set to engage with wide spectrum of stakeholders at the national and local levels including:

- Higher Council for Environment and Natural Resources (HCENR) – Serves as the Executing Entity (EE) and the government's National Designated Authority (NDA) focal point for the GCF. HCENR is responsible for project oversight, coordination, fiduciary management, ensuring compliance with safeguards, and providing leadership in implementation across federal and state levels.
- United Nations Development Programme (UNDP) – The Accredited Entity (AE) and supervisory body. UNDP ensures fiduciary standards, provides technical oversight, manages procurement in line with UNDP/GCF rules, supports capacity-building, and ensures monitoring and reporting to GCF. It also facilitates alignment with national development priorities.
- Agricultural Research Corporation (ARC) – Provides technical expertise in drought-resilient seed systems, agricultural research, and farmer-level demonstrations. Its role is central to seed selection, testing, and dissemination.
- Forest National Corporation (FNC) – Leads agroforestry and rangeland rehabilitation, including shelterbelts, nurseries, and reforestation, ensuring environmental sustainability of project interventions.
- Federal and State Ministries of Agriculture, Livestock, and Natural Resources – Responsible for local implementation, extension services, mobilizing state-level institutions, and co-financing. State ministries play a crucial role in implementing agricultural and water-related activities on the ground.

- Local Governments (Village Development Committees, Popular Committees) – Facilitate community mobilization, beneficiary selection, and ownership of infrastructure (hafirs, sand dams, water yards). They ensure that interventions are participatory and address local needs.
- Communities and Farmer/Pastoral Associations – Direct beneficiaries and implementers of activities such as seed multiplication, rangeland rehabilitation, and Farmer Field Schools. They provide feedback, co-financing (labor/in-kind), and sustain interventions beyond project support.
- Project Board (PB) – Composed of HCENR, UNDP, line ministries, ARC, FNC, and other stakeholders. It provides strategic oversight, approves work plans and budgets, and resolves implementation bottlenecks.

The evaluation report will be disseminated to key implementing partners and PMU for revisions, and once completed, it will be posted on UNDP public website and shared by email with project steering committee.

3. Findings

3.1 Project Strategy

a. Project Design

The IE conducted a thorough assessment of the project design as outlined in the Project Document, Funding Proposal, and Funding Agreement (FAA). The primary focus was to evaluate the effectiveness of the design in achieving the intended outcomes.

Overall, the IE found that the project design is both transformative and comprehensive, offering a multifaceted and integrated approach to enhance resilience and adaptive capacity of vulnerable agro-pastoralists relative to their management of agricultural, livestock, and water resources under a changing climate. The project interventions address maladaptive farming and pastoral practices and help dryland communities transition towards more climate resilience through improved food/water security, enhanced livestock productivity, and heightened community resilience.

The project design was built around three interlinked outputs, each addressing a critical dimension of climate resilience in Sudan's rural dryland systems. Together, they were intended to provide a comprehensive package of interventions spanning agriculture, livestock, and water resource management practices. Output 1 focused on strengthening agricultural productivity and natural resource management through climate-resilient seeds, sustainable farming practices, rangeland rehabilitation, and afforestation. Output 2 aimed to enhance water security by constructing and rehabilitating water yards, hafirs, and sand dams, thereby reducing vulnerability to droughts and water scarcity. Output 3 centered on building the institutional and community capacities needed to sustain these interventions, including training extension workers, strengthening cooperatives, and raising community awareness. By design, the three outputs were meant to be mutually reinforcing, collectively leading to the project's overarching outcome of reducing climate risks to rural livelihoods and enhancing the resilience and adaptive capacity of highly vulnerable subsistence farming and pastoralist communities. This integrated approach was intended to address both immediate livelihood needs and longer-term systemic resilience, while embedding principles of gender equality, inclusion, and sustainability.

It could be argued that many of the climate change adaptation measures promoted by the project — such as drought-resilient seeds, water harvesting, rangeland rehabilitation, and farmer field schools — are not entirely new to Sudan, as elements of these practices have been piloted in smaller initiatives over the years. While this is partly true, what distinguishes this project is the scale and holistic nature of its approach. For the first time in Sudan, a project of this magnitude has sought to integrate multiple adaptation measures into a comprehensive package that simultaneously addresses the immediate livelihood needs of dryland communities while also laying the foundations for long-term, sustainable climate resilience. By bringing together interventions across agriculture, water, and institutional capacity-building, the project represents an important paradigm shift — moving from fragmented, small-scale pilots toward a coordinated, systems-level response to climate risks. This approach not only enhances the resilience of highly vulnerable subsistence farmers and pastoralists in the short term but also provides a model that can inform future national strategies and donor investments in climate-resilient development in Sudan.

The project design clearly defined the scope of work, activities, and measurable targets, providing a structured framework to guide implementation. The design laid out detailed outputs and sub-activities across agriculture, water management, and capacity building, accompanied by quantitative targets. This clarity helped establish a

strong results-based foundation for the project, and made it easier for stakeholders to understand their roles and responsibilities.

To this end, it can be concluded that the project design was robust and valid at the time of formulation, with clearly defined outputs, activities, and targets. However, the outbreak of war in 2023 has fundamentally altered the project baseline, creating a dramatically different operating context. With six out of nine states no longer accessible, the geographic scope of the project has been reduced, and the dynamics of the target population have shifted substantially. The conflict has triggered large-scale displacement, resulting in major demographic changes in project areas and significantly altering the expected number and distribution of beneficiaries. For instance, according to feedback received during Interim Evaluation interviews, the population of Northern State increased from approximately 1 million to around 3 million due to the influx of internally displaced persons (IDPs). Conversely, other target areas have experienced significant population decreases as communities fled conflict. Changes of this scale require a reassessment of the project's target population and distribution of benefits, to ensure that activities are still relevant, equitably delivered, and aligned with the current demographic and socio-political realities.

While it is important to acknowledge and value the outcomes of the updated Social and Environmental Safeguards (SES) and conflict sensitivity assessments, as well as to recognize the profound humanitarian needs arising from the war, project adjustments must remain firmly anchored in the original mandate and design of the project. The BRCC project was conceived and approved as a climate change adaptation initiative, with specific goals in agriculture, water, and rangeland resilience. Redirecting resources to humanitarian response—although pressing—would risk diluting the project's intended impact, undermining its accountability to the GCF, and compromising long-term climate resilience objectives. Instead, any refinements or modifications informed by safeguards and conflict analysis should be used to enhance targeting, improve inclusivity, and strengthen conflict-sensitive delivery of the planned interventions.

b. Results framework, and ToC

This section provides a critical assessment of the Project Results Framework (PRF) in terms of clarity, feasibility and logical sequence of the project outcomes/outputs and their links to the project objective. It also examines the specific indicators and their target values in terms of the SMART criteria.

The project PRF includes 7 indicators at the impact level that align closely with the GCF's core indicators as outlined in the GCF's Integrated Results Management Framework[5]. Additionally, the PRF includes 11 indicators at the output level. These indicators collectively are meant to provide a structured approach to measuring the project's progress and impact, ensuring alignment with both the project's objectives and the broader goals of the GCF.

With respect to the SMART criteria (Specific, Measurable, Achievable, Relevant, and Time-bound), the indicators defined in the PRF generally meet these standards to a large extent, which enhances their overall utility for tracking progress and assessing performance. This structured design has provided a clear framework for monitoring outcomes and outputs across the project's agricultural, water, and capacity-building components. The PMU has confirmed its full understanding of the scope of these indicators, and in practice has been able to use them as a reference point for planning and reporting. This demonstrates that, at least from a design perspective, the PRF has been well formulated and provides a sound basis for results-based management. However, gaps

[5] GCF's Integrated Results Management Framework - Available here.

remain in the consistent application and measurement of some indicators, which has limited the full realization of the PRF's potential.

The PRF in the project document defines mid-term and end-of-project targets, but it does not include annual targets. The annual targets are crucial for providing clear guidance to the project team on planning, implementing, and sequencing activities. Without annual targets, the project team lacks the detailed roadmap needed to track progress year by year.

One of the key gaps in the PRF is that some baseline values are not evidence-based but rather appear to be rough estimates without reference to reliable data sources. This undermines the PRF as a monitoring tool and weakens the foundation for measuring change over time. For example, under Output 2, Indicator #3 ("Perception of women participants of effectiveness of sandug microfinance arrangements for meeting O&M expenses of water infrastructure"), the baseline value states that *"none to few women participating in microfinance arrangements for meeting O&M expenses of water infrastructure have a favorable impression."* However, this statement is not supported by a baseline survey or structured data collection from women, but rather reflects an assumption made during project design. The absence of empirical baselines makes it difficult to track genuine progress or assess the extent of change, particularly for perception-based or qualitative indicators.

- Other examples of business lacking evidence include:
- Baseline for indicator A6.2 (No agro-pastoralist households in the targeted localities use climate information products or services in livelihood decisions). This seems an assumption that was not tested.
- Baseline for indicator A7.1 (No vulnerable agro-pastoralist households in the targeted localities use any fund-supported strategies to respond to climate change and variability). Similarly, no evidence, sounds like untested assumption.
- Indicator #1 under output 1 (Annual crop yields or sorghum and millet in decline) – no research supports this claim as a baseline.
- Indicator 4 under output 1 (None to few women participating in microfinance arrangements for agricultural inputs) no evidence, sounds like untested assumption.

While the PRF is sufficient in terms of defining project targets through SMART indicators, it is evident that it required additional support in the form of detailed methodological guidelines. Such guidelines would have provided clear instructions on how each indicator should be calculated, the data sources to be used, and the responsibilities for data collection and validation. The absence of these detailed methods has led to inconsistencies in measurement, with field officers often applying their own interpretations when reporting progress. This has affected the comparability and reliability of results across states and outputs. Developing and applying standardized indicator measurement protocols would have ensured more consistent, aggregable and credible reporting, strengthened the project's monitoring system, and enhanced its accountability to the GCF and other stakeholders.

The overall Project design and Project results framework were Satisfactory exhibiting clear linkages amongst activities, outputs, and outcomes, with a few shortcomings in indicators and budget estimations.

The project's Theory of Change (ToC): The Theory of Change (ToC) provides a sound and evidence-based strategic framework for the project. It clearly defines the problem statements, highlighting the acute vulnerability of agro-pastoralists and nomadic pastoralists, which is compounded by poverty and reliance on unsustainable rainfed systems. The ToC is supported by a barriers analysis at both national and local levels and a transparent articulation of the assumptions underpinning the change process. Its logical structure effectively links barriers to outputs, outcomes, and ultimate impact, and this is reinforced by a well-outlined narrative complemented by a schematic

presentation of the ToC pathways. The narrative also explicitly describes how women are to be targeted throughout the change process — through their involvement in leadership and decision-making, improved access to agricultural inputs and finance, and strengthened roles in household nutrition and resilience. This gender-responsive framing enhances the inclusivity of the ToC and positions women not only as beneficiaries but also as agents of change in building climate resilience at both household and community levels.

The ToC, while robust, could have been further strengthened by more explicitly articulating how field-level pilots were expected to inform policy development and strategic planning. Although the ToC presents clear links between barriers, outputs, and outcomes, it does not fully explain the mechanisms through which lessons from on-the-ground interventions — such as seed systems, rangeland rehabilitation, and water infrastructure — would be systematically captured, translated, and fed into national frameworks, regulations, and planning processes. This missing link leaves unclear how successful pilots at the community level would influence institutional change or guide national climate-resilient development strategies. Embedding a more explicit feedback loop between practical demonstrations and policy reform would have reinforced the ToC's transformational ambition, ensuring that local successes inform systemic shifts that outlast the project's lifecycle.

One of the key assumptions underpinning the project's ToC is that local communities will readily modify their practices in response to the introduction of climate-resilient technologies and approaches. While this assumption is plausible, it is not guaranteed; behavioral change is often complex, context-dependent, and influenced by cultural norms, economic incentives, and levels of awareness. Because behavioral change is a cornerstone of long-term sustainability, this assumption should be systematically tested and monitored throughout implementation. Tracking how communities adopt (or resist) new practices, and identifying the factors that enable or constrain uptake, would provide essential evidence for adaptive management.

The project budget appeared realistic at the time of formulation, with cost estimates aligned to market conditions and implementation needs. However, with the rapid currency devaluation and significant inflation that have characterized Sudan's economy since project inception, many of the original cost assumptions are no longer valid. This has particularly affected activities involving construction, procurement of materials, and logistics, where prices have escalated far beyond initial projections. As a result, some budget lines may now be insufficient to deliver the planned outputs at the intended scale or quality, even if funds remain available on paper. This situation underscores the need for a detailed budget review and flexibility in financial planning to adapt to macroeconomic volatility, ensuring that project delivery remains feasible despite the changing economic context.

c. Gender responsiveness of the design

The project design was informed by the PPG gender analysis and appropriately recognized that the impacts of climate change are not gender-neutral. Women and men, as well as boys and girls, have specific knowledge of managing natural resources and thus identify different measures to adapt to and cope with changes in their natural environment. In response, the project design integrated gender sensitive planning and implementation, particularly for women farmers and women-headed households. A gender analysis and action plan were prepared that identified five strategic components for mainstreaming gender into project activities including 1) support women-headed households, 2) promote household food security, 3) reduce women's workloads, and 4) introduce income-generating activities. Within each of the these gender mainstreaming strategic components, specific adaptation options have been identified that are expected to reduce household vulnerability to climate change while ensuring a key role for women in the implementation process.

The gender analysis is presented as an approach, of how the project aims to give gender considerations in the preparation, implementation and monitoring and evaluation. This gender approach is in line with the GCF Gender policy and in line with Sudan's National Women Empowerment Strategy 2007 (GCF, 2014; MSWWCA, 2007).

The project design also included the development of Gender Action Plan (GAP) aiming to increase women's access to, and benefits from, adaptation options (e.g. climate smart agriculture approaches, micro-financing). The GAP served as a tool to mainstream gender equality/women's empowerment issues throughout all relevant activities including training, Farmer Field Schools, village extension, and processes around rangeland management and water resources management. It will also incorporate women-focused activities including establishing tree nurseries and women's sustainable farms.

The GAP involved both quantitative and qualitative measures to be expected from project implementation including #/% of beneficiary households by sex of head of household and women's livelihoods strengthened (quantitatively could be measured by change in income generated over time). The M&E incorporates the indicators focused on disaggregated data and which analyses the gender-related impacts of the project.

In brief, the project design can be considered gender-responsive, as it adequately recognized and integrated gender issues relevant to the project scope. The design explicitly committed to ensuring women's participation in project activities, targeting at least 35% of beneficiaries to be women, and incorporated gender considerations into interventions such as seed distribution, women's farms, home gardens, farmer field schools, and water user committees. The accompanying Gender and Social Inclusion Plan further outlined measures to promote women's leadership, decision-making, and access to resources, while also linking gender outcomes to broader resilience objectives.

The implementation of gender mainstreaming strategy is assessed in section 3.6.

d. Assumptions and Risks

Risks were thoughtfully articulated in the project document, reflecting a logical and generally robust assessment at the time of design. The ProDoc identified 10 key risks that could potentially affect project implementation and the achievement of outcomes. These risks offered a comprehensive coverage across technical, economic, political, and programmatic dimensions, providing a broad framework for anticipating challenges.

Each identified risk was accompanied by clear assignment of risk ownership — primarily to the PMU for operational risks, and to UNDP/HCENR for systemic and higher-level risks — alongside a description of mitigation strategies. This structured approach demonstrated foresight in planning and provided a strong foundation for adaptive management. However, while the design of the risk framework was solid, the scale and severity of risks that later materialized (notably the conflict since 2023 and macroeconomic collapse) far exceeded the scenarios anticipated at design stage, underscoring the limits of even well-prepared risk assessments in fragile contexts.

Assumptions are clearly articulated in the PRF and ToC, forming a critical part of the project's foundation by identifying the conditions necessary for the successful achievement of outcomes. These assumptions address key factors that underpin the realization of the project's strategy, ensuring that risks are acknowledged and managed proactively. The ToC-related assumptions are generally assessed to be realistic, reflecting careful consideration during the project preparation phase.

e. Lessons from other relevant projects

The ProDoc explicitly referenced seed systems, women's farms, Farmer Field Schools, sandug microfinance, and the Climate Risk Finance project as tested interventions. These provided concrete lessons on local ownership,

women's empowerment, ICT use in climate services, and community financing mechanisms that were embedded into FP139's design.

The project was designed to build on lessons learned from earlier climate change adaptation initiatives in Sudan, including: (i) the GEF/LDCF-funded Climate Risk Finance for Sustainable and Climate Resilient Rain-fed Farming and Pastoral Systems, (ii) the CIDA-funded Implementing Priority Adaptation Measures to Build Resilience of Rainfed Farmer/Pastoral Communities, and (iii) the GEF/LDCF-funded Implementing NAPA Priority Interventions to Build Resilience in the Agriculture and Water Sectors to the Adverse Impacts of Climate Change in Sudan. These prior experiences provided important insights into the challenges and opportunities of implementing adaptation at scale in fragile, drought-prone ecosystems.

The current project complements these earlier interventions while advancing a more integrated approach to crop, water, and rangeland management. By addressing the recurring challenge of drought and explicitly linking the needs of both agro-pastoralist and nomadic pastoralist livelihoods, the project represents an evolution in adaptation programming in Sudan. Its holistic design seeks not only to reduce immediate vulnerabilities but also to create synergies between sectors, thereby enhancing long-term resilience and adaptive capacity across diverse livelihood systems.

f. Planned stakeholder participation

The project design included a comprehensive mapping of key stakeholders, outlining their mandates and roles in relation to project delivery. As part of this process, a Stakeholder Engagement Plan (SEP) was developed during formulation and annexed to the project document (Annex I). The SEP provided a structured framework for participation, identifying the relevant stakeholders for each activity, the engagement methods to be applied, and the objectives of each engagement.

This forward-looking design feature ensured that stakeholder engagement was not left to ad hoc arrangements but was instead embedded as a formal process within the project. By aligning specific stakeholders with activities and clarifying the purpose of engagement, the SEP was intended to support inclusivity, transparency, and ownership throughout the implementation cycle. However, the effectiveness of the SEP in practice depended on how consistently it was operationalized, especially given the disruptions caused by conflict and limited outreach in inaccessible states.

While the SEP does mention the private sector as a relevant stakeholder group, the engagement strategy outlined was underdeveloped and not substantiated with clear mechanisms for partnership. The SEP did not provide sufficient detail on how private actors could be engaged beyond service delivery, nor did it define roles for them in areas such as value chain development, financing, or scaling of climate-resilient practices. In practice, private sector engagement defaulted to procurement-based relationships — such as contracts for seed supply, vehicles, or construction services — rather than fostering sustainable partnerships. As a result, the transformative role envisioned for the private sector in supporting market development, innovation, and co-investment was not realized.

3.2 Relevance

a. Relevance to the needs of the beneficiaries

Based on the IE direct engagement with stakeholders, it is evident that the project remains highly relevant to the needs of its target groups, particularly rural communities. Interventions such as climate-resilient seeds, water infrastructure, rangeland rehabilitation, and community-based livelihood measures directly address the challenges these communities face in sustaining their livelihoods under conditions of climate stress. Stakeholders

consistently highlighted that these activities align closely with their immediate priorities for food security, access to water, and protection of natural resources.

However, the project's degree of relevance has increased substantially since the outbreak of war in April 2023, which has significantly deepened the vulnerability of rural populations. Conflict-driven displacement, resource scarcity, and demographic shifts have intensified pressures on already fragile ecosystems and livelihoods, making interventions that enhance resilience even more critical. In this changed context, project activities are not only relevant but urgently needed, as they help communities cope with overlapping risks from both climate change and conflict, while also fostering social cohesion in areas experiencing heightened competition over scarce resources.

b. Relevance to the National Determined Contribution (NDC)

The project is closely aligned with Sudan's Updated First Nationally Determined Contribution (NDC, 2021)[6], which prioritizes adaptation in the agriculture, water, and livestock sectors while strengthening institutional capacity for climate resilience. By introducing drought-tolerant seed varieties, promoting women-led farms, and supporting Farmer Field Schools, the project contributes directly to the NDC's emphasis on climate-resilient agriculture and improved food security. Similarly, the construction and rehabilitation of hafirs, sand dams, and water yards strengthen water resource management and efficiency, another core pillar of the NDC. Interventions in rangeland rehabilitation and pastoral field schools support the NDC's priority to build resilient livestock and rangeland systems, while targeted capacity-building for extension services and community-based organizations advances the institutional strengthening agenda embedded in the NDC.

Beyond technical measures, the project also contributes to the NDC's cross-cutting goals of empowering women and vulnerable groups by integrating gender-responsive approaches, such as Jubrakas (home gardens) and women's leadership in water management. It leverages climate-smart technologies developed by Sudan's Agricultural Research Corporation and promotes community-based governance, thereby strengthening the link between local adaptation action and national policymaking. Taken together, these actions represent a tangible operationalization of Sudan's NDC adaptation vision, particularly its commitments to enhancing resilience in dryland communities, safeguarding food and water security, and embedding climate change into development planning at multiple levels.

c. Relevance to the National Adaptation Plan

The project is strongly aligned with Sudan's National Adaptation Plan (NAP, 2016)[7], which prioritizes building resilience in agriculture, water resources, and rural livelihoods through decentralized, participatory, and integrated approaches. The NAP highlights the need for drought-tolerant crops, sustainable water harvesting, and rangeland rehabilitation—core elements that are directly embedded in the project. By distributing climate-resilient seed varieties, rehabilitating rangelands, and constructing hafirs, sand dams, and water yards, the project translates the NAP's strategic priorities into practical, on-the-ground interventions that strengthen the adaptive capacity of vulnerable agro-pastoral and nomadic communities.

Also, the project contributes to the NAP's emphasis on institutional capacity and inclusive governance. It strengthens extension services, farmer field schools, and village development committees, ensuring that local

[6] Sudan's Updated First Nationally Determined Contribution (NDC, 2021). Available here.

[7] Sudan National Adaptation plan 2016, Available here.

knowledge and community participation drive climate action. At the same time, it empowers women through Jubrakas (home gardens), leadership roles in water management, and access to microcredit, advancing the NAP's cross-cutting objectives on gender and social inclusion. In doing so, the project bridges the gap between high-level adaptation planning and tangible action, operationalizing the NAP's vision of climate-resilient, inclusive, and decentralized development in Sudan's dryland states.

d. Relevance to UNDP CPD

The BRCC project aligns strongly with Sudan's Country Programme Document (CPD) 2018–2021[8] in multiple ways. The CPD highlights four development priorities: (i) improving governance and rule of law, (ii) community stabilization, (iii) addressing vulnerability to climate change, and (iv) promoting equitable access to basic services. The project contributes most directly to the third priority—addressing vulnerability to climate change—by scaling up adaptation measures in agriculture and water sectors. Its focus on drought-resilient seed systems, water harvesting infrastructure (hafirs, sand dams, and water yards), and rangeland rehabilitation directly support the CPD's emphasis on improving productivity, increasing income, and strengthening resilience of rural communities to climate shocks.

The project also contributes to community stabilization and resilience-building, another CPD priority, by promoting inclusive livelihood opportunities, engaging women and youth through Farmer Field Schools and Jubrakas (home gardens), and fostering social cohesion around shared resource management. In addition, the project's institutional capacity-building for state-level ministries, extension services, and community-based governance structures reinforces the CPD's call for decentralized and participatory approaches to adaptation. Through its gender-responsive design, grievance mechanisms, and alignment with national frameworks such as the NAP and NDC, the project supports the CPD's cross-cutting goals of advancing gender equality, reducing vulnerability, and localizing the SDGs. In this way, FP139 serves as a flagship operationalization of the CPD's vision of sustainable development through climate-resilient livelihoods, inclusive governance, and strengthened institutional capacity.

e. Relevance to SDGs

The project contributes directly to several core SDGs by targeting food, water, land, and climate resilience in Sudan's dryland communities. It advances SDG 2 (Zero Hunger) through drought-resilient seeds, sustainable farming, and women-led home gardens that boost food security and nutrition. Through construction and rehabilitation of hafirs, sand dams, and water yards, the project supports SDG 6 (Clean Water and Sanitation) by improving access to safe water for people and livestock. By embedding climate-smart agriculture, water harvesting, and rangeland rehabilitation, it contributes to SDG 13 (Climate Action) and SDG 15 (Life on Land), tackling land degradation and promoting ecosystem restoration in drought-prone areas.

The project also generates strong cross-cutting benefits. It empowers women through Jubrakas, seed systems, and leadership roles in resource management, aligning with SDG 5 (Gender Equality). By diversifying livelihoods and strengthening resilience, it reduces rural poverty (SDG 1) and contributes to economic opportunities for smallholders (SDG 8). At the institutional level, capacity-building of extension services, village committees, and grievance systems enhances inclusive governance and conflict-sensitive natural resource management, supporting SDG 16 (Peace, Justice, and Strong Institutions). Finally, with its partnerships between UNDP,

[8] Sudan's Country Programme Document (CPD) 2018–2021 – available here

government institutions, ARC, and communities, the project advances SDG 17 (Partnerships for the Goals), ensuring collective action toward climate-resilient development.

3.3 Effectiveness

Effectiveness is the extent to which the project achieved, or is expected to achieve, its objectives and its results, including any differential results across groups. Therefore, this section focuses on the progress towards results.

Assessment element	Rating
Progress towards objective, expected outcomes and impacts	Moderately Unsatisfactory (MU)

a. Progress towards outcomes analysis

Overall, the project has been progressing in a **moderately unsatisfactory** manner toward the achievement of its objectives and planned outcomes, with the majority of targets currently off track. While important groundwork has been laid and several activities have generated tangible results on the ground, implementation challenges—including delays, limited institutional capacities, and the impacts of the ongoing conflict—have constrained the pace and scope of delivery. Despite these constraints, the project has made notable progress in reaching vulnerable populations. To date, it has directly benefited 876,754 people (49% women) through interventions such as the introduction of climate-resilient seeds, improved access to water resources, and livelihood support measures. In addition, approximately 1,877,033 people (50% women) have indirectly benefited through the spillover effects of project-supported activities, demonstration models, and community-level resilience practices. These figures represent a good outreach achievement, even as the project continues to struggle in meeting the majority of its targets.

The project's impact-level indicators show mixed progress, with notable advances in productivity but major gaps in resilience, water access, and institutional systems. Under livelihood resilience (A1.0), while targets envisioned hundreds of thousands of agro-pastoralists and nomadic pastoralists benefiting from diversified climate-resilient livelihoods, actual progress remains modest — only 1,160 farmers have so far accessed climate-resilient seeds through community-based distribution. Similarly, under food and water security (A2.0), no beneficiaries have yet reported year-round access to reliable and safe water supply.

At the institutional level, policy and coordination mechanisms (A5.0) have not advanced as planned; no regulatory systems or incentives for climate resilience have been finalized, and no formal coordination mechanisms between federal and state agencies have been established. Likewise, use of climate information (A6.0) remains at baseline, with no uptake recorded among beneficiaries. By contrast, under adaptive capacity (A7.0), significant yield increases of 20%–100% have been reported across various crops, indicating strong results from climate-resilient seed and farming interventions. Overall, while there is progress in improving productivity and demonstrating adaptation benefits at the community level, systemic targets on water security, institutional frameworks, and climate information services remain largely unmet at mid-term.

Table 2: Status of core indicators and targets

Indicators	Baseline	Mid -term target	End target	Progress [9]

[9] Data reported by the project should be read in context of accuracy limitation, see M&E section for more details.

Adaptation Core Indicator 1 : Direct Beneficiaries of GCF funded project (Units: number of individuals and percentage %)	0	450,000 (35%) • 450,000 subsistence agro pastoralists (292,500 males and 157,500 females), • 112,500 nomadic pastoralists (73,125 males and 39,375 females)	945,230 945,230 subsistence agro pastoralists (614,400 males and 330,830 females) 8 (35%)	876,754 (49% female)
Adaptation Core Indicator 2: Indirect Beneficiaries of GCF funded project (Units: number of individuals and percentage %)	0	1.3 Million (35% women at least)	2.5 Million (35% women at least)	1,877,033 (%50 female)
Adaptation Core Indicator 3: Number of total beneficiaries relative to total population (Units: percentage %) a) Share of direct beneficiaries relative to total population (%) b) Share of female direct beneficiaries relative to total population (%) c) Share of indirect beneficiaries relative to total population (%) d) Share of female indirect beneficiaries relative to total population (%)	0 0 0 0	5% 1.6%	10% 3.4% 20.4% 7%	7% 4% 15% 8%

Table 3: Status of fund-level impact indicators and targets

Impact:	Indicators	Baseline	Mid -term target	End target	Progress

A1.0 Increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions	A1.1 Change in expected losses of lives and economic assets (US$) due to the impact of extreme climate-related disasters	0	NA	• Loss of lives directly due to extreme climatic events is zero •Economic assets are 10% to 25% greater than counterfactual case	No data
	A1.2 Number of males and females benefiting from the adoption of diversified, climate resilient livelihood options (including fisheries, agriculture, tourism, etc.	0	• 450,000 subsistence agro-pastoralists (292,500 males and 157,500 females), • 112,500 nomadic pastoralists (73,125 males and 39,375 females)	• 945,230 subsistence agro-pastoralists (614,400 males and 330,830 females) • 236,308 nomadic pastoralists (153,600 males and 82,707 females)	1,160 farmers received climate resilient seed varieties through community based seed distribution mechanism
A2.0 Increased resilience of health and well-being, and food and water security	A2.3 Number of males and females with year round access to reliable and safe water supply despite climate shocks and stresses	0	• 450,000 subsistence agro-pastoralists (292,500 males and 157,500 females), • 112,500 nomadic pastoralists (73,125 males and 39,375 females)	• 945,230 subsistence agro-pastoralists (614,400 males and 330,830 females) • 236,308 nomadic pastoralists (153,600 males and 82,707 females)	0
A5.0 Strengthened institutional and regulatory systems for climate-responsive planning and development	A5.1 Institutional and regulatory systems that improve incentives for climate resilience and their effective implementation	• Number of mechanisms: 0 • Outdated codes for water infrastructure and agricultural development that lack	• Number of mechanisms: 1 • National policies and regulations proposed and finalized for improving climate resilience incentives in	• Number of mechanisms: 2 • Effective implementation of finalized national policies and regulations for improving climate resilience incentives in	No regulatory systems / incentives for climate resilience finalised

		climate risk considerations	water and agriculture	water and agriculture	
	A5.2 Number and level of effective coordination mechanisms	No institutional mechanism in place to facilitate coordination of resilience-building measures between federal and state agencies	Institutional framework to facilitate coordination of resilience-building measures between federal and state agencies, proposed and finalized	The total number of coordination mechanisms between federal and state agencies established within formal regulations	No change
A6.0 Increased generation and use of climate information in decision-making	A6.2 Use of climate information products/services in decision-making in climate-sensitive sectors	No agro-pastoralist households in the targeted localities use climate information products or services in livelihood decisions	35% of the direct and indirect beneficiaries receive accurate and actionable information to respond to climate change and variability as a result of which all 35% report an improvement in crop yields of at least 20% relative to historical averages.	At least 75% of the direct and indirect beneficiaries receive accurate and actionable information to respond to climate change and variability as a result of which all 75% report an improvement in crop yields of at least 25% relative to historical averages	No change
A7.0 Strengthened adaptive capacity and reduced exposure to climate risks	A7.1 Use by vulnerable households, communities, businesses and public-sector services of Fund-supported tools instruments, strategies and activities to respond	No vulnerable agro-pastoralist households in the targeted localities use any fund-supported strategies to respond to climate change and variability	Farmer direct beneficiaries experience an increase in crop yields of at least 10% relative to average historical yields from agricultural interventions.	Farmer direct beneficiaries experience an increase in crop yields of at least 30% relative to average historical yields from agricultural interventions	Increase in productivity for various crops, which ranges from 20% to over 100% depending on the type of crop and location.

	to climate change and variability				

Under component 1, the project has already achieved/exceeded the crop yield target, with reported increases of 40–60% in sorghum and millet compared to the baseline of declining yields, surpassing even the end-of-project target of 40%. This suggests that improved seeds and farming practices are delivering measurable productivity benefits. Similarly, under GHG sequestration, the project estimated an annual sequestration of 2,052.51 Gg, based on rehabilitation of 4,312 hectares of rangeland — a significant step toward its long-term contribution to mitigation through improved land and forest management.

However, no perception surveys were carried out, meaning there is no data on whether agro-pastoralists or indirect beneficiaries perceive climate resilience measures positively or whether early adopters beyond project participants are emerging. Likewise, the women's microfinance indicator remains at baseline, as no microfinance arrangements were introduced so far.

The project achieved strong early outcomes in agricultural productivity and diversification, particularly through the introduction of drought-resilient seed varieties (Activity 1.1) and community-based sustainable farming practices (Activity 1.2). Certified seed distribution reached thousands of farmers, leading to substantial yield increases of 70–300% for sorghum and groundnuts, and even higher gains in some locations (up to 500%). The establishment of women-led home gardens and nurseries provided both food security and income opportunities, while tree plantations under Activity 1.4 contributed to environmental protection and created entry points for women's economic empowerment.

However, systemic and structural limitations reduced the scale and sustainability of these outcomes. Conflict and funding shortages disrupted implementation from 2023 onward, halting activities in Darfur and Khartoum and significantly reducing geographic coverage. Key design elements were also left unaddressed, such as microfinance schemes for seed access (1.1), wadi cultivation training and water management manuals (1.2), and technical guidelines and large-scale rehabilitation for rangelands (1.3). Shelterbelts and afforestation (1.4) showed strong progress in 2022–2023 but could not be sustained due to resource constraints.

Overall, while tangible biophysical results are emerging in crop yields and carbon sequestration, the softer institutional and behavioral change outcomes — including perception shifts, scaling through early adopters, financial, and scaling mechanisms and women's financial empowerment — remain unaddressed, leaving important aspects of resilience-building unrealized at mid-term.

Under component 2, at mid-term, progress on water-related outputs remains very limited despite their centrality to the project's resilience objectives. The indicator on water fetching time savings for women and girls shows no progress, as no water structures have been completed to date; baseline conditions of roughly 60 hours per month spent on water collection remain unchanged. Similarly, the target of expanding irrigated crop areas (5,500 ha at mid-term, 11,390 ha by project end) and reaching hundreds of thousands of people with improved water access has not been met — reported irrigated hectares remain at zero due to delays in constructing water yards, hafirs, and sand dams. Institutional and financial sustainability measures are also lagging. No microfinance arrangements (sandug schemes) were introduced to cover operation and maintenance (O&M) costs of water infrastructure, leaving the related perception indicators unmeasured and at baseline.

Activity 2.1 delivered some tangible results, including one solar-powered pumping system, the rehabilitation of 17 water yards and 11 hafirs, and feasibility studies for dozens more. However, the majority of planned construction (48 new water yards and 38 rehabilitations) was not realized, and no structured training for community-based operation and maintenance was conducted. Activity 2.2 (sand water-storage dams) did not progress beyond site identification and feasibility planning; no dams were constructed, no pumping units were installed, and no training took place, leaving this sub-activity entirely unfulfilled. Activity 2.3 (hafirs and ponds) similarly stalled at the feasibility study stage, with no new or rehabilitated hafirs delivered and no technical manuals or training produced.

Overall, Output 2 reflects a critical delivery gap in water infrastructure and water security outcomes. While technical groundwork was completed in 2021–2022, escalating costs, funding shortages, and the outbreak of war in 2023 halted implementation. The lack of construction, absence of operation and maintenance training, and failure to integrate community-level management mechanisms mean that none of the intended systemic outcomes on improved water access, irrigation potential, or resilience of vulnerable households were achieved by mid-term. This leaves Output 2 as the weakest-performing area of the project, and the lack of tangible infrastructure delivery and absence of microfinance mechanisms meant that none of the water-related output indicators show progress by mid-term

Under component 3, progress on capacity-building indicators has been positive, particularly in reaching farmers and pastoralists. Against a mid-term target of 2,500, the project has already trained 8,141 farmers and pastoralists, surpassing even the end-of-project target of 5,500. These trainings, delivered through farmer and pastoral field schools and community-based sessions, covered a wide range of climate-resilient practices, from improved cropping techniques and nursery management to rangeland and water management, with a strong gender balance reported in earlier years. For extension workers, progress is also notable though slightly behind mid-term expectations. A total of 658 extension workers have been trained, against a mid-term target of 800. While this is below target, it represents substantial progress compared to baseline, especially given disruptions from the 2023 conflict.

Output 3 has delivered results in training and awareness-raising, particularly at the farmer and pastoralist level. Activities 3.1 and 3.2 together reached thousands of beneficiaries, with over 8,100 farmers and pastoralists trained by 2022 (exceeding the end-of-project target of 5,500) and 658 extension officers trained, close to the mid-term target. Trainings covered a wide range of climate-resilient practices—microfinance, adaptation techniques, nursery establishment, food processing, rangeland management, and cooperative development—and pastoral field schools proved effective as a participatory model for knowledge transfer. Cooperative training led to the establishment of nine cooperatives, indicating early institutional outcomes that could support sustainability. A technical manual on climate adaptation packages was also developed and distributed in 2023, further strengthening knowledge resources.

However, gaps remain in institutional depth and continuity. The activity did not begin with a structured training needs assessment, limiting the tailoring of capacity-building to institutional requirements. Knowledge products such as technical guidelines and best practices manuals were only partially completed, leaving limited institutional memory. Furthermore, no exchange visits between communities or extension staff were carried out, and funding shortages combined with the 2023 conflict stalled expansion of pastoral schools and community training.

3.4 Detailed analysis of progress towards outputs and activities.

Progress towards results is provided on below tables against the IE targets in the project PRF. Ratings and comments are provided in the following paragraphs. For these Tables, the "achievement rating" is color-coded according to the following colour coding scheme:

Green= MTR target is Achieved	Yellow= MTR target is mostly achieved	Red= MTR target not achieved/limited progress

b. 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

The project made steady progress during 2021 and 2022 despite operational challenges. In 2021, a total of 245 tons of certified seeds (including sorghum, millet, maize, groundnuts, sesame, cowpea, vegetables, and wheat) were procured and distributed across nine targeted states, reaching 14,023 farmers (48% women). Additionally, 1,272 women received seeds for *Jubrakas* (home gardens), while 526 farmers (218 women and 308 men) were engaged in seed multiplication farms with technical support from the ARC and project consultants. In 2022, seed distribution scaled up significantly, with over 331 tons of certified seeds delivered across the nine states. Notably, four states purchased an additional 128 tons of seeds from participating farmers, showing early signs of sustainability. The project also provided 50,000 hermetic bags to reduce post-harvest losses and distributed them across six states. Substantial yield improvements were reported: sorghum yields increased by over 500% in Kassala, while in West Darfur and West Kordofan, sorghum and groundnut yields rose between 77–120% compared to non-participant farmers, demonstrating strong impact of the improved seed packages.

From 2023 onward, conflict severely constrained distribution and geographic coverage. In 2023, only 138.5 tons of seeds procured in the previous year were distributed across six accessible states, reaching 9,119 farmers (41% women) and covering 70,680 hectares. However, activities in West Darfur, Central Darfur, and Khartoum states were halted due to insecurity following the outbreak of war in April 2023. In 2024, distribution was further reduced, with 33 tons of wheat and sorghum seeds reaching only 500 farmers in Northern, Kassala, and South Kordofan states, covering 120 hectares. While the earlier years demonstrated impressive productivity gains and widespread adoption, progress in later years highlights the vulnerability of seed distribution mechanisms to conflict-related disruptions, underscoring the importance of community-led systems and localized seed production for sustaining resilience.

The micro-financing schemes has not been initiated or developed. While the funding proposal envisioned micro-credit as a sustainability mechanism, implementation focused on seed distribution, multiplication, and storage, with no delivery of microfinance support linked to seed access.

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

The project has contributed to strengthening women's engagement in climate-resilient farming and promoting diversified production systems. In 2021, 25 women in Kassala State were each allocated 2 feddans for integrated sustainable farms and trained for three months through women farmer schools, while 60 women in South Kordofan joined group farms. The project also established 447 home gardens across West and South Kordofan

and East Darfur, and trained 50 farmers as village extension agents to expand outreach. In addition, 1,163 farmers in West Kordofan and Northern states participated in farmer schools, applying tailored technical training packages. By 2022, the number of home gardens expanded dramatically to 4,569 across 56 villages, producing vegetables and fruit trees such as lime, guava, and pomegranate. Central Darfur piloted an innovative home-based garden model for elderly and handicapped individuals. However, women's farms faced significant delays due to bureaucratic procedures for land registration, contract authorization, and payments, despite land being allocated and organized.

In 2023, the project reported strong gains in productivity from earlier interventions, with yield increases of 70–300% for sorghum and 70–77% for groundnuts, and broader adoption of technical packages. Farmer participation grew sharply from around 12,000 in 2021 to more than 65,000 by 2022. During 2023, 138.5 tons of certified seeds were distributed to 9,119 farmers (41% women), covering 70,680 hectares in six states. Additionally, 33 tree nurseries were established, producing 319,000 seedlings, with some women already generating income from seedling sales (e.g., 1,550 seedlings sold for SDG 155,000, ~US$200). Despite these gains, Activity 1.2 faced setbacks in 2024 when implementation was halted due to lack of funding, constraining the momentum built in previous years.

There has been no wadi-specific cultivation training and no dedicated manual or structured training package on water management for integrated farms/home gardens/wadis under this activity.

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

The project signed a Memorandum of Understanding (MoU) with the Ministry of Animal Resources in 2021, outlining a framework for rangeland and pasture rehabilitation across the nine targeted states. Following this, detailed action plans were prepared by the Range and Pasture Administration to guide implementation. By 2022, the project had made tangible progress, with rangeland surveys conducted in all nine states, the collection of 65.3 tons of range plant seeds, and the establishment of fire lines in Kassala (300 km) and Central Darfur (450 km). In addition, 26 rangeland enclosures were established across the nine states, providing important demonstration sites for sustainable rangeland management practices.

However, momentum was significantly disrupted in subsequent years due to conflict and financial constraints. In 2023, no deliverables were achieved as the war restricted access to project sites and limited operational capacity. This situation was further compounded in 2024, when the activity could not be carried out due to a lack of funding.

No technical guideline for climate adaptive rangeland management has been developed, and the project didn't commence rangeland rehabilitation of 2,000 ha degraded + 2,500 ha strategic rangelands.

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

The project recorded no progress in 2021 but advanced in 2022 with the establishment of shelterbelts in 38 villages across eight states, covering a total length of 2,246 km. Alongside this, 120 community forests were created in the same states, with a combined area of 38,552 feddans, strengthening communal natural resource management and protection against desertification. To support these initiatives, 25 forest nurseries were established, producing 107,933 seedlings for plantation and distribution, laying the groundwork for sustained tree-based interventions to protect cultivable land from dust storms and improve environmental resilience.

In 2023, the project established 33 tree nurseries producing 319,000 seedlings, and women's groups in some locations began generating income from the sale of tree seedlings, demonstrating early co-benefits for livelihoods. However, by 2024, the activity was halted due to lack of funding.

Table 4: Status of output 1 indicators and targets

Indicators:	Baseline	Mid -term target	End target	Progress towards outputs
Percentage increase in average annual crop yields	Annual crop yields or sorghum and millet in decline	20% increase in sorghum and millet crop yields	40% increase in sorghum and millet crop yields	40% to 60%. Variation in productivity is due to the variation in types of areas types of crops grown. Estimation of yield differences is carried out through surveys and crop cutting assessment,
Perception of effectiveness of climate resilience measures in agriculture and water	Poor perception among agro-pastoralists of the effectiveness of climate resilience measures that improve food/water security	A simple majority of people interviewed have favorable perception of resiliency benefits of project interventions	A two-thirds majority of people interviewed have favorable perception of resiliency benefits of project interventions	No interviews were carried
Percentage of early adopters among indirect beneficiaries	•Local populations unaware of potential benefits of interventions • No early adopters of climate resilient farming methods	• A simple majority of non-participating population has positive perception of project benefits • 10% non-participating population are early adopters of sustainable practices	• A two-thirds majority of non-participating population has positive perception of project benefits • 20% non-participating population are early adopters of sustainable practices	
• Number of women participating in sandug microfinance arrangements for agricultural inputs	• None to few women participating in microfinance arrangements for agricultural inputs	• Microfinance arrangements in place being actively accessed by at least 20% of women beneficiaries	• Robust microfinance arrangements in place being actively accessed by at least 50% of women beneficiaries	No micro-finance arrangements were carried period.
• GHG sequestration as a result of improved land and forest management	• Annual carbon storage in rangelands and afforested areas is in decline	• Up to an incremental 30,000 tCO2e sequestered by the middle of the project in rehabilitated	• Up to an incremental 90,000 tCO2e sequestered by the end of the project in rehabilitated	The project estimated annual GHG sequestration of 2,052.51 gigagrams (Gg). This estimate is based on the rehabilitation of 4,312 hectares (Ha) of rangeland.

	• No irrigated shelterbelts in project areas	rangelands, afforested areas and shelterbelts	rangelands, afforested areas and shelterbelts	An estimated sequestration factor of 0.476 Gg of carbon (C) per hectare for rangeland rehabilitation.

c. 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

It began in 2021 with the signing of an MoU between the project and the Ministry of Irrigation and Water Resources (MIRWR), which outlined the scope of activities, training, management arrangements, and sustainability measures for new water infrastructure. A Joint Technical Committee (TC) was established, comprising representatives from MIRWR, HCENR, and UNDP, which developed technical specifications for the water component. In parallel, UNDP initiated the procurement process for solar-powered water systems, a critical technology to ensure sustainable operation of communal facilities in the nine targeted states.

By 2022, implementation advanced with the installation of a solar-powered pumping system in Um Jawaseer (Northern State), feasibility studies for rehabilitating 38 of 49 identified water yards, and feasibility studies and drilling works for 19 new water yards. Contracts for the construction of 24 additional water yards were also under processing. In 2023, the project managed to rehabilitate 11 hafirs and 17 water yards and reassessed proposed water facilities in Kassala and Red Sea states. However, progress was disrupted by two major challenges: delayed funding, which prevented contractors from receiving first installment payments, and the outbreak of war in April 2023, which forced a halt to planned activities. By 2024, no further progress was achieved due to lack of funds, leaving a large portion of the originally planned 48 new water yards and 38 rehabilitations incomplete, despite early groundwork and technical preparation.

No structured training for community-level operation and maintenance of water yards was carried out so far.

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

The project faced delays from the outset and has not achieved tangible implementation results. No progress was made in 2021, and by 2022, rising costs of materials and construction in Sudan made the original budget allocations for water infrastructure unviable. In consultation with communities, project management was forced to reduce the number of planned water resources, with sand dams ranked among the lowest priorities despite their technical importance for groundwater storage and drought resilience. Nevertheless, the project identified 8–10 potential sites in Kassala, West Kordofan, and West and Central Darfur for feasibility studies, design, and potential construction or modification of existing natural sand dams to enhance water retention capacities.

Progress stalled completely in 2023 as the outbreak of war and lack of available funds halted all activities. Although four companies had been contracted to undertake water infrastructure works, no construction or modification of sand dams was initiated. By 2024, the activity remained on hold due to continued funding shortages and conflict-related disruptions. As a result, while sand dams were initially envisioned as a key intervention for climate-resilient water management, this activity has yet to move beyond planning stages, leaving a critical gap in the delivery of sustainable water storage solutions under the project.

In brief, this activity has not been achieve with no construction of sand water-storage dams in drought-prone area, accordingly no pumping units, and no training for operation and maintenance of sand water-storage dam and solar pump.

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

The project progressed initially with preparatory studies and assessments before implementation stalled. In 2021, detailed technical water assessments were undertaken in Kassala and Red Sea states in collaboration with the Ministry of Irrigation & Water Resources and state water corporations, alongside water pumping tests at two sites in Kassala and three in Northern State. By 2022, feasibility studies were completed for the rehabilitation of 14 hafirs across Kassala, Red Sea, South Kordofan, and West Kordofan states, and studies for 11 new hafirs were finalized and prepared for implementation. In addition, contracts were under processing with both private and government entities for further studies of 10 hafirs, setting the stage for construction.

Despite this groundwork, progress was halted from 2023 onwards. Although rehabilitation and construction activities were expected to begin, the eruption of civil war and lack of funds prevented implementation. Planned construction remained pending disbursement of GCF resources, leaving feasibility studies and contractual preparations unrealized. By 2024, no further work was undertaken due to continued funding shortfalls, meaning that while the technical foundation for expanding hafir infrastructure was laid, no tangible new or rehabilitated water storage facilities were delivered under this activity.

In brief, there is no rehabilitation of existing hafirs and construction of new hafirs (only feasibility studies were completed for 14 hafirs (rehabilitation) and 11 new hafirs). Also, no manual and technical guidelines for hafir construction was developed and maintenance and no training for hafir maintenance was provided.

Table 5: Status of output 2 indicators and targets

Indicators:	Baseline	Mid -term target	End target	Progress towards outputs
• Water fetching time savings for women and girls (% reduction in monthly time spent)	• Local communities with sharply constrained access to sustainable water supply • Large monthly time allotment for water fetching (i.e., 2 hours per day; roughly 60 hours per month)	• 25% reduction in the time spent in fetching water by women and young girls	• 50% reduction in the time spent in fetching water by women and young girls	No data Water structures were not established yet
• Hectares of irrigated crops	• No irrigated crop areas	• 5,500 arable hectares benefitting from small-scale irrigation • 180,000 people directly benefitting from	• 11,390 arable hectares benefitting from small-scale irrigation • 330,828 people directly benefitting from	0 Water structures are not yet completed

		new and affordable access to water	new and affordable access to water	
• Perception of women participants of effectiveness of sandug microfinance arrangements for meeting O&M expenses of water infrastructure	• None to few women participating in microfinance arrangements for meeting O&M expenses of water infrastructure have a favorable impression	• A simple majority of women surveyed have favorable perception of sandug microfinance arrangements for meeting O&M expenses of water infrastructure	• A two-thirds majority of women surveyed have favorable perception of sandug microfinance arrangements for meeting O&M expenses of water infrastructure	No data No micro-finance arrangements were carried period.

d. Output 3: Strengthened capacities and knowledge of institutions and communities on climate change resilience and adaptation)

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

The project made gradual progress after initial delays. Without starting with a structured training needs assessment for executing and concerned government agencies, in 2021, a contract was signed with the Sudanese Environment Conservation Society to deliver training of trainers (TOT) for state managers and extension officers, focusing on microfinance and adaptation, alongside the development of two manuals on climate-resilient best practices. However, implementation was delayed when HCENR re-advertised the tender due to low initial bidder turnout, and the selection process was only finalized in late 2021. In 2022, the activity gained momentum with the training of project managers, cooperative administrations, and extension experts from all nine states on cooperatives, microfinance, and adaptation to climate change. State-level community trainings on microfinance were conducted in seven states, complemented by training in monitoring and evaluation at both federal and state levels.

In 2023, capacity development efforts continued despite operational challenges. Extension officers and project managers were further trained on climate adaptation and microfinance, while pastoral field schools were introduced in three states to strengthen knowledge transfer at the community level. Cooperative training sessions were delivered in six states, with new cooperatives established in three of them, reinforcing local institutional capacity for resilience-building. However, progress stalled in 2024 due to a lack of funding, which prevented the continuation of training activities and the scaling up of promising models such as pastoral field schools. Overall, while the activity contributed to building a cadre of trained extension officers and strengthened cooperative structures, disruptions from delayed contracting, conflict, and funding gaps have limited continuity and reach.

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

The project advanced well in the early years, focusing on farmer and pastoralist training and community-level awareness. In 2021, agricultural extension officers and community members received training on basic agricultural technical packages and extension methods. Farmer field schools were established in seven out of nine targeted states, delivering six sessions each and training 763 farmers (62% women). In 2022, the activity scaled up significantly, reaching 7,891 trainees (47% women) across eight states. Trainings covered a wide range of practical adaptation measures, including rangeland seed collection and management, home garden techniques, food processing for women, cooperative development, wadi cultivation, and nursery establishment. Distribution and training on hermetic storage bags were conducted in five states in partnership with WFP.

In 2023, project managers and extension officers built on earlier capacity development by rolling out community-level training and awareness sessions on climate adaptation. Over 50 farmers were trained as village-level extension agents, and several farmer and pastoral field schools introduced technical training packages, with eight pastoral schools conducted across six states before the war disrupted activities. A manual of climate adaptation packages was developed and distributed to guide communities. Additionally, cooperative training workshops were conducted, leading to the formation of nine cooperatives across three states (four registered, five under registration). Despite these achievements, the outbreak of war in 2023 restricted coverage, and by 2024 the activity was suspended due to lack of funding. While early results show strong community engagement and gender balance in training, the interruptions have constrained the institutionalization and scaling of these resilience-building practices. There has been no exchange visits of communities and extension staff across localities.

Table 6: Status of output 3 indicators and targets

Indicators:	Baseline	Mid -term target	End target	Progress towards outputs
• Number of extension workers trained	• No extension workers equipped with knowledge of climate resilient practices	• Up to 800 extension workers trained	• Up to 1,750 extension workers trained	658
• Number of farmers and pastoralists trained	• No farmers or pastoralists equipped with knowledge of climate resilient practices	• 2,500 farmers and pastoralists in village extension networks and development committees trained	• 5,500 farmers and pastoralists in village extension networks and development committees trained	8,141
• Number of training workshops held	• No resilience-building training activities in place	• At least 10 training workshops held	• At least 25 training workshops held	No data

e. Remaining barriers to achieving the project objectives

In light of the limited progress and exceptional circumstances in Sudan, the key barriers to strengthen the resilience of agro-pastoralist and nomadic pastoralist communities in Sudan's dryland zones to the increasing frequency of drought, a vulnerability that is compounded by deep poverty and reliance upon traditional rainfed agricultural practices.

Despite the encouraging progress made in enhancing crop yields—where sorghum and millet productivity increased by 40–60% compared to baseline levels—Sudan's broader drought contingency planning framework remains weak and insufficient to safeguard long-term food security. The Strategic Reserve Authority (SRA), which is mandated to ensure adequate food reserves during times of drought and crisis, continues to face significant institutional and operational challenges. Its core functions—such as building and maintaining strategic reserves of essential commodities, systematically collecting and analyzing production data, estimating national consumption needs, identifying surpluses and deficits, and providing services based on cost recovery—remain underdeveloped and inconsistently applied.

Institutional capacities to address urgent climate adaptation needs in Sudan remain inadequate, particularly in relation to food security. Progress on policy and coordination mechanisms has lagged significantly behind expectations. To date, no regulatory frameworks or incentive schemes promoting climate-resilient practices have been finalized, and formal coordination mechanisms between federal and state institutions are still absent. This gap has constrained the ability of government agencies to translate project-supported interventions into systemic, sustainable change. The absence of effective governance structures is particularly critical given the growing vulnerability of agro-pastoralist and pastoralist communities to climate shocks. There is an urgent need to strengthen the interface between adaptation initiatives and national policymaking, ensuring that lessons from field-level interventions are reflected in laws, policies, and budgetary frameworks. Equally important is the development of policies that actively promote cooperation across sectors and levels of government, while also creating space for inclusive participation of local communities. Without such reforms, the institutional response remains fragmented, limiting Sudan's capacity to scale up climate-resilient practices and undermining the long-term sustainability of project achievements.

To date, the project has not delivered any major research activities, which has limited opportunities for generating evidence-based solutions to support climate-resilient agriculture. As a result, on-farm research involving active farmer participation remains minimal, despite its critical role in validating and adapting technologies under real field conditions. The lack of farmer-led trials and participatory research means that the potential benefits of community engagement—such as increased awareness, ownership, and personal investment of time and resources—have not been fully realized. This gap not only constrains the dissemination of improved practices but also undermines the project's ability to foster a strong feedback loop between research institutions, extension services, and local communities. Also, there is limited local information that can be used as the basis to establish climate change patterns, vulnerability, adaptive capacity, mitigation options and technologies that will ensure sustainable response systems and minimize impacts and risks associated with climate change.

So far, there has been no tangible progress in enhancing smallholders' access to finance and micro-finance institutions. As a result, rain-fed farmers and pastoralists continue to face very limited financial opportunities to invest in improved production practices. The lack of affordable and accessible credit restricts their ability to undertake essential measures such as land preparation, adoption of climate-resilient production techniques (e.g., rainwater harvesting, improved seed systems), and diversification of livelihoods. This financial gap has left many

vulnerable households—particularly single female-headed households—trapped in persistent cycles of poverty and food insecurity.

A persistent "silo" approach continues to characterize water management in Sudan, where interventions focus narrowly on water supply without adequate consideration of water demand across multiple sectors—including agriculture, households, and livestock. This fragmented approach prevents the development of holistic solutions that balance competing needs and optimize the use of scarce water resources. As a result, a key barrier remains the institutional reliance on linear, sector-specific management practices in project and policy development related to water supply and demand. This lack of integration undermines the potential for coordinated planning, exacerbates competition over resources, and heightens the risk of conflict, particularly in drought-prone areas.

A key barrier in agricultural production remains the socioeconomic limitations faced by agro-pastoralists, which restrict their ability to adjust farming and pastoralist practices in response to increasing climate risks. High input costs, lack of access to finance, and limited alternative livelihood options continue to prevent many households from adopting more resilient agricultural methods. The project sought to address this barrier by providing capital investments for water harvesting infrastructure at a very limited scale, supporting the introduction and dissemination of drought-tolerant and early-maturing seed varieties, and promoting the establishment of microcredit schemes to ease financial constraints. Together, these measures are intended to reduce vulnerability, improve productivity, and enable smallholders to gradually transition toward more climate-resilient production systems. However, progress in fully operationalizing these interventions—particularly access to microfinance—has been uneven, limiting the overall impact to date.

Traditionally, communal rangeland management practices in Sudan provided a sustainable basis for managing land resources, supporting local resilience and livelihoods. However, with increasingly erratic rainfall and recurrent droughts, these systems have steadily broken down, resulting in overgrazing, land degradation, and rising conflict over scarce resources. This has heightened the urgency of introducing new approaches to sustain rangelands and pastoralist livelihoods under changing climatic conditions. In response, the project has delivered notable results in training and awareness-raising, particularly among farmers and pastoralist communities. Trainings covered a diverse range of climate-resilient practices, including microfinance, adaptation techniques, nursery establishment, food processing, rangeland management, and cooperative development. The use of pastoral field schools proved especially effective as a participatory model for peer-to-peer learning and knowledge transfer. Nevertheless, while these interventions have built an important foundation, capacity building cannot be considered complete. It must be understood as an ongoing process requiring sustained support, continuous learning, and reinforcement to ensure that knowledge is translated into long-term behavioral change and institutionalized within local governance systems.

At the project operation front, the IE has found the following barriers that could influence the proper achievement of the project objectives have been identified throughout the detailed analysis of the documentation and stakeholders engagements:

- **Conflict and insecurity:** Conflict and insecurity have emerged as the single most disruptive factors for project implementation. Since the outbreak of war in April 2023, access to project sites—particularly in Darfur and Khartoum—has been severely restricted, and connection lost with project teams. The conflict has resulted in the destruction of project assets, including solar equipment and vehicles, and led to the suspension of most field-based activities, such as construction, seed distribution, and infrastructure development. Tragically, the conflict caused tragic death of one of the project team members. Planned replication and scaling up of successful practices, such as community seed systems, pastoral field schools,

and water infrastructure, have been brought to a halt due to prevailing insecurity. Currently, 6 out of the 9 target states are inaccessible, effectively paralyzing project operations in the majority of its intervention areas. As a consequence, donor funding has been frozen, and the project has been placed on hold since mid-2023. This situation not only threatens the achievement of planned outcomes but also puts at risk the sustainability of gains already made at the community level, as local demographic structures have significantly changed because of the IDPs movement.

- **High inflation and delayed disbursement of funds**: Many project activities—particularly under Output 2 on water security—have stalled due to a combination of funding shortages and delayed disbursements. Rising inflation and the sharp increase in the cost of construction materials rendered the original budgets unviable, especially for capital-intensive water infrastructure such as sand dams, hafirs, and solar-powered systems. As a result, the project was forced to scale back its ambitions, delivering fewer structures than originally planned and, in several cases, halting implementation altogether. These financial and procurement challenges have significantly undermined progress toward improving community water security, which is a cornerstone of the project's resilience-building strategy. The reduced scope of delivery not only limits the number of households that can directly benefit from reliable water access but also weakens the potential for scaling up successful models across states.
- **Procurement and administrative delays**: Slow contracting processes, lengthy approval procedures, and repeated re-advertisement of tenders have caused significant delays in the implementation of several project components. Key activities such as the establishment of women's farms under Output 1.2 and extension officer trainings under Output 3.1 were particularly affected. These administrative bottlenecks not only postponed delivery but also disrupted sequencing between activities, reducing overall efficiency and momentum. In addition, bureaucratic hurdles related to land registration and contract authorization further delayed the rollout of women's integrated farms. Although land had already been allocated for these initiatives, the absence of timely approvals stalled their development. Such procedural inefficiencies have constrained progress on critical gender-focused interventions, undermining one of the project's key pathways for promoting resilience and women's empowerment.
- **Geographic and logistical constraints:** The project has been implemented across multiple states, many of which are remote, insecure, and difficult to access, creating substantial logistical challenges. Long travel distances, poor road infrastructure, and heightened insecurity have complicated the delivery of inputs and services, limited the frequency of on-site monitoring, and raised the cost and complexity of operations. These constraints also reduced opportunities for regular stakeholder engagement and community consultations, which are critical for tailoring interventions to local needs and ensuring ownership. The combination of remoteness and insecurity has therefore not only slowed implementation but also weakened feedback loops between beneficiaries, local authorities, and the Project Management Unit, undermining the efficiency and inclusiveness of project delivery.
- **PMU dissolved/turnover**: Following the suspension of project activities due to the conflict, the national PMU was effectively dissolved, creating a significant management gap. To sustain a minimum level of oversight and coordination, the project was forced to restructure its management arrangements, reallocating responsibilities to available human resources based at the state level. These state-level staff have since been tasked with covering many of the duties previously handled by the national PMU. While this restructuring has allowed for some continuity, it has also weakened centralized coordination, technical backstopping, and strategic oversight. Also, the PMU lacked key expertise such as gender and

SES safeguarding. The absence of a fully functional national PMU has further complicated reporting, financial management, and cross-state harmonization, leaving implementation highly fragmented and dependent on local capacities that were not designed to carry the full weight of national-level functions.

- **The deterioration of the Sudanese currency** has posed a major challenge for project implementation. While the project funds are held in US dollars, which provides overall stability in terms of available resources, national procurement procedures require that tenders and contracts be issued in local currency (SDG). As a result, contractors signed agreements at a fixed SDG amount, but with the rapid depreciation of the local currency during implementation, the real value of these contracts declined significantly. This currency volatility created severe disincentives for contractors, as the payments received often no longer covered the actual costs of delivering the contracted works or services. In several cases, this made it difficult for contractors to pursue or finalize their assignments, leading to delays, stalled works, or in some cases the need to renegotiate contracts. The issue highlights the vulnerability of project delivery to macroeconomic instability and underscores the need for risk mitigation measures, such as flexible contract clauses or contingency budgeting, in contexts of high inflation and currency volatility. Also, there are two exchange rates exist: the black market rate (130%-150% higher) and the official rate. - UNDP funds are transferred at the official rate, making the budget insufficient for planned infrastructure costs.

3.5 Efficiency

Assessment element	Rating
Efficiency	Moderately Unsatisfactory (MU)

Efficiency is the extent to which the intervention delivers, or is likely to deliver, results in an economic and timely way. This section covers issues related to project implementation and adaptive management.

a. Management Arrangements

The project is being implemented following UNDP's National Implementation Modality (NIM), according to the Standard Basis Assistance Agreement between UNDP and the Government of Sudan and as policies and procedures outlined in the UNDP POPP, and in accordance to the Master Agreement between UNDP and the GCF.

UNDP is accountable to the GCF for the implementation of this project. This includes oversight of project execution to ensure that the project is being carried out in accordance with agreed standards and provisions. UNDP is responsible for delivering GCF project cycle management services comprising project approval and start-up, project supervision and oversight, and project completion and evaluation. The (national) Executing Entity for this project is The Higher Council for Environment and Natural Resources (HCENR), which is accountable to UNDP for managing the project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of resources made available by UNDP. UNDP, in agreement with the Government of Sudan, provides implementation support (support to NIM) and oversight through the UNDP country Office in Khartoum.

Based on feedback gathered from stakeholders during the Interim Evaluation, the implementation of the NIM, or UNDP's support to NIM, has proven highly challenging under the current conditions in Sudan, particularly in light of the ongoing conflict and political unrest. Stakeholders acknowledged that these circumstances have created significant barriers to timely delivery, coordination, and oversight particularly when it comes to working with states where war has broken. Nevertheless, they also emphasized that the project is better off continuing with the NIM modality, as it remains an important mechanism for strengthening the institutional capacities of the Sudanese Government to manage complex, large-scale projects. This approach also aligns with the government's

clear preference to continue with NIM as a means of reinforcing national ownership and building long-term systems for climate-resilient development.

The relationship between UNDP and HCNER has recently strengthened both strategically and technically, with directors of thematic directorates appointed as National Coordinators who actively guide the PMU on technical matters. This renewed government partnership would be expected to lead to stronger alignment, ownership, and smoother coordination at federal and state levels.

In the most recent Project Board meeting Dec 2024, members acknowledged the need to strengthen coordination between UNDP and the HCENR, given their joint responsibility for ensuring effective project delivery. However, while this recognition is important, the meeting minutes and decisions did not include any specific actions, mechanisms, or timelines to operationalize this commitment. In this context, it is important that UNDP's oversight and quality assurance role must be strengthened to ensure effective risk management and accountability. Two practical measures are suggested: (1) increasing the frequency of Project Board meetings from once annually to twice per year, thereby enabling more timely strategic decision-making; (2) introducing quarterly stocktaking reviews of activities and finances (including quarterly reporting), to provide regular updates, identify bottlenecks early, and enable proactive troubleshooting; and 3) commission an annual audit. Together, these measures would help strengthen adaptive management, improve transparency, and ensure that the project maintains momentum despite the complex operating environment.

Since the start of the project in 2021, the Project Board has been convened only four times — once in 2021, once in 2022, and twice in 2024 (May and December). Notably, no board meetings were held in 2020, 2023 or in 2025 up to the time of this evaluation which raises concerns about the approval status of the work plan and budget of these years. The irregular convening of the Board has created gaps in project oversight and strategic decision-making, particularly during a period of heightened challenges caused by the war, funding delays, and the restructuring of implementation arrangements. Given the scale of disruptions and the need for adaptive management, the limited frequency of Board meetings has constrained timely guidance, risk management, and accountability. More regular convening of the Project Board — at least twice annually — would allow for systematic review of progress, troubleshooting of implementation bottlenecks, and better alignment of resources with the evolving operating context. This would also strengthen the Board's role as a key governance and accountability mechanism, ensuring that critical decisions are made in a timely and coordinated manner.

The board played a consistent role in approving AWPs and budgets, addressing implementation challenges, and making adaptive decisions. Early years focused on technical planning, women's inclusion, and expanding activities. By 2022, political and administrative hurdles were dominant. The 2023 war shifted priorities entirely—halting work in most states, forcing budget revisions, PMU restructuring, and a narrowed geographic focus (3 states). From mid-2024, discussions centered on resuming activities, prioritizing water security, tightening procurement oversight, and preparing for GCF re-engagement.

At the operational level, the project established technical committees to engage stakeholders in the implementation of key components. For the agriculture component, multiple state-level technical committees were formed, which enabled stronger engagement with local stakeholders and facilitated more context-specific decision-making. In contrast, for the water component, the project established only one federal-level technical committee, which limited the extent of local participation. Stakeholders consulted during this IE highlighted that the centralized water technical committee has been less effective in driving engagement, accurately defining community needs, and guiding implementation compared to the decentralized agricultural committees. They emphasized that water management interventions, such as water yards and hafirs, require local-level decision-

making and technical input to ensure that interventions are relevant, feasible, and sustainable. As such, stakeholders strongly recommended that the water technical committee be decentralized to the state or locality level, mirroring the agriculture model, in order to involve the right actors on the ground and strengthen ownership, responsiveness, and implementation effectiveness.

The HCENR is the NDA and an executing entity of the project at the same time, while the GCF's Policies on Ethics and Conflicts of Interest neither reject nor endorse such an arrangement. However, to avoid any potential organizational conflict of interest that may arise when the strategic responsibilities of the HCENR may be at odds with the demands of its implementation responsibilities, an Organizational Conflict of Interest Mitigation Plan (OCIMP) has been developed to ensure impartiality and credibility in decision-making. Two main types of potential OCI were identified: (i) *impaired objectivity*, where HCENR might have to evaluate its own work, and (ii) *contractor judgment*, where its dual role could bias contractors' decisions. To mitigate these risks, the plan establishes an organizational firewall between HCENR's functions as EE and NDA, ensuring that while HCENR provides coordination and fund management, technical oversight is supported by the UNDP Country Office and implementation of activities is led at the state level by the Ministry of Agriculture.

Oversight of OCI provisions is entrusted to the Project Board, which is tasked with identifying, monitoring, and addressing OCI issues as they arise. The Board also has responsibility for updating the plan to reflect new risks, investigating any OCI concerns, and recommending mitigation measures. However, there is no documentation of OCI cases in the Board meeting minutes (2021–2024), it is recommended that OIC becomes a standing agenda item on the board meeting.

The Project Management Unit (PMU) has faced a number of major structural and operational challenges that have undermined its stability and effectiveness. First, the PMU was technically dissolved after the outbreak of the war, with state-level PMUs in six out of nine states also becoming inactive or dissolved due to inaccessibility. Second, the project has suffered from high turnover in the Project Manager position, with three managers recruited to date, disrupting continuity and institutional memory. Third, the role of the Chief Technical Advisor (CTA) — foreseen in the project design to provide strategic and technical guidance — has remained vacant, leaving a critical gap in technical leadership. Finally, the PMU lacks specialized expertise in gender and environmental and social safeguards, which has limited its ability to mainstream gender across activities or to systematically implement safeguards measures. These weaknesses in the PMU structure have had a direct effect on project performance, reducing the PMU's capacity to provide consistent leadership, ensure technical quality, and manage cross-cutting issues such as gender and safeguards. In a fragile and high-risk operating environment like Sudan, the absence of a stable, well-resourced, and technically equipped PMU has been a significant constraint to achieving project outcomes and ensuring accountability. In addition, there seems to have been some mismanagement of PMU as in the 4th Board Meeting (May 2024), the Secretary General of HCENR reported that the previous National Project Manager and accountant did not cooperate with HCENR, refusing to meet with the SG and leading her to request UNDP's support in appointing replacements.

The PMU now benefits from continuous on-the-job training provided by UNDP on both programmatic and operational aspects, enhancing staff knowledge and skills for effective delivery. Stakeholder engagement has also improved significantly across national, sub-national, and local levels, helping to rebuild trust and coordination networks that had been strained during the conflict. Importantly, even while activities were on hold, PMU staff maintained communication with beneficiaries, keeping communities engaged and informed, which will facilitate rapid re-mobilization of activities.

In light of these circumstances, and following the conflict assessment and the updated social and environmental safeguards review, there is a clear need to restructure the PMU to reflect the new operational reality. Such restructuring should ensure that the PMU is right-sized and geographically aligned with the states where implementation is still feasible, while maintaining adequate capacity for technical oversight, monitoring, and fiduciary management. The restructured PMU would also need to incorporate stronger technical guidance role (typically through activating the CTA role), gender and environmental and social safeguards.

Quality of UNDP implementation/oversight: UNDP Sudan has been responsible for the overall supervision and monitoring of the project and has been providing project assurance through the country office and the UNDP-GCF and through active participation in the project board. UNDP has provided direct project services through the 'support to NIM' modality.

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 has been primarily delivered through the participation in the Project Board and regular reporting.

According to the project document, as the Accredited Entity (AE) to the GCF, UNDP is mandated to provide GCF-specific oversight and quality assurance services, which include: (i) day-to-day oversight and supervision, (ii) oversight of project completion, and (iii) oversight of project reporting. To date, UNDP has been fulfilling parts of this mandate, particularly through its role in oversight of project reporting and by actively participating in Project Board meetings. The UNDP Regional Office also attempted to conduct an oversight mission to the project, though this was ultimately put on hold at the request of HCENR.

While these efforts demonstrate some level of compliance with its AE responsibilities, it is evident that UNDP's engagement in its oversight role needs to be strengthened and made more systematic. Regular and proactive oversight — including more frequent monitoring missions, stronger follow-up on Board decisions, and closer engagement with HCENR and other partners — is essential to ensure accountability, timely problem-solving, and quality delivery. In the current fragile and high-risk operating environment, more robust AE oversight would provide an added safeguard against delays, coordination challenges, and implementation bottlenecks, thereby helping to keep the project on track and aligned with GCF standards.

In terms of service provision, UNDP provided range of services including procurement and recruitment, however, in the Contingent Board Meeting (Dec 2024), HCENR stressed that procurement of project equipment is the sole right of HCENR, not UNDP, as per the project document. This is coming in response to UNDP initiating a large-scale procurement process (for solar systems) without formal request to do so by the implementing partner.

The UNDP has played an important role in facilitating the timely preparation and submission of APRs, which have generally provided adequate detail on project progress and challenges. However, the CO did not enforce compliance with UNDP POPP reporting requirements as stipulated in the project document, particularly the preparation of quarterly progress reports. These reports would have been especially valuable in the case of this project, given the scale of operational challenges, delays, and the complex risk environment in which implementation has taken place. In addition, the timing of this IE was significantly delayed and ultimately pushed toward the end of the revised deadline leaving insufficient time for the evaluation process to serve its intended purpose as a mid-course corrective and learning exercise. Together, these gaps in oversight that have weakened the project's ability to apply adaptive management.

The UNDP CO experienced a significant capacity gap in its support to the project due to the departure of key personnel who had been directly responsible for oversight and backstopping from the CO side. The sudden exit of

these staff members created a vacuum in institutional memory and leadership, which in turn weakened continuity in project supervision and affected coordination with the Executing Entity and other stakeholders.

The UNDP CO has been performing the role of monitoring the project financial transactions, focusing on delivery, meeting targets, and expenditure. In 2022, UNDP commissioned an independent audit of the project financial accounts. However, the project encountered several strategic-level obstacles that went beyond routine operational challenges and required the direct involvement of UNDP CO senior management. These issues often stemmed from differences in interpretation of roles and responsibilities, particularly between UNDP as the Accredited Entity and HCENR as the Executing Entity. In order to safeguard progress and ensure compliance with GCF and UNDP standards, the CO senior management needs to be more proactive and engage directly with HCENR's top management.

Quality of Implementing Partner Execution: The HCENR is the NDA and an executing entity of the project, who provides project management support for project implementation through its technical and administrative staff and systems. It is also be responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources. Also, the HCENR is responsible for: approving and signing the multiyear workplan; approving and signing the combined delivery report at the end of the year; and, signing the financial report or the funding authorization and certificate of expenditures.

HCENR is chaired by the Prime Minister and has a membership comprising of all ministries and national institutions related to environment and natural resources including Ministry of Agriculture and Natural Resources, Ministry of Water Resources and Irrigation, and Ministry of Animal Resources. Its membership also include CSOs, Research and academia. HCENR is the government coordinating body responsible for policies, legislations and strategic planning in relation to environmental and natural resources conservation and management and integration of environment into national development planning frameworks.

HCENR designated a National Project Director responsible for the overall direction, strategic guidance and timely delivery of the Project and, along with other responsible agencies, has demonstrated a high level of ownership over the activities and outcomes, effectively leveraging existing government structures to facilitate access to a broader range of stakeholders and beneficiaries.

HCNER has played an active role in stakeholder engagement at both the federal and state levels. This engagement has taken place through multiple mechanisms, including participation in technical committees, the Project Board, and a range of bilateral discussions with line ministries, state institutions, and implementing partners. HCENR's involvement has covered key aspects of project governance and implementation, such as the development of workplans, progress tracking, day-to-day coordination, and troubleshooting of operational issues. This hands-on role has helped maintain a degree of continuity and institutional ownership, even in the face of significant disruptions caused by conflict and funding delays. HCENR's convening power has been particularly important in sustaining dialogue across different actors and keeping the project aligned with national priorities.

HCENR has faced constraints in technical capacity, which have been compounded by a high rate of staff turnover, including within the PMU. The frequent loss and replacement of staff disrupted continuity, weakened institutional memory, and slowed the pace of implementation, as new personnel required time to become familiar with the project's complex requirements and operational modalities. These gaps have limited HCENR's ability to provide consistent technical backstopping, strategic direction, and effective oversight of project activities.

The HCENR has effectively leveraged existing government structures to support project implementation. This has included facilitating the PMU's access to key government agencies, thereby strengthening coordination and alignment with national institutions. In addition, HCENR has enabled the project to utilize government procurement and recruitment systems, which has helped streamline certain processes and embed project activities within established national procedures.

However, it remains essential for HCENR to strengthen its understanding that the project is fully under its ownership and stewardship, with the institution bearing complete accountability for results, delivery, and operational management. While UNDP, as the Accredited Entity, provides fiduciary oversight, technical backstopping, and ensures compliance with GCF standards, the ultimate responsibility for achieving outcomes and sustaining impact rests squarely with HCENR. This requires HCENR to not only lead day-to-day implementation but also to demonstrate proactive leadership in decision-making, coordination, and problem-solving. Building this sense of full accountability will help ensure that project interventions are nationally driven, well-integrated into government priorities, and sustained beyond the project's lifecycle, reinforcing national ownership as a core principle of GCF-financed initiatives.

While it is understandable that the war-induced crisis has created numerous competing priorities for national institutions, it is equally important that HCENR maintains the project's strategic focus on its core mandate of addressing climate change impacts. The conflict has undeniably strained institutional capacities and redirected attention toward urgent humanitarian and security concerns; however, climate change continues to act as a threat multiplier, exacerbating resource scarcity, displacement, and community vulnerability. By keeping the project centered on building resilience in agriculture, water, and rangeland systems, HCENR can ensure that climate adaptation efforts not only continue but also contribute to long-term stabilization, food security, and recovery in conflict-affected areas.

b. Work planning

The project document was formally signed at the end of September 2020, but implementation faced initial delays due to the late recruitment of the Project Management Unit (PMU). Most project personnel — including PMU staff and managers from the nine targeted states — were not onboarded until February 2021, which caused a slight delay in the commencement of project activities. By early 2021, however, the institutional architecture was put in place, with Technical Committees established at both central and state levels and becoming fully operational.

As part of the inception phase, the project also formalized key partnerships through the signing of Memoranda of Understanding (MoUs) with major national institutions, including the Agricultural Research Corporation (ARC), the Range and Pasture Administration (RPA), and the Ministry of Irrigation and Water Resources (MIWR). These agreements were intended to provide a framework for technical collaboration and coordination in delivering project outputs across seeds, rangelands, and water resources.

The recruitment of the Chief Technical Advisor (CTA) faced significant delays due to lengthy recruitment procedures and concerns regarding the quality of available candidates. As a result, the position was never filled as originally planned. To compensate for this gap, the Government opted to engage national experts to provide technical support in key areas of project implementation. While this arrangement ensured some level of continuity and localized expertise, it also meant that the project missed out on the strategic guidance, high-level technical backstopping, and international best practices that an experienced CTA could have brought to strengthen design, implementation, and adaptive management.

Project planning is primarily conducted through a consultative approach involving key institutions involved in the project implementation. The PMU leads the development of the annual work plan each year informed by the clear definition of activities and targets defined in the project document, strategically timed ahead of the budgeting process. Once the annual plan and budget are drafted, they are submitted to the project board for approval. However, there has been a highly impactful delay in the transfer of funds from UNDP to HCENR and subsequently from HCENR to the implementing agencies. This has been a major driver of implementation delays, particularly for time-sensitive activities such as seed distribution and planting, which must be carried out within specific agricultural seasons. When funds were not transferred in a timely manner, these seasonal windows were missed, resulting in activities either being postponed to the following season or not implemented at all. Such delays not only undermined the efficiency of project delivery but also reduced the effectiveness of interventions, as beneficiaries could not access seeds and inputs when most needed, and opportunities to maximize agricultural productivity were lost. In the context of a fragile and climate-sensitive environment like Sudan, where timing is critical for adaptation measures, ensuring timely fund disbursement and alignment with agricultural cycles is essential to achieving intended outcomes.

Given the ongoing war circumstances in Sudan, the GCF granted an 18-month no-cost extension for the project, moving the closing date from 28 September 2025 to 21 March 2027. While this extension provides much-needed additional time to address delays and adjust to the evolving context, there were issues in the way the decision was communicated. Although the GCF formally informed UNDP of the extension in April 2025, the information was only officially shared with the PMU in August 2025. Prior to that, the PMU received only verbal assurances, which created a period of unnecessary uncertainty regarding the project's future.

c. Finance and co-finance

The total budget of the project is USD 41,185,114 million, of which USD 25,645,114 million is GCF grant, USD 15 million is government co-financing and USD 0.54 million is UNDP co-financing.

To date, the project has spent USD 7,057,427 from GCF resources, which represents only 28% of the total GCF allocation. This reflects a relatively low financial delivery rate at the IE stage, well below what would typically be expected at mid-term. Financial delivery began modestly in 2021, with just 4% of GCF funds utilized, before gaining momentum in 2022 when expenditures reached 16% of the total allocation. However, in 2023, financial performance dropped sharply, marking the lowest delivery year; this decline directly correlates with the outbreak of war, which disrupted implementation across much of the country. Spending remained constrained in subsequent years, with only 5% of funds disbursed in 2024 and a further 3% in 2025[10], reflecting the fact that project implementation was largely on hold in six out of nine target states due to the conflict. This pattern highlights how severely the war environment has undermined financial execution, leaving a significant proportion of GCF resources underutilized. The low delivery rate poses risks not only for achieving planned outputs and outcomes but also for the project's ability to sustain momentum and justify any potential extension or reprogramming of funds in the future.

An analysis of expenditure by project outputs reveals an imbalanced financial delivery pattern. To date, 37% of resources allocated to Output 1 have been spent, compared to 17% for Output 2, 28% for Output 3, and a disproportionately high 71% for project management costs. Among the outputs, Output 1 shows the strongest financial performance, though much of this is heavily concentrated on Activity 1.1 (seeds), which has already consumed 69% of its allocation. This aligns with reported field-level results on seed distribution and yield

[10] Up to June 2025

improvements, but it also raises a red flag for potential overspending on seeds, especially given the high demand from communities and the risk of crowding out other resilience-building interventions such as women's farms and afforestation, which remain underfunded and lagging.

Output 2 is the weakest-performing area, with only 17% financial delivery. This reflects the fact that most of the planned water infrastructure construction (water yards, sand dams, and hafirs) did not move beyond feasibility studies due to conflict, cost escalation, and funding shortages. Output 3 shows modest but below-target financial performance, with training and awareness activities progressing but not at the scale envisaged. The most pressing concern, however, is the disproportionate consumption of management costs, which have already absorbed 71% of their allocation. If this trend continues, there is a real risk that the PMU will exhaust its budget before project closure, undermining its ability to deliver on technical outputs.

The observed imbalance in spending across outputs, combined with the likelihood of rescoping project activities to focus on states where implementation is still feasible, underscores the urgent need for an immediate budget revision. Such a revision should not only realign financial resources with the reduced geographic scope but also ensure that underfunded activities — such as women's farms, afforestation, and water infrastructure — receive adequate attention to deliver on outcome-level targets. Without corrective financial planning, there is a high risk that funds will continue to be disproportionately absorbed by certain activities (e.g., seed distribution) and by project management costs, leaving insufficient resources for technical outputs that are essential for long-term resilience. A structured budget revision would allow the project to rebalance allocations, strengthen efficiency, and safeguard delivery of results, while also adapting the financial plan to the realities of conflict-affected implementation.

The project also incurred a financial loss of approximately **USD 198,000 due to foreign exchange volatility**, an unbudgeted impact that further reduced the effective delivery of resources. This unanticipated currency fluctuation would weaken the purchasing power of project funds and constrained the scope of activities that could be implemented within the approved budget.

In terms of the project financial management and controls, UNDP has undertaken a financial audit for 2022 financial year, and the audit reported partially satisfactory rating of for the finance category. It highlights several key findings:

- Supporting documents not stamped "PAID" with fund and project code
- Poor record keeping with inaccurate, incomplete and up-to date set of financial files
- Inadequate oversight and monitoring over funds transferred to partner organisations
- Lack of segregation of duties relating to transactions. All the transactions were prepared, recorded and approved by the Finance Manager of the project.

Table 7: The project expenditures overview by activity

Activity	Budget (Prodoc_PIMS)	2021	2022	2023	2024	2025 (up to June)	Total (USD)	Balance	Exp. %
Act 1.1	2,960,212	658,555.63	1,004,966	0	20,206	369,229	2,052,957	907,255	69%
Act 1.2	3,451,000	0	608,952	0	0	0	608,952	2,842,048	18%
Act 1.3	790,000	0	300,684	0	0	0	300,684	489,316	38%
Act 1.4	1,925,000	0	450,126	0	0	0	450,126	1,474,874	23%
Total output 1	**9,126,212**	**658,556**	**2,364,728**	**0**	**20,206**	**369,229**	**3,412,719**	**5,713,493**	**37%**

Act 2.1	5,460,847	6,679	134,830	0	1,115,309	182,718	1,439,537	4,021,310	26%
Act 2.2	4,514,000	2,746	0	0	0	0	2,746	4,511,254	0%
Act 2.3	4,346,500	12,172	1,001,131	0	0	0	1,013,303	3,333,197	23%
Total output 2	**14,321,347**	**21,597**	**1,135,961**	**0**	**1,115,309**	**182,718**	**2,455,586**	**11,865,761**	**17%**
Act 3.1	901,610	36,785	132,983	0	60,302	22,190	252,259	649,351	28%
Act 3.2	422,500	46,216	76,535	0	0	0	122,751	299,749	29%
Total output 3	**1,324,110**	**83,000**	**209,518**	**0**	**60,302**	**22,190**	**375,010**	**949,100**	**28%**
Activity 4/PM	**873,445**	**211,717**	**259,065**	**21,034**	**0**	**124,033**	**615,850**	**257,595**	**71%**
FOREX Loss	0	56,196	142,066	0	0	0	198,263	-198,263	
Government Co-financing	15,000,000	2,314,400	2,770,815	757,300	672,973	0	6,515,488	8,484,512	43%
UNDP Co-financing	540,000	261,723	28,073	601	0	0	290,397	249,603	**54%**
GCF Total	**25,645,114**	**1,031,066**	**4,111,338**	**21,034**	**1,195,818**	**698,170**	**7,057,427**	**18,587,687**	**28%**
Total Co-financing	**15,540,000**	**2,576,123.14**	**2,798,888.12**	**757,901.00**	**672,972.71**	-	**6,805,884.97**	8,734,115	**44%**
Total	**41,185,114**	**3,607,189.41**	**6,910,226.23**	**778,935.42**	**1,868,790.71**	**698,170.48**	**13,863,312**	27,321,802	**34%**

Co-finance

The planned government co-financing of USD 25,645,114 is committed solely by the Federal Ministry of Agriculture and Forestry, with no other ministries contributing to date. According to HCENR, approximately 43% of this commitment has been delivered, as evidenced through official letters exchanged with UNDP. However, these letters do not provide an itemized breakdown of expenditures; instead, they offer only generic descriptions of how co-finance has been utilized.

Based on the information provided, government co-financing has primarily supported the Agricultural Research Corporation (ARC) and the Forest National Corporation (FNC) for technical assistance, consultancy services for water designs, and various administrative and logistical costs. The absence of detailed financial reporting limits transparency and makes it difficult to assess the exact scale and effectiveness of co-financing contributions. Strengthening the documentation and verification of co-finance — including itemized expenditure reports — will be critical for accountability and for demonstrating the government's ownership and sustained investment in climate resilience initiatives.

UNDP reported a total of USD 249,603 in co-financing (TRAC) out of the USD 540,000 originally committed, representing a 54% delivery rate on its pledged contribution. Notably, UNDP reallocated part of its co-financing budget: instead of financing an international CTA as originally planned, funds were redirected to support vehicle procurement, operations, and maintenance, as well as local staff support.

This adjustment was justified on two grounds: first, the prolonged delays in the recruitment of a CTA meant that the allocated resources could not be utilized as planned; and second, the project faced an urgent operational need for mobility and logistics support to access remote areas and deliver activities in Sudan's challenging field conditions. While this reallocation helped sustain implementation capacity on the ground, it also meant that the

project did not benefit from the higher-level strategic and technical guidance expected from an international CTA — a gap that may have limited the project's ability to address complex technical and design challenges.

d. Project-level monitoring and evaluation systems

M&E design

The M&E framework comprises standard M&E items for UNDP-GCF project such as the Inception Workshop (IW), GCF Annual Performance Report (APR), Independent Interim Evaluation, Terminal Evaluation (TE) and final report. Annex P includes detailed monitoring framework for the indictors defined in the PRF in terms of data sources, frequency of collection, responsibilities, means of verification and assumptions.

The overall design of M&E framework meets the standard M&E template for projects of this size and complexity. Overall, the IE team found the M&E design adequate for monitoring the project results and tracking the progress toward achieving the objectives. The M&E design is backed with adequate resources (a total of US$ 496,500 from GCF resources including USD$ 100,000 allocated for IE and TE evaluations, and it clearly defined roles and responsibilities.

M&E implementation

The activation of the project board/steering committee was delayed, with its first meeting taking place in May 2021, approximately 8 months after the project commenced. Since the start of the project in 2021, the Project Board has been convened only four times — once in 2021, once in 2022, and twice in 2024 (May and December). Notably, no board meetings were held in 2020, 2023 or in 2025 up to the time of this evaluation which raises concerns about the approval status of the work plan and budget of these years. The irregular convening of the Board has created gaps in project oversight and strategic decision-making, particularly during a period of heightened challenges caused by the war, funding delays, and the restructuring of implementation arrangements. Given the scale of disruptions and the need for adaptive management, the limited frequency of Board meetings has constrained timely guidance, risk management, and accountability.

The project held its inception workshop in December 2020, followed by a national induction workshop in March 2021, and subsequently convened similar workshops across all nine targeted states. Accordingly, an inception report was prepared to document the key outcomes of the project inception phase including progress updates and validation of the scope and M&E arrangements.

The timing of this IE has been significantly delayed compared to the original plan. According to the project document, the IE was initially scheduled to take place three years after project inception, meaning it was due in September 2023. However, the outbreak of war and the resulting insecurity made it impossible to carry out the evaluation at that time. A revised date of September 2024 was later agreed, but this was again postponed, with the IE now finally being conducted in August-September 2025. This prolonged delay meant that the evaluation was not conducted at the intended mid-point of the project cycle. Moreover, the IE was not planned with sufficient lead time and had to be compressed into a very short implementation window, which posed logistical challenges and limited the depth of evidence gathering and analysis. As a result, the timing of the IE represents a major limitation for this IE.

In terms of data collection and reporting, the project has relied heavily on field guides and local consultants as the primary source of information, including data on the number of beneficiaries reached, areas rehabilitated, and other key performance indicators. While this approach has ensured that some data continues to flow despite access challenges, it also raises concerns over data reliability and consistency. Apart from a few ad hoc monitoring

visits by PMU, there has been no systematic data validation process applied to verify the accuracy of reported figures. The absence of structured validation—such as independent spot-checks, triangulation with secondary data, or use of digital monitoring tools—limits confidence in the robustness of results reported.

When it comes to reporting beneficiary numbers, although the project document clearly defines the beneficiaries, however, it is possible that field officers have applied their own interpretations — in some cases counting the entire farmer household, while in others counting only the main farmer. These inconsistencies create discrepancies in beneficiary figures and make it difficult to ensure accurate and comparable aggregation of data across states and activities. The absence of a standardized beneficiary definition and calculation method undermines the reliability of reported results and may lead to either overestimation or underestimation of the project's actual reach. The reporting of indirect beneficiaries is based on rough estimates by field officers, often using assumptions such as village size, rather than a standardized methodology. As a result, these figures should be regarded as indicative only, rather than precise measurements of the project's wider reach.

The project has reported significant yield increases ranging from 20% to over 100% across different crops. While these figures suggest strong improvements in agricultural productivity, it is important to note that they are based on rough field estimates rather than systematic scientific measurements such as controlled trials, crop-cutting surveys, or statistically validated sampling. As such, the reported yield gains should be interpreted as indicative trends rather than precise outcomes. Without rigorous measurement methods, there is a risk of over- or under-estimating the actual productivity impact of the project's interventions, which limits the robustness of the evidence base for assessing results at outcome and impact levels.

There are obvious gaps in the collection of data on several key indicators defined in the PRF. For example, no data has been gathered to measure A1.1: Change in expected losses of lives and economic assets (US$) due to the impact of extreme climate-related disasters, which is central to assessing the project's contribution to resilience. Similarly, no progress has been reported against the indicator on water fetching time savings for women and girls (% reduction in monthly time spent), despite its importance for capturing gender-differentiated benefits. In addition, the indicator on women's perception of sandug microfinance arrangements for meeting O&M expenses of water infrastructure has not been measured, largely because such microfinance schemes were never established.

The project has collected gender-disaggregated data for its direct beneficiaries, particularly farmers directly engaged in project activities and participants in training sessions. This has allowed for clearer reporting on the participation of women and men in key interventions, demonstrating the project's commitment to gender-responsive monitoring. However, the collection of gender-disaggregated data has been more consistent for direct beneficiaries than for indirect ones, where estimates remain rough. Also, the project started recently disaggregating data by IDPs, which allows to measure the project contributions to the impacts of the war.

The project's M&E framework requires further strengthening to ensure credibility and consistency of reported results. While a results framework exists, it has not been fully operationalized into detailed M&E guidelines or standard operating procedures for data collection and reporting. Field officers, who are the main source of beneficiary and activity data, have not been provided with systematic training or tools to collect and validate data using consistent methods. As a result, reporting has often relied on rough estimates and varied interpretations across states, creating discrepancies in aggregated results. To address this, the M&E framework should be fully elaborated into a practical guidance package, accompanied by capacity-building and training for field officers. This would establish a standardized approach to indicator measurement, beneficiary counting, and data validation, thereby improving the quality, comparability, and reliability of monitoring data across the project.

e. Reporting

The project has produced and submitted four Annual Performance Reports (APRs) covering the years 2021 through 2024, which provide a reasonable account of both progress achieved and challenges encountered. While the reports present useful narrative detail, they are not consistently backed by verifiable evidence, and in several cases the reported data appears to rely on rough estimates rather than systematically collected and methodologically validated figures (see above M&E section for details). This limited the reliability of the reports as tools for accurate performance tracking and evidence-based decision-making.

Also, it is noted that the project has not produced quarterly progress reports since its inception, despite this being a requirement under both UNDP's Programme and Operations Policies and Procedures (POPP) and the provisions of the project document. The absence of quarterly reporting has limited the project's ability to conduct regular performance tracking, adaptive management, and early troubleshooting of implementation bottlenecks. This reporting gap is particularly concerning given the project's fragile operating context, the onset of conflict, and delays in delivery, all of which would have required more frequent oversight and corrective actions.

f. Stakeholder engagement

The project has been developed based on multi-stakeholder discussions and participation of a wide range of stakeholder groups. Under the leadership of the Government of Sudan, climate change related issues and solutions were identified, and they were presented for stakeholder discussions, inputs and endorsement in West and South Kordofan, Kassala and the Red Sea, Northern, West, Central and East Darfur regions.

In the early years of the project (2021–2022), stakeholder engagement was concentrated mainly at the federal level, with partnerships and MoUs established with central institutions such as ARC, and FNC. While this secured high-level institutional buy-in, it created gaps in subnational participation. According to the minutes of the 2022 Project Board meeting, state authorities expressed concerns that they had not been adequately consulted and emphasized the need for stronger involvement of state-level institutions, universities, and research centers in project planning and implementation. Early stakeholder engagement was also constrained by COVID-19 restrictions, which limited in-person consultations during the project's inception period.

The situation deteriorated further following the outbreak of war in 2023, which disrupted nearly all field activities and made community-level engagement impossible in six out of nine states. As a result, meaningful consultations and participatory planning became confined to the relatively safer states of Northern, Kassala, and Red Sea, where limited activities continued. This narrowing of the engagement base reduced opportunities for broad ownership, localized decision-making, and community voice in shaping project interventions, undermining one of the key principles of resilience-building: inclusive participation.

The fact that the project was put on hold for extended periods due to the conflict and funding challenges significantly reduced the momentum of stakeholder engagement. Many partners experienced long gaps without communication or collaboration, which weakened institutional memory and continuity. During the IE engagement, some stakeholders even indicated that they were unable to recall specific activities they had been engaged in, reflecting both the low-profile nature of implementation and the limited visibility of project interventions in recent years.

To strengthen stakeholder engagement and coordination, the PMU established a number of technical committees both at the state level and for specific thematic activities. A notable example is the Joint Technical Committee, which brought together representatives from the Ministry of Irrigation and Water Resources (MIRWR), HCENR, and UNDP to guide the water component. This committee was tasked with developing the technical specifications

for water infrastructure, ensuring that design and procurement processes were aligned with both national standards and project objectives. These committees have proven to be effective platforms for collaboration, enabling technical dialogue, fostering inter-institutional coordination, and providing a structured mechanism for reviewing and validating project activities. Where they were active, they helped bridge gaps between federal and state actors and ensured that specialized expertise was integrated into implementation.

In addition to the work of technical committees, the PMU has also convened bilateral engagements with a range of stakeholders at both the federal and state levels. These meetings were used to monitor progress, address emerging challenges, and maintain dialogue with implementing partners and government counterparts. Such bilateral interactions provided a more flexible and responsive channel for coordination, particularly in cases where broader committee meetings or Project Board sessions were not feasible.

The project design envisaged private sector engagement as a central pillar for market development, particularly in expanding climate-resilient products and services and providing micro-finance to farmers and pastoralists. However, actual progress in this area has been minimal. To date, most interactions with the private sector have remained transactional, limited to procurement contracts for supplying seeds, vehicles, and construction services, rather than fostering long-term partnerships. Initial efforts — such as exploring investment fairs and piloting single-point service center models — did take place, but they did not evolve into sustainable collaborations or concrete investment opportunities. The broader vision of positioning the private sector as a partner in value chain development, marketing, and scaling up climate-resilient solutions has not materialized. Instead, private actors have largely remained service providers rather than co-investors or innovation partners. This shortfall has been further compounded by the conflict since 2023, which has significantly reduced private investment in rural areas due to insecurity and economic volatility. As a result, the project's contribution to developing climate-resilient markets and financing mechanisms remains underdeveloped, leaving an important component of the project's transformational ambition unfulfilled.

The project design envisioned strong engagement with farmer associations and cooperatives as a way to strengthen collective action in areas such as seed distribution, home gardens, and rangeland management. These structures were intended to serve as vehicles for sustainability, peer-to-peer learning, and scaling of climate-resilient practices beyond the life of the project. However, in practice, implementation has relied more heavily on government institutions as the main channel of engagement, with limited involvement of formal farmer organizations. Community seed systems, for example, were largely organized through direct engagement with community leaders rather than through cooperatives or farmer associations. While this approach allowed for practical delivery in the short term, it reduced the opportunity to institutionalize collective action and build the organizational capacity of farmer groups, which could have provided a stronger foundation for sustainability and replication of project benefits. Strengthening the role of farmer organizations remains a critical gap if the project's outcomes are to be fully sustained and scaled.

g. Communications

The project did not develop a structured communication strategy, either during the design stage or throughout implementation. As a result, public outreach activities were carried out in a largely ad hoc manner, without a clear framework to ensure that messages were strategically tailored to specific audiences or consistently aligned with project objectives. While some communication activities were undertaken — such as training workshops, awareness seminars, and dissemination of technical manuals — these were not part of a broader, coordinated communication plan. The absence of a communication strategy has limited the project's ability to systematically raise awareness, build visibility, and influence behavior change among different stakeholder groups. More

targeted and audience-specific messaging could have enhanced the uptake of climate-resilient practices, strengthened community ownership, and improved recognition of the project's achievements at both local and national levels. This gap highlights the importance of integrating a well-designed communication strategy as a core component of resilience-building projects.

Project communication and outreach were initially designed in a top-down format, with the PMU and implementing partners developing training workshops, manuals, and technical guidelines targeting extension officers, farmer groups, and local institutions. At the community level, community mobilisers implemented activities included village awareness seminars on climate risks, food security, and sustainable rangeland practices. The project also utilized farmer field schools and exchange visits as participatory knowledge-sharing platforms, allowing for peer-to-peer learning and the dissemination of good practices across localities.

However, the outbreak of war in 2023 severely disrupted communication channels with communities. With six out of nine states rendered inaccessible, structured consultations and community-level awareness activities largely collapsed. Only limited and ad-hoc contacts were maintained in the relatively safer states of Northern, Kassala, and Red Sea. In this environment, most communication shifted away from organized project-led outreach and instead relied on informal, survival-oriented mechanisms, such as farmer-to-farmer seed exchanges, to maintain continuity of some project benefits. This shift highlights both the fragility of formal communication structures in conflict contexts and the resilience of local networks in sustaining knowledge and practices when formal systems break down.

3.6 Gender equity

The project committed to mainstreaming gender by targeting a minimum of 35% women beneficiaries across all outputs. To date, it has surpassed this target, with 876,754 direct beneficiaries, of whom 49% are women. Women have actively participated in key interventions such as the introduction of climate-resilient seeds, improved access to water resources, and diversified livelihood support measures, demonstrating strong inclusion in resilience-building activities. Beyond direct participation, the project has also reached an estimated 1,877,033 indirect beneficiaries, with women representing around 50%. These indirect benefits have come largely through community-level spillover effects, including farmer-to-farmer seed distribution, adoption of climate-smart practices, and strengthened community resilience mechanisms.

Gender Action Plan (GAP) implementation: In terms of GAP implementation, progress is largely off track, with the exception of Activity 1.1 (seeds) where women's participation has been relatively strong. Under this activity, women represented 41% of beneficiaries in 2024 (4,233 women cumulatively), slightly exceeding the project's minimum gender target of 35%. This has been the only area where gender commitments have been meaningfully integrated.

Across all other outputs and activities, however, gender targets have not been met. Despite budgets being assigned, most planned GAP actions — including women's leadership roles in training, farmer field schools, and water user committees — remain unimplemented. Mainstreaming commitments, such as gender-responsive training and institutional participation, have not materialized, and by the end of 2024, most GAP indicators were rated "Red", reflecting a lack of progress. Gender mainstreaming in training materials, leadership development, and water interventions has not been operationalized.

In practice, Activities 1.2 through 3.2 stand at 0% achievement, signaling that the GAP has largely stalled and has not translated into tangible actions beyond seed-related interventions. This shortfall highlights a critical weakness in the project's gender mainstreaming strategy: while women's participation in seed distribution is encouraging,

the broader transformative objectives of the GAP remain unfulfilled. The limited delivery of the GAP runs in parallel with the overall level of progress in delivering project activities.

The GAP should be revised and updated once the Social and Environmental Safeguards (SES) assessment and the conflict sensitivity assessment are concluded. These assessments are expected to provide critical insights into how gender dynamics, vulnerabilities, and risks have shifted under the current conflict conditions in Sudan. Incorporating their findings and recommendations will ensure that the GAP is not only aligned with the original project objectives but also relevant to the changed context in which implementation now takes place. An updated GAP would help reposition gender mainstreaming as a practical and responsive tool, guiding interventions in areas where activities are still possible and adapting gender priorities to reflect new social, security, and livelihood realities. This process would also provide an opportunity to reallocate unused gender budgets more effectively, integrate context-specific gender actions across outputs, and strengthen accountability for gender outcomes during the remaining implementation period.

Key gender-related achievements included:

- 3,719 home gardens (Jubrakas) were established in seven states, benefiting 3,683 women and 33 men, with women constituting 99% of participants, as Jubrakas remain a key livelihood activity for women at the household level.
- Women also played a crucial role in seedling production for shelterbelts and community forests, in addition to seed collection efforts. Notably, women leveraged their social networks to sustain and, in some cases, even expand the benefits they received from the project in 2022 and 2023. This tangible impact highlights the critical role of women in preserving agricultural livelihoods amid conflict and underscores the strategic value of investing in women's empowerment and women-led economic initiatives as a pathway to long-term sustainability and resilience.
- Women-headed households sustained seed use and exchange during conflict, benefiting 1,160 additional people in 2024. Women also benefited from seed distribution (3,747) and home garden/Jubraka activities (3,686), though at a reduced scale due to limited resources.

Gender resources: In terms of gender resources, the project did not make effective use of the budgeted GAP allocations (often set at around USD 10,000 per activity). In most cases, these earmarked budgets were not visibly applied to planned gender actions. The absence of a dedicated gender expert further weakened the project's ability to systematically design, track, and advocate for gender-responsive interventions across outputs. At the Project Board meeting of May 11th, 2024, it was decided to re-allocate budgets and activities within the permitted 5% flexibility threshold. This adjustment aimed to adapt to state- and community-level specificities, with a renewed focus on women's farms, home gardens, rangelands, and afforestation as key entry points for enhancing women's participation. While this reallocation signaled some corrective action, the lack of consistent application of GAP funds and absence of specialized gender leadership has meant that gender mainstreaming has remained ad hoc rather than strategic.

Regarding gender-disaggregated data, the project has generally collected data in a gender-disaggregated manner particularly when it comes to beneficiaries lists, trainings and awareness and other engagement activities.

3.7 Social inclusion, LNOB and PwD

The ProDoc and the Gender & Social Inclusion Plan explicitly highlighted the principle of Leaving No One Behind (LNOB), recognizing that, beyond gender, other vulnerable groups such as youth, people living with disabilities (PwDs), and marginalized households should also be targeted in project interventions. Indicators were intended to be disaggregated not only by sex, but also by age and vulnerability status, to ensure that benefits reached those

most at risk. In practice, however, LNOB was largely treated as a guiding principle of inclusion rather than translated into specific activities or targeted interventions for youth or PwDs. No distinct programming was designed for these groups during implementation. Following the outbreak of war in 2023, the project did adapt by beginning to track internally displaced persons (IDPs) as an additional category of vulnerability, recognizing their heightened exposure to climate risks in the conflict context.

While the project has reported disaggregated data for gender and, more recently, for IDPs, there has been no disaggregation by youth or PwDs. This represents a gap in fulfilling the commitments outlined in the ProDoc and the Gender & Social Inclusion Plan, which called for indicators to be disaggregated by sex, age, and vulnerability status. The absence of youth- and disability-specific data makes it difficult to assess whether these groups — both recognized as particularly vulnerable to climate risks — have meaningfully benefited from project interventions.

3.8 Social and Environmental Standards (SES)

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 (SESP) which identified 4 risks and deemed an overall 'Moderate' Risk (World Bank/International Finance Corporation GCF Category B) project. As such, an Environmental and Social Management Framework (ESMF) has been prepared for the project. 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. Also, to provide for the potential for ethnic diversity an Indigenous Peoples Planning Framework has been prepared as part of the ESMF. 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. The ESMF noted that site specific environmental and social management plans (ESMPs) or site work instructions may be required to deal with specific issues.

The reporting of SES risks has been limited and somewhat superficial. While the APRs presented a picture of procedural compliance — highlighting the existence of monthly safeguard reports, grievance redress systems, consultations, and monitoring processes — they have not provided sufficient evidence on the actual implementation of mitigation measures. In particular, there is no reporting on whether the project systematically assessed the need for EIAs or developed and applied ESMPs for site-specific activities, such as water infrastructure and land rehabilitation. This gap indicates that safeguards have been treated primarily as a procedural requirement rather than a substantive risk management tool. Without clear evidence of mitigation actions on the ground, it is difficult to assess whether potential environmental and social risks were effectively addressed or whether safeguards contributed to reducing harm and strengthening community resilience. Strengthening SES reporting to capture both compliance processes and the implementation of mitigation measures is essential to ensure accountability and credibility in safeguards management. While compliance is claimed, substantive implementation is partial and mostly limited to reporting.

With the eruption of the war in mid-April 2023, project activities were suspended across most of the country. The ongoing conflict has dramatically altered the socio-environmental landscape, generating widespread displacement, intensifying competition over natural resources, and increasing vulnerabilities among affected populations — dynamics that continue to shift rapidly. In 2024, UNDP and HCENR, as the project's Implementing Partners, confirmed that adequate stability, safety, and accessibility had been restored in three states (Red Sea, Northern, and Kassala), and subsequently initiated a phased process of resuming activities in these areas.

GCF, UNDP, and HCENR recognized that these significant contextual changes mean that the project's existing SESP and ESMF are no longer fully valid and require substantive updates. In response, a new SES assessment and a conflict sensitivity assessment were initiated to capture the post-war realities and guide safe, inclusive, and conflict-sensitive implementation. However, these processes remain incomplete and currently on hold due to funding constraints, leaving a critical gap in the project's safeguards compliance and risk management. The urgency of completing the conflict sensitivity assessment and the updated SES safeguards assessment cannot be overstated. Both studies are essential to ensure that project activities are implemented in a way that is conflict-sensitive, socially inclusive, and environmentally responsible in the drastically changed context of Sudan. Without these updated assessments, there is a risk that resumed activities could unintentionally exacerbate local tensions, overlook new vulnerabilities, or fail to mitigate environmental and social risks. Given their importance, these studies require exceptional arrangements to be undertaken as soon as possible.

The project team structure does not include dedicated safeguards capacity or expertise. While safeguards responsibilities were embedded in broader project management functions, there was no staff member with explicit technical expertise in SES to oversee compliance, ensure quality assurance, and guide the implementation of mitigation measures. This structural gap has limited the project's ability to move beyond procedural compliance (e.g., reporting on consultations, monthly updates, and grievance systems) toward the systematic application of safeguards tools.

Grievance Redress Mechanism

Grievance Redress Mechanism (GRM) established at both state and federal levels. The HCENR instructed the nine project states to each appoint a grievance focal person, and also designated a national focal person at HCENR headquarters. Project Managers were directed to ensure that communities have access to the contact details of these focal persons. At state level, grievance focal points have been introduced to communities during awareness-raising and training sessions, where the GCF's grievance redress mechanism was also explained. In some cases, these focal points accompanied field visits to strengthen awareness of the grievance system. In line with UNDP's Accountability Mechanism—which is consistent with the GCF's Independent Redress Mechanism (IRM)—information on UNDP's corporate mechanisms, namely the Stakeholder Response Mechanism (SRM) and the Social and Environmental Compliance Unit (SECU), together with the project-level grievance redress system, has been made available to stakeholders since the project design and inception workshops. Information on the GCF IRM is also disseminated to all stakeholders. Annual reporting captures details on how grievance redress mechanisms are publicized, including during stakeholder engagement events, with records available in APRs.

To date, there is only one documented grievance case processed through the project's GRM. This case was raised by farmers in Central and West Darfur, who reported poor productivity of millet seeds distributed under the project. The grievance was formally received via the GRM focal points, and in response, the project contacted the seed company with a request to compensate the affected farmers. However, there is no evidence available to confirm whether the compensation was actually delivered or if the grievance case was properly closed.

3.9 Sustainability

Assessment element	
Institutional Framework and governance	Moderately Unlikely (MU)
Financial	Moderately Unlikely (MU)
Socio-political	Moderately Likely (ML)
Environmental	Moderately Likely (ML)
Overall Likelihood of Sustainability	Moderately Unlikely (MU)

Sustainability of the project is judged by the commitment of the project benefits to continue and replicate beyond the project completion date. At this point in the project cycle, it is premature to fully assess the sustainability of the project given the level of maturity of the project outcomes and benefits, however, the IE in this section identifies key risks to sustainability and explains how these risks may affect continuation of the project benefits after the project closes. The assessment covers institutional/governance risks, financial, socio-political, and environmental risks.

A. Institutional framework and governance risks to sustainability

Under Output 1, communities have demonstrated a strong sense of ownership over interventions such as communal rangelands, seed distribution systems, multi-purpose tree nurseries, and shelterbelts established to protect cultivable plots from dust storms. These activities are perceived as directly linked to their livelihoods and food security, which has reinforced community buy-in and participation. The relevance of these interventions has further increased in the aftermath of the war, as the arrival of large numbers of IDPs has added pressure on already scarce natural resources. In this context, community-driven activities that secure access to seeds, rehabilitate rangelands, and provide protective vegetation buffers have become not only livelihood-enhancing but also conflict-sensitive resilience measures, reducing competition over resources and strengthening coping mechanisms.

The project has not yet advanced the water infrastructure component to the stage where operation and maintenance (O&M) could be meaningfully implemented. In most cases, this component has experienced significant delays and remains largely stuck at the procurement or preparatory stages. As a result, essential sustainability measures, such as the introduction of microfinance arrangements (sandug schemes) to support O&M costs, were never established. While the Government of Sudan has expressed renewed commitment to financing the O&M of all water storage infrastructure constructed under the project for the duration of their serviceable life, this pledge raises concerns about feasibility. The government's ability to deliver on this commitment will depend heavily on its financial stability and technical capacity, both of which are uncertain given the prevailing conflict and fiscal constraints. Without complementary mechanisms such as community-based financing schemes or strengthened local water management structures, the long-term sustainability of water infrastructure interventions remains uncertain.

The project needs to address O&M issues from the outset, rather than waiting until infrastructure is completed. Building sustainability into water interventions requires a strong focus on community-level ownership and capacity. This means ensuring that communities are not only engaged in the design and siting of water infrastructure but are also systematically trained in O&M practices from the beginning. Equipping local users with the technical skills, governance structures, and financing mechanisms to manage O&M will help reduce dependence on central government budgets, which are uncertain in the current context. Early and continuous investment in community training and awareness will also promote accountability, local ownership, and long-term functionality of water infrastructure, ensuring that the benefits of these investments endure well beyond the project's lifespan.

Capacity-building activities will be instrumental in ensuring the long-term sustainability of the project's hafir and water yard interventions across all target sites. Beyond the delivery of infrastructure, sustainability depends on equipping stakeholders with the skills and knowledge to manage and maintain these assets effectively. To this end, capacity-building efforts should include not only training workshops for extension workers but also tailored training for community water user groups to strengthen local ownership and O&M practices. In addition, the development of technical manuals and handbooks will provide lasting reference materials that can be integrated

into broader technical guidance toolkits used by extension services and local institutions. These resources will help institutionalize knowledge, promote consistent standards, and enable replication of best practices across states. When combined with community-level training, these initiatives will lay the foundation for a sustainable water management system, ensuring that investments in hafirs and water yards deliver long-term resilience benefits.

As capacity building is central to the project's sustainability strategy, the project invested in this area, albeit at a modest scale. Approximately 8,100 farmers and pastoralists had been trained — already surpassing the mid-term target — and 658 extension officers were trained, nearly reaching the expected benchmark. These trainings covered a broad spectrum of climate-resilient practices, including microfinance, adaptation techniques, nursery establishment, food processing, rangeland management, and cooperative development. The use of pastoral field schools in particular has proven effective as a participatory model for knowledge transfer and peer-to-peer learning. While these results represent important steps toward strengthening sustainability, it is critical to recognize that capacity building is not a one-off exercise but an ongoing process. Without refresher training, continuous mentoring, and institutional integration of the acquired skills, there is a risk that knowledge may not be retained or applied over time.

Based on the combination of the above factors, the institutional framework and governance sustainability is **rated Moderately Likely (ML).**

B. Financial sustainability

The micro-financing schemes envisioned in the funding proposal were never initiated or developed. While the proposal positioned micro-credit as a critical sustainability mechanism, particularly for ensuring farmers' continued access to seeds and inputs, actual implementation focused almost entirely on seed distribution, multiplication, and storage, with no delivery of microfinance support linked to agricultural inputs. This left a critical gap in the project's strategy for building financial resilience at the community level.

Similarly, for water infrastructure, O&M costs were expected to be covered primarily by local Water Management Committees, using revenue generated through water tariffs, complemented by government co-financing. Recognizing the risks of relying solely on this model, the project design included plans to establish microfinance arrangements (sandug schemes) as an additional safety net to support O&M. However, these schemes were never developed, leaving the sustainability of hafirs and water yards uncertain. Without functional microfinance mechanisms, there is a high risk that both agricultural and water-related interventions will face serious sustainability challenges once project support ends.

Based on the stakeholders feedback, the experience of sandugs in other projects has demonstrated the effectiveness of this practice in improving rural livelihoods. The prerequisite for an effective and dynamic sandug system is the presence of a cohesive community group, a prerequisite that is satisfied for the target communities which the project is yet to establish.

The Government of Sudan is facing a highly constrained fiscal environment, which has been further worsened by the ongoing conflict. Under these conditions, the government's capacity to allocate resources for large-scale climate resilience programming is extremely limited. As a result, the replication and scaling up of both agricultural and water-related interventions piloted under this project remain heavily dependent on external financing through international development partners and foreign-funded projects. This reliance on external funding poses risks and uncertainty to sustainability, as national ownership and financial commitments are unlikely to be sufficient to maintain or expand interventions without donor support. It underscores the importance of positioning this project as a demonstration model that can attract additional climate finance and donor

investment, while at the same time working to progressively build government capacity and fiscal space to assume greater responsibility over the long term.

Consequently, the IE rates the financial sustainability of the project as **Moderately Unlikely (MU).**

C. Socio-economic risks to sustainability

Conflict and insecurity have emerged as the single most disruptive factors affecting project implementation. Since the outbreak of war in April 2023, the project has faced severe setbacks, including the inability to maintain operations in most states, direct damage to project-supported assets, loss of connections with many field sites, and most tragically, the loss of PMU personnel. These impacts have not only disrupted delivery but also undermined institutional memory and community trust. The conflict has also caused massive internal displacement, reshaping the demographic profile of many target localities. Entire communities have been uprooted, and in some cases, the population of host areas has increased several-fold due to the influx of IDPs. For example, in Northern State, the population reportedly grew from around 1 million before the conflict to an estimated 5 million, according to an interviewee feedback. This dramatic demographic shift has placed enormous additional pressure on already scarce resources, further altering the context in which project interventions are meant to operate and making the resilience needs of communities more acute and complex.

With the profound impacts of the war, the risk of community conflict and competition over natural resources has significantly increased. The influx of IDPs, coupled with heightened pressure on land, water, and grazing areas, could create new tensions within and between communities. These risks are now an integral part of the project's operating environment and must be carefully managed to avoid exacerbating fragility. Going forward, such risks need to be explicitly integrated into project planning, implementation, and monitoring until the end of the project. This requires applying a conflict-sensitive lens to all activities, strengthening mechanisms for inclusive resource management, and ensuring that interventions are designed to reduce — rather than inadvertently increase — competition over scarce resources. By mainstreaming conflict sensitivity, the project can help safeguard social cohesion and enhance the resilience of both host communities and displaced populations.

Local communities have consistently demonstrated a strong willingness to participate in project activities and a clear sense of ownership over the outcomes. Their active engagement in interventions such as seed distribution, home gardens, rangeland enclosures, and shelterbelt establishment reflects the high relevance of these activities to their immediate livelihoods and long-term resilience. In several cases, community members have continued practices such as farmer-to-farmer seed exchange or management of communal nurseries even when formal project activities were disrupted, underscoring the potential for long-term impact if this willingness is further supported and institutionalized.

The socio-economic sustainability is rated **Moderately Unlikely (L).**

D. Environmental risks to sustainability

In principle, the project contributes positively to the environmental sustainability, the core of the project is to improve the resilience of rural communities to climate change through ecosystems-based adaptation principles to manage rangeland resources in an ecologically sustained manner sustainable manner. The project helps to restore the ecosystems and communities that are able to withstand economic and climate shocks through conserved ecosystem services, enhanced social capital and increased economic and livelihood security.

However, exposure to extreme climate events — such as prolonged droughts, floods, and dust storms — poses a significant sustainability risk to the project. These shocks can disrupt the implementation of adaptation measures, damage newly established infrastructure (e.g., water yards, hafirs, shelterbelts), and undermine gains made in

agricultural productivity and natural resource management. For example, delayed or failed rainy seasons could reduce the effectiveness of seed distribution, while flash floods may damage rangeland rehabilitation sites or water storage structures. This highlights the need for the project to adopt a stronger climate risk management approach, ensuring that adaptation measures are designed with adequate flexibility and resilience to withstand climate shocks. Integrating contingency planning, climate-informed monitoring, and robust community preparedness measures will be essential to safeguard results and ensure the long-term sustainability of project outcomes in Sudan's highly climate-vulnerable context.

Sudan has strict policies and regulatory guidelines governing the use of improved seeds. Before any seed variety can be distributed, it must undergo rigorous assessments to confirm compliance with national and international standards and to ensure that it does not pose potential social or environmental risks. These procedures are designed to safeguard farmers, ecosystems, and markets from the introduction of unsuitable or harmful varieties. In line with these requirements, the project has mitigated potential risks by utilizing only approved seed varieties, i.e., those that have already passed the national verification process. By adhering to this regulatory framework, the project has reduced the risk of introducing seed types that could cause environmental damage, social disruption, or legal non-compliance, thereby strengthening the safeguards dimension of its agricultural interventions.

All construction activities undertaken by the project — such as building or rehabilitating water yards, hafirs, and other infrastructure — inevitably generate environmental impacts, including air emissions (dust and machinery exhaust), noise pollution, and construction waste. While individually these impacts may appear minor, if uncontrolled or unmanaged, they can accumulate and pose environmental and social risks, particularly for nearby communities and fragile ecosystems. This underscores the importance of ensuring that all construction works are guided by ESMPs, with clear measures for dust suppression, noise control, proper waste handling and disposal, and occupational health and safety standards.

The environmental sustainability is rated **Moderately Likely (ML).**

Taking a composite view of the rankings for financial, socio – political, institutional as well as environmental sustainability probabilities, the overall likelihood of sustainability is ranked as Moderately Unlikely (MU).

4. Conclusions, Lessons Learned, Recommendations

4.1 Main Findings

Project design

1. The project design is both transformative and comprehensive, offering a well-integrated approach to strengthen the resilience and adaptive capacity of vulnerable agro-pastoralist and pastoralist communities in Sudan's drylands. The project interventions were intended to address maladaptive practices and help communities transition toward greater climate resilience through improved food and water security, enhanced livestock productivity, and strengthened governance systems.
2. However, the outbreak of war in 2023 fundamentally altered the project's baseline and operating context. These shifts necessitate a reassessment of the project's target population and benefit distribution to ensure interventions remain relevant, inclusive, and conflict-sensitive. At the same time, it is critical that any project adjustments remain anchored in the original mandate as a climate change adaptation initiative.

3. The PRF was well designed in terms of structure and alignment, containing 7 impact-level indicators and 11 output-level indicators covering agriculture, water, and capacity-building components. These indicators are generally consistent with the SMART criteria, providing a sound basis for results-based management. However, the PRF does not include annual targets, which leaves the project team without a clear year-to-year roadmap for implementation and sequencing. In addition, several baseline values were based on rough estimates or assumptions rather than empirical evidence.
4. The project's ToC is well-constructed and evidence-based, providing a clear and logical framework that links problem statements, barriers, outputs, outcomes, and long-term impact. However, the ToC could have been further strengthened by more explicitly articulating the feedback loop between field-level pilots and national policy reform, to ensure that local successes in seeds, rangelands, and water interventions systematically inform broader institutional and policy shifts. In addition, a key assumption of the ToC—that communities will readily adopt new climate-resilient practices—remains untested and potentially risky.
5. The project design was gender-responsive, informed by a PPG gender analysis and a dedicated GAP. It explicitly targeted at least 35% women beneficiaries and integrated gender considerations into key activities such as seed distribution, women's farms, home gardens, farmer field schools, and water user committees, while also incorporating sex-disaggregated indicators.

Project relevance

6. The project remains highly relevant to the needs of its target groups, particularly rural communities, as interventions such as climate-resilient seeds, water infrastructure, rangeland rehabilitation, and community-based livelihood measures directly address their priorities for food security, water access, and natural resource protection. This relevance has become even more pronounced since the outbreak of war in April 2023, which has exacerbated vulnerability through displacement, resource scarcity, and demographic shifts. In this context, project activities are not only relevant but urgently needed, as they strengthen resilience to overlapping risks from climate change and conflict while fostering social cohesion in areas facing heightened competition over scarce resources.
7. The project is highly relevant as it aligns with Sudan's NDC (2021) by advancing adaptation in agriculture, water, and livestock while strengthening institutional capacity; contributes to the NAP (2016) by operationalizing priorities such as drought-tolerant crops, water harvesting, and rangeland rehabilitation through participatory approaches; and supports the UNDP CPD (2018–2021) by addressing climate vulnerability, promoting inclusive livelihoods, and reinforcing decentralized governance.

Effectiveness

8. The project has progressed in a moderately unsatisfactory manner toward achieving its objectives and outcomes, with most targets off track despite notable groundwork and tangible results on the ground under output 1. To date, it has directly benefited 876,754 people (49% women) and indirectly reached 1,877,033 people (50% women) through seeds, water, and livelihood interventions, demonstrating good outreach achievements. However, progress against impact-level indicators is limited and it is falling short on systemic outcomes related to water security, institutional frameworks, and climate information services, leaving its broader resilience objectives only partially achieved at mid-term.

9. Component 1 has delivered important biophysical outcomes, with crop yields surpassing end-of-project targets—sorghum and millet yields increased by 40–60%, and in some areas sorghum and groundnut yields rose by 70–300% or more—demonstrating the effectiveness of drought-resilient seeds and improved farming practices. The project also rehabilitated 4,312 hectares of rangeland, generating an estimated 2,052.51 Gg of annual GHG sequestration, while women-led home gardens, nurseries, and tree plantations contributed to food security, income, and environmental benefits. However, important gaps remain: no perception surveys were conducted, microfinance schemes were not introduced, and activities such as wadi cultivation training, rangeland technical guidelines, and scaling of shelterbelts stalled due to funding shortages and conflict.

10. Component 2 shows critical underperformance, with no measurable progress on key indicators such as reduced water fetching time for women and girls, expanded irrigated areas, or improved household access to safe water. While some groundwork was completed—including feasibility studies, one solar-powered pump, and the rehabilitation of 17 water yards and 11 hafirs—the majority of planned construction of new water yards, sand dams, and hafirs was not realized, and no community training or microfinance schemes for operation and maintenance were introduced. As a result, none of the systemic outcomes related to water security, irrigation potential, or sustainable community management were achieved, leaving Component 2 as the weakest-performing area of the project at mid-term.

11. Component 3 has delivered results, particularly at the community level, with 8,141 farmers and pastoralists trained—well above the end-of-project target of 5,500—and 658 extension workers trained against a target of 800, despite conflict disruptions. Trainings through farmer and pastoral field schools covered diverse climate-resilient practices and led to the establishment of nine cooperatives, while a technical manual on adaptation packages provided additional knowledge resources. However, the component lacked a structured training needs assessment, produced only partial knowledge products, and could not implement planned exchange visits, limiting institutional depth and continuity. Overall, while this component has exceeded targets in outreach and generated tangible community benefits, institutional sustainability and knowledge management remain weak points.

12. Despite some progress, particularly in boosting sorghum and millet yields by 40–60%, the building resilience to climate change continues faces persistent barriers towards strengthening resilience in Sudan's dryland zones. Institutional capacities remain weak, with no finalized regulatory frameworks, incentives, or coordination mechanisms, while the Strategic Reserve Authority struggles to fulfill its mandate for food security. Research and data gaps undermine evidence-based adaptation, as no farmer-led trials or participatory studies were carried out. Access to finance is a major constraint, leaving farmers and especially women-headed households unable to invest in climate-resilient practices. Water management continues to follow a fragmented, supply-focused model that ignores competing sectoral demands, heightening risks of conflict. Socioeconomic barriers, coupled with the breakdown of traditional communal rangeland systems, further constrain adaptation. Although trainings and pastoral field schools have built a foundation for change, systemic reforms, integrated water management, sustained financing, and continuous capacity building are urgently needed to translate early results into long-term resilience.

13. The evaluation identified several critical operational barriers that have significantly constrained project delivery and threaten the achievement of outcomes. First, conflict and insecurity since April 2023 have been the most disruptive factors, rendering 6 of 9 target states inaccessible, destroying assets, halting fieldwork, and leading to the suspension of donor funding and dissolution of the national PMU. Second,

high inflation, currency depreciation, and delayed disbursements have severely undermined budgets, particularly for capital-intensive water infrastructure, forcing a reduction in scope and stalling implementation. Linked to this, the coexistence of two exchange rates (official and black market) created major financial gaps, with funds transferred at the official rate proving insufficient for infrastructure procurement.

14. Third, procurement and administrative delays—including slow contracting, repeated tender re-advertisements, and land registration hurdles—further slowed delivery, especially for gender-focused interventions such as women's farms. Fourth, geographic remoteness and logistical constraints raised operational costs, limited monitoring, and weakened feedback loops with communities, reducing efficiency and inclusiveness. Finally, the dissolution and turnover of the PMU, compounded by gaps in expertise (gender, safeguards), weakened centralized oversight, technical backstopping, and financial management, leaving fragmented and state-level-driven implementation.

15. Despite the severe setbacks caused by the war, the project is now positioned for a new phase of resilience and opportunity. The conflict has heightened its relevance by deepening rural vulnerabilities, making climate adaptation interventions more urgent. Strengthened partnerships between UNDP and HCNER, with thematic directors serving as National Coordinators, have improved alignment, ownership, and coordination. The PMU is now better equipped through continuous UNDP training, stronger stakeholder engagement, and sustained communication with beneficiaries, while UNDP field offices and reinforced technical teams stand ready to accelerate delivery. **These combined improvements place the project in a stronger position to restart and scale up implementation in response to the post-war reality and urgent community needs**.

Efficiency

16. The Project Board has played a consistent role in approving work plans, budgets, and addressing implementation challenges, its irregular convening and limited frequency have weakened governance and oversight. Also, there is a need to reinforce UNDP's oversight and quality assurance role through practical measures such as holding Project Board meetings at least twice annually, introducing quarterly stocktaking reviews with financial and activity reporting, and commissioning annual audits.

17. At the operational level, technical committees were established, but with mixed effectiveness: decentralized agricultural committees enhanced local engagement and decision-making, while the centralized federal-level water committee limited local participation, reducing relevance and ownership.

18. The PMU has faced serious structural and operational weaknesses that undermined its stability, leadership, and effectiveness. Following the outbreak of war, the PMU was technically dissolved, with state-level PMUs in six out of nine states also becoming inactive due to inaccessibility. High turnover in the Project Manager position—with three managers recruited to date—further disrupted continuity and eroded institutional memory. The absence of a Chief Technical Advisor (CTA), a key role foreseen in the design, left a critical gap in strategic and technical leadership, while the lack of dedicated expertise in gender and environmental and social safeguards limited the project's ability to mainstream gender or systematically apply safeguards.

19. In response to the significant disruptions caused by the war, the GCF approved an 18-month no-cost extension, shifting the closing date from September 2025 to March 2027. This extension provides critical time to recover delays and adapt to the evolving context.

20. To date, the project has spent only USD 7.06m (28%) of GCF funds, a low delivery rate well below mid-term expectations. After modest utilization in 2021 (4%) and a peak in 2022 (16%), spending fell sharply in 2023 with the outbreak of war and remained constrained in 2024–2025, as implementation was largely suspended in six of nine states. Financial performance across outputs is uneven: Output 1 shows the strongest delivery (37%), but mostly concentrated in seeds (Activity 1.1, already 69% spent), raising risks of overspending; Output 2 is weakest (17%), reflecting stalled water infrastructure; and Output 3 remains below target (28%). Most concerning, project management costs have already consumed 71% of their allocation, creating a risk that PMU resources will be depleted before project closure, undermining technical delivery and sustainability.

21. To date 43% of committed co-financing has reportedly been delivered according to HCENR. However, the evidence provided consists only of official letters with broad descriptions, lacking itemized expenditure details, which makes it difficult to assess the scale, use, and effectiveness of contributions. On the UNDP side, USD 249,603 (54%) of the pledged USD 540,000 has been delivered, with funds reallocated from financing an international CTA to vehicle procurement, operations, and local staff support, reflecting adjustments to address operational realities.

22. The project has produced four Annual Performance Reports (APRs) for 2021–2024, which provide reasonable narrative accounts of progress and challenges but are not consistently supported by verifiable evidence, with some data based on rough estimates rather than systematically collected and validated figures. Moreover, the project has not produced quarterly progress reports since inception, despite this being a requirement under both UNDP's POPP and the project document.

23. The project's data collection process is characterized with absence of standardized methodologies and systematic validation which undermine the credibility and accuracy of reported results. Beneficiary reporting has been inconsistent, with field officers variably counting whole households or only main farmers, and indirect beneficiary figures largely based on rough estimates of village size rather than standardized methods, making results indicative rather than precise. Similarly, reported crop yield increases of 20–100% reflect rough field estimates rather than scientifically validated measurements, limiting confidence in outcome-level results. On the positive side, the project has systematically collected gender-disaggregated data for direct beneficiaries and has recently begun disaggregating by IDPs, reflecting a growing commitment to gender-responsive and conflict-sensitive monitoring.

24. The project was developed through broad multi-stakeholder consultations across targeted states, securing high-level buy-in from federal institutions such as ARC and FNC. However, engagement was uneven: early years (2021–2022) focused largely at the federal level, leaving state authorities, universities, and research centers underrepresented, a gap worsened by COVID-19 restrictions. The situation further deteriorated after the 2023 war, which halted community-level participation in six of nine states, confining consultations to relatively safer areas (Northern, Kassala, Red Sea) and weakening ownership, localized decision-making, and visibility.

25. Key design ambitions for private sector engagement and farmer association involvement remain largely unfulfilled. Private sector roles have been confined to procurement rather than co-investment or value chain development, while farmer organizations were sidelined in favor of government-led delivery.

26. The project lacked a structured communication strategy, both at design and during implementation, resulting in ad hoc outreach activities that were not strategically tailored to audiences or consistently

aligned with project objectives. While some awareness-raising efforts were undertaken through workshops, manuals, seminars, farmer field schools, and exchange visits, these were fragmented and not embedded in a broader communication framework, limiting their effectiveness in driving behavior change, strengthening ownership, and building project visibility.

Gender mainstreaming

27. Implementation of the GAP is largely off track, with the notable exception of Activity 1.1 (seeds), where women's participation reached 41% of beneficiaries in 2024 (4,233 women), slightly exceeding the project's 35% gender target. Beyond this, most GAP commitments—such as women's leadership roles in training, farmer field schools, and water user committees—have not been realized, and by end-2024 the majority of GAP indicators were rated "Red." The project's gender resources were also underutilized, with GAP budgets rarely applied as planned and the absence of a dedicated gender expert weakening strategic integration.

Social and Environmental Standards

28. The project was screened under UNDP's SESP and classified as Moderate Risk (Category B), with an ESMF and an Indigenous Peoples Planning Framework developed to guide safeguards, alongside grievance redress mechanisms. However, safeguards implementation has been largely procedural rather than substantive. While APRs report compliance through consultations, monthly updates, and grievance systems, they provide little evidence of actual mitigation measures on the ground, such as site-specific ESMPs for water and land rehabilitation activities.

29. The outbreak of war in 2023 further altered the socio-environmental context, creating new vulnerabilities, displacement, and conflict over resources, rendering the original SESP and ESMF outdated. Although UNDP and HCENR initiated updated SES and conflict sensitivity assessments, these remain incomplete due to funding constraints, leaving a critical safeguards gap that risks resumed activities exacerbating tensions or overlooking emerging risks.

30. The project established a multi-tiered GRM at both federal and state levels, with HCENR appointing grievance focal points in each of the nine project states and a national focal person at headquarters. Only one grievance case has been documented to date, filed by farmers in Central and West Darfur who reported poor productivity of millet seeds distributed under the project. While the grievance was formally received and the project contacted the seed company to arrange compensation, there is no evidence to confirm whether compensation was delivered or the case properly closed.

Sustainability

31. Communities have shown strong ownership of interventions directly linked to their livelihoods—such as communal rangelands, seed distribution systems, nurseries, and shelterbelts—perceiving them as critical for food security and resilience.

32. The water infrastructure component has stopped at preparatory stages, preventing progress on operation and maintenance (O&M). Planned sustainability measures such as microfinance-based sandug schemes were never established, and while the Government of Sudan pledged to finance O&M, this commitment is highly uncertain given ongoing conflict and fiscal constraints. Without complementary community-based financing mechanisms, training, and local water governance structures, the long-term sustainability of water investments remains at risk.

33. Capacity-building has been central to the project's sustainability strategy, however, capacity building has been delivered on a modest scale and risks being treated as a one-off exercise rather than a continuous process.
34. The project has faced major gaps in establishing the microfinance mechanisms envisioned in its design, leaving sustainability at risk. Although micro-credit was positioned as a critical tool for ensuring farmers' continued access to seeds and inputs, implementation focused almost exclusively on seed distribution and storage, with no delivery of financial services. Similarly, the planned sandug schemes to support operation and maintenance (O&M) of water infrastructure were never developed, leaving hafirs and water yards dependent on water tariffs and government co-financing—an approach already recognized as risky. Sudan's current fiscal constraints and conflict-driven economic decline severely limit government capacity to sustain or scale interventions, making long-term success heavily reliant on external donor financing.
35. The project contributes positively to environmental sustainability by promoting ecosystem-based adaptation approaches that restore rangelands, conserve ecosystem services, and strengthen communities' ability to withstand climate and economic shocks. However, Sudan's high exposure to extreme climate events—droughts, floods, and dust storms—poses significant risks to the durability of project outcomes, as these shocks can damage water infrastructure, undermine rangeland rehabilitation, or reduce the effectiveness of seed distribution.

4.2Main conclusions

Design

- The project design is transformative and comprehensive, addressing maladaptive practices and supporting climate resilience through integrated interventions in food security, water, livestock, and governance.
- The 2023 war fundamentally altered the operating context, requiring a reassessment of target populations and benefit distribution, while ensuring adjustments, the project should remain anchored in the project's core climate adaptation mandate.
- The PRF is structurally sound and SMART-aligned but lacks annual targets and relies partly on rough baseline estimates, weakening its utility for year-to-year planning and accurate monitoring.
- The ToC is robust and evidence-based but would have been stronger with an explicit feedback loop from local pilots to policy reform, and its assumption of easy community adoption of new practices remains untested and risky.
- The project design was gender-responsive, with a Gender Action Plan (GAP), sex-disaggregated indicators, and a commitment to target at least 35% women beneficiaries, embedding gender considerations into seeds, farms, home gardens, and water governance activities.

Relevance

- The project is highly relevant to rural communities, addressing food security, water, rangeland, and livelihood needs—relevance heightened by the 2023 war, which increased vulnerability and competition over resources.
- It is strategically aligned with national frameworks, contributing to Sudan's NDC (2021), NAP (2016), and UNDP CPD (2018–2021) through adaptation in agriculture, water, rangelands, and inclusive governance

Effectiveness

- The project has progressed in a moderately unsatisfactory manner, reaching over 876,000 direct and 1.87 million indirect beneficiaries, but most impact-level targets remain off track, especially in water security, institutional frameworks, and climate information services.
- Component 1 achieved strong biophysical outcomes, with 40–60% yield increases (up to 300% in some cases), 4,312 ha of rangeland rehabilitated, and women-led home gardens boosting food security, but key gaps remain in microfinance, perception surveys, and scaling of practices.
- Component 2 critically underperformed: while feasibility studies and some rehabilitation (17 water yards, 11 hafirs, one solar pump) were done, no new infrastructure, training, or microfinance systems were delivered, leaving water security outcomes unmet.
- Component 3 exceeded outreach targets, training 8,141 farmers/pastoralists and 658 extension workers, and creating nine cooperatives, but lacked structured needs assessments, full knowledge products, and exchange visits.
- Conflict and insecurity since April 2023 have been the most disruptive barrier, making 6 of 9 states inaccessible, destroying assets, halting fieldwork, suspending donor funding, and dissolving the national PMU.
- Macroeconomic shocks—high inflation, currency depreciation, and delayed disbursements—undermined budgets, especially for water infrastructure, while dual exchange rates created financing gaps that stalled procurement.
- PMU instability and capacity gaps, with dissolution, turnover, and missing expertise in gender and safeguards, weakened oversight, technical backstopping, and financial management, leading to fragmented implementation.

Efficiency

- The Project Board has consistently approved work plans and budgets, but its irregular and infrequent meetings have weakened governance and oversight; stronger UNDP quality assurance is needed through biannual meetings, quarterly reviews, and annual audits.
- Technical committees showed mixed effectiveness: decentralized agricultural committees improved local engagement and decision-making, while the centralized water committee limited participation, reducing ownership and relevance.
- Financial delivery remains very low, with only USD 7.06m (28%) of GCF funds spent, far below mid-term expectations.
- Co-financing contributions show partial progress: HCENR reports 43% delivery but without itemized evidence, limiting accountability, while UNDP delivered 54% of its pledge, reallocating funds from an international CTA to operations and staff support.
- The project produced four APRs (2021–2024) with reasonable narrative accounts but lacking consistent evidence; no quarterly reports were issued despite UNDP POPP and project requirements.
- Data collection lacks standardization and validation, undermining accuracy: beneficiary counts vary, indirect figures rely on rough estimates, and yield increases are based on field impressions rather than scientific methods.
- A positive step is the systematic collection of gender-disaggregated data for direct beneficiaries and the recent inclusion of IDPs, showing progress toward gender-responsive and conflict-sensitive monitoring.
- Private sector engagement and farmer association involvement have fallen short of design ambitions, with the private sector limited to procurement roles and farmer organizations sidelined in favor of government-led delivery.

- The project lacked a structured communication strategy, relying on ad hoc outreach through workshops, manuals, and field schools; without a coordinated framework, efforts were fragmented, reducing effectiveness in behaviour change, ownership, and visibility.

Gender

- GAP implementation is largely off track, with women's participation exceeding targets only under Activity 1.1 (seeds, 41%).
- Most gender commitments—including women's leadership in trainings, farmer field schools, and water committees—remain unrealized, with the majority of GAP indicators rated "Red" by end-2024.
- Gender resources were underutilized, as GAP budgets were seldom applied and the absence of a dedicated gender expert weakened strategic integration.

SES

- The project was classified as Moderate Risk (Category B) under UNDP's SESP, with an ESMF and grievance mechanisms in place, but safeguards implementation has been largely procedural, with little evidence of site-specific mitigation such as ESMPs.
- The 2023 war rendered the original safeguards outdated, and while updated SES and conflict sensitivity assessments were initiated, they remain incomplete due to unavailability of the HCENR to accompany the team for field missions, leaving a critical safeguards gap and risk of exacerbating tensions.
- A multi-tiered GRM was established with focal points at federal and state levels, but only one grievance case (millet seed productivity) has been documented, and its resolution remains unverified, raising concerns about effectiveness and closure.

Sustainability

- Communities have demonstrated strong ownership of livelihood-linked interventions (rangelands, seed systems, nurseries, shelterbelts), reinforcing their relevance for food security and resilience.
- The water infrastructure component stalled at preparatory stages, with no O&M systems in place; planned sandug schemes were not established, and government pledges for O&M are uncertain amid conflict and fiscal stress.
- Capacity-building, while central to sustainability, has been delivered on a modest scale and risks being treated as a one-off exercise rather than a continuous process.
- Major gaps in microfinance mechanisms leave sustainability at risk: seed access and O&M of water infrastructure remain unsupported by micro-credit or sandug schemes, making interventions heavily dependent on donor financing given Sudan's fiscal crisis.
- The project contributes positively to environmental sustainability through ecosystem-based adaptation, but Sudan's high climate vulnerability (droughts, floods, dust storms) threatens the durability of these gains without stronger climate risk management.

4.3 Lessons Learned

- **Political instability is a critical risk to project operations and sustainability.** The project's implementation experience has shown that frequent ministerial changes, shifting institutional leadership, and, ultimately, the outbreak of the 2023 war had severe consequences for delivery. These disruptions led to the suspension of activities in six out of nine states, the dissolution of the Project Management Unit (PMU), the freezing of funds, and the loss of institutional continuity. While the project design included risk assessments and some resilience mechanisms, these were not sufficient to anticipate or effectively mitigate the scale of disruption caused by prolonged political instability and armed conflict. This highlights

that in fragile contexts such as Sudan, political and security risks must be treated as central design and implementation considerations, not peripheral ones. Projects of this scale require strong contingency planning, flexible management arrangements, and adaptive programming tools that allow for rapid restructuring of activities when access is lost or institutions are weakened. Furthermore, maintaining redundant communication channels, decentralized management structures, and scenario-based budget planning could help ensure continuity of operations and safeguard investments even in times of severe political upheaval.

- **Local-level ownership is critical, and project platforms need to be decentralized to the local level**. The project's experience has shown that interventions such as seed distribution, home gardens, rangeland enclosures, and tree nurseries generated strong ownership where communities were directly engaged. By contrast, overly centralized platforms and decision-making structures (e.g., the federal-level water technical committee) were less effective in capturing community needs, mobilizing local knowledge, or ensuring sustainability. This demonstrates that for resilience projects in fragile contexts, decentralization of project platforms and governance mechanisms is essential. Establishing and empowering state-level or locality-level committees allows for greater responsiveness to local priorities, enhances inclusivity, and creates stronger accountability to beneficiaries. Decentralized platforms also help safeguard continuity of operations during periods of national-level instability, ensuring that communities can sustain progress even when central institutions are disrupted. Embedding ownership at the local level is therefore a cornerstone of both effectiveness and long-term sustainability.
- **Gender mainstreaming requires more than numerical targets.** The project performed well in terms of participation rates, with women representing close to 50% of direct beneficiaries, surpassing the original target of 35%. However, the GAP remained largely unimplemented, with most activities either delayed or not initiated despite budget allocations. This demonstrates that achieving numerical representation alone does not equate to meaningful gender equity. True gender mainstreaming requires dedicated staffing, ring-fenced funding, and institutional support to ensure that gender objectives are systematically embedded across all outputs. Without a gender specialist in the PMU and without active use of the GAP budget, opportunities to promote women's leadership, strengthen their decision-making roles, and address structural inequalities were missed. The lesson is clear: gender-responsive design must be matched by gender-responsive implementation capacity, or else transformative change for women will remain limited to participation numbers rather than empowerment outcomes.
- **Safeguards must be embedded as part of adaptive management, not treated as procedural compliance**. While SES were mentioned in the APRs, there was little evidence of actual mitigation measures being implemented on the ground — such as ESMPs or EIAs for site-specific activities. This gap was compounded by the absence of dedicated safeguards capacity within the PMU, which limited the project's ability to move beyond reporting to meaningful application of safeguards. Furthermore, key safeguards processes such as updates to SES/ESMPs and the conflict sensitivity assessment were delayed, leaving the project without the tools it needed to navigate a rapidly changing risk environment. The 2023 conflict clearly demonstrated that safeguards are not just compliance requirements but are critical instruments for adaptive management, helping projects anticipate, mitigate, and respond to evolving risks. Future projects must ensure safeguards are fully integrated into design, staffing, and implementation, with timely updates and proactive use of assessments to guide decisions in fragile and high-risk contexts.
- **The size and composition of the PMU must be proportionate to the project's scale, with key functions such as gender and safeguards fully recognized**. This project demonstrated that while a PMU was established to manage operations across nine states, its composition lacked critical expertise in gender

and social inclusion as well as SES. These omissions limited the project's ability to implement the Gender Action Plan, systematically apply safeguards, and address cross-cutting priorities that are fundamental to climate resilience. The lesson is that PMU structures should not only reflect the operational scale of the project but also its thematic priorities. Functions such as gender, inclusion, and safeguards cannot be treated as secondary or optional; they must be integrated into the PMU through dedicated staff, clear responsibilities, and adequate budget allocations. Ensuring a well-balanced PMU with both technical and cross-cutting expertise is essential to deliver complex resilience projects effectively and sustainably.

- **Building strategic partnerships with the private sector requires clearer strategies.** Although the project design envisioned the private sector as a key partner in supporting market development, microfinance, and scaling of climate-resilient products and services, in practice engagement remained largely transactional. The private sector was engaged mainly as contractors — for supplying seeds, vehicles, or undertaking construction works — rather than as long-term partners in value chain development, financing, or market linkages. This experience shows that projects need to move beyond a procurement-based approach and instead develop structured engagement strategies that clarify incentives for private actors, outline partnership models, and define their role in supporting resilience. Strategic partnerships could include private sector investment in seed multiplication, development of local input and output markets, or co-financing of water infrastructure and services. Without such approaches, the private sector remains an underutilized actor, and the transformational potential of projects to catalyze climate-resilient markets remains unrealized.
- **A SMART PRF alone is not enough — detailed measurement guidelines are essential.** While the project's Project Results Framework (PRF) was generally well designed, with indicators that met the SMART criteria, its utility was undermined by the absence of detailed guidelines on measurement and reporting. Without clear protocols on how to calculate indicators, what data sources to use, and how to disaggregate results, reporting often relied on field officers' interpretations, leading to inconsistencies across states and outputs. This experience shows that a PRF must be supported by standardized indicator measurement tools and training to ensure consistency, accuracy, and comparability of data. Otherwise, even well-formulated indicators risk producing unreliable results, which weakens monitoring, evaluation, and accountability.

4.4 Recommendations

Below recommendations are focused on corrective actions in the second half of the project and forward-looking recommendations/lesson learned focussed on future programming:

#	IE Recommendation	Entity Responsible	Priority	Timeframe
1	**Urgently expedite critical assessments on conflict sensitivity and social and environmental risks**. It is recommended that the project urgently fast-track the implementation of two key studies: (i) a Conflict Sensitivity Assessment, and (ii) an Assessment of Social and Environmental Risks. These studies are essential for ensuring that project activities are not only technically sound but also responsive to the profoundly altered realities on the ground caused by the ongoing war in Sudan. The conflict has resulted in large-scale displacement, increased competition over natural resources, demographic shifts, and heightened social vulnerabilities. Without updated assessments, there is a serious risk that project	HCNER/PMU	High	Sep-Oct 2025

	interventions may unintentionally exacerbate tensions, overlook newly emerging risks, or fail to adequately protect vulnerable groups. By completing these assessments without further delay, the project will be able to revise and adapt its interventions to the current operating environment, safeguard against unintended harm, and strengthen the overall effectiveness and legitimacy of project delivery.			
2	**Reassess target population and distribution of benefits based on updated conflict and safeguards assessments**. Once the conflict sensitivity assessment and the updated Social and Environmental Safeguards (SES) assessment are completed, the project should undertake a comprehensive reassessment of its target population and distribution of benefits. The war has dramatically reshaped the demographic and socio-political landscape, with large-scale displacement, rapid population increases in some areas, and depopulation in others. Continuing to apply the original beneficiary targets without adjustment risks misalignment with the new realities on the ground. This reassessment should ensure that activities are still relevant to community needs, equitably delivered across groups (including IDPs, host communities, women, and youth), and responsive to the changing dynamics of vulnerability and resource competition. It is extremely important that this adjustment should be undertaken without altering the original scope of the project. The focus should remain on building resilience in rainfed agriculture, water systems, and pastoral livelihoods, but with improved targeting mechanisms and prioritization criteria to reflect the current realities. By doing so, the project can maintain fidelity to its approved design while ensuring its interventions are contextually relevant, conflict-sensitive, and inclusive, thereby safeguarding both the integrity of the project and its long-term impact.	HCNER/PMU	High	Nov-Dec 2026
3	**Ensure that any project adjustments after the SES update and conflict sensitivity assessments are not affecting the original project** scope. While acknowledging the findings of the updated Social and Environmental Safeguards (SES) and conflict sensitivity assessments, as well as the urgent humanitarian needs created by the war, the project should ensure that any adjustments remain firmly focused on its originally approved scope and objectives. Adaptations should be limited to refining targeting, strengthening inclusivity, and enhancing conflict-sensitive delivery, without diverting resources toward humanitarian response. This will safeguard the project's integrity, maintain alignment with GCF approval conditions, and ensure long-term climate resilience outcomes, while allowing humanitarian needs to be addressed through other dedicated programmes.	HCNER/PMU	High	Nov-Dec 2026

4	**Revise and update the Gender Action Plan (GAP) once the SES assessment and the conflict sensitivity assessment are concluded.** These assessments are expected to provide critical insights into how gender dynamics, vulnerabilities, and risks have shifted under the current conflict conditions in Sudan. Incorporating their findings and recommendations will ensure that the GAP is not only aligned with the original project objectives but also relevant to the changed context in which implementation now takes place. An updated GAP would help reposition gender mainstreaming as a practical and responsive tool, guiding interventions in areas where activities are still possible and adapting gender priorities to reflect new social, security, and livelihood realities. This process would also provide an opportunity to reallocate unused gender budgets more effectively, integrate context-specific gender actions across outputs, and strengthen accountability for gender outcomes during the remaining implementation period.	HCNER/PMU	Medium	Nov-Dec 2026
5	**Develop and implement a sustainability and replication strategy.** The project should shift its focus in the remaining implementation period toward sustainability and scalability, ensuring that the results achieved to date are not only protected but also leveraged for wider impact. This requires the development and implementation of a comprehensive exit strategy that clearly outlines how project interventions will be sustained by communities, government institutions, and partners once GCF funding ends. As part of this strategy, the project should prepare a Replication Atlas to systematically document successful practices, tools, and models — such as climate-resilient seed systems, home gardens, rangeland rehabilitation, and shelterbelts — and map out where and how these can be replicated. The strategy should also identify avenues for scaling, including integration into national policies and programs, partnerships with development partners, and opportunities for private sector engagement. By doing so, the project can maximize its long-term impact and serve as a catalyst for broader climate resilience efforts across Sudan.	HCNER/PMU	High	Q1 2026
6	**Expedite fund transfers to align with seasonal activity cycles.** The project should streamline and accelerate the transfer of funds from UNDP to HCENR, recognizing the seasonal nature of many project activities, particularly in agriculture and natural resource management. Delays in fund disbursement have already led to missed planting windows and lost opportunities to implement activities on time, undermining both efficiency and impact. To address this, the project should establish a fast-track mechanism for seasonal activities, ensuring that resources reach implementing partners in advance of critical windows for seed distribution, planting, and water infrastructure works. By aligning financial flows with the agricultural calendar and seasonal cycles, the project can significantly improve delivery, reduce the risk of wasted resources,	UNDP	Medium	ASAP

	and maximize benefits for communities that depend on timely interventions for their livelihoods.			
7	**Decentralize the water technical committee to the state level. The** current federal-level technical committee for the water component has proven less effective in guiding implementation, accurately defining needs, and ensuring stakeholder engagement compared to the decentralized agriculture technical committees. To strengthen ownership, responsiveness, and alignment with local priorities, the project should decentralize the water technical committee to the state level, ensuring that relevant state institutions, local water authorities, and community representatives are directly involved. Decentralized water committees would provide a platform for context-specific decision-making, improved coordination, and more effective oversight of water infrastructure such as hafirs, water yards, and sand dams. This structure would also facilitate closer monitoring, ensure that interventions reflect real community needs, and strengthen sustainability through localized participation in planning, operation, and maintenance.	HCNER/PMU	Medium	Q1 2026
8	**Restructure the PMU to reflect the new operational reality.** The PMU should be reorganized and right-sized to match the project's reduced geographic scope and operational context following the war. This restructuring should ensure that the PMU is geographically aligned with the states where implementation is still feasible (currently Northern, Kassala, and Red Sea) while retaining sufficient capacity for technical oversight, monitoring, fiduciary management, and stakeholder coordination. A strengthened PMU structure should also integrate specialized technical functions that were missing or underutilized in the original arrangement. This includes activating the CTA role to provide high-level technical guidance, embedding dedicated expertise in gender and social inclusion, and ensuring the presence of SES capacity. By doing so, the restructured PMU would be better positioned to deliver results in a fragile context, maintain compliance with GCF and UNDP standards, and safeguard the long-term sustainability of project interventions**.**	HCNER/UNDP	Medium	Q4 2025
9	**Develop detailed M&E guidelines and strengthen field-level data systems.** The project should develop comprehensive M&E guidelines or standard operating procedures (SOPs) that provide clear instructions on data collection, indicator measurement, reporting formats, and validation processes. These guidelines should define consistent methods for calculating indicators, outline data sources, and establish responsibilities at federal, state, and community levels. Given that field officers are the main source of beneficiary and activity data, they should be equipped with systematic training and user-friendly tools (e.g., standardized templates, digital data collection apps, or checklists) to ensure accuracy and comparability. This will reduce reliance on rough	HCNER/PMU	Medium	Q4 2025

	estimates, minimize discrepancies across states, and strengthen the credibility of reported results. Establishing routine data validation processes — such as spot checks, triangulation, and independent verification — would further enhance reliability. By institutionalizing these practices, the project will improve the quality of evidence available for decision-making, accountability, and adaptive management.			
10	**Strengthen project governance and reporting mechanisms.** To enhance oversight and adaptive management, the project should increase the frequency of Project Board meetings to every six months, rather than on an annual or ad hoc basis. More regular meetings will allow the Board to review progress, address bottlenecks, and provide timely strategic guidance, particularly given the volatile operating environment in Sudan. In parallel, the project should ensure full compliance with UNDP POPP reporting requirements, especially the preparation of quarterly progress reports in addition to the Annual Performance Reports (APRs). Quarterly reporting will enable closer performance tracking, early identification of risks, and more agile responses to challenges. Together, these measures will strengthen governance, transparency, and accountability, ensuring that both the Project Board and UNDP can provide effective oversight and maintain alignment with GCF requirements**.**	HCNER/UNDP	Medium	Q4 2025
11	**Develop and implement a structured communication strategy.** The project should design a comprehensive communication strategy to provide a clear framework for outreach, awareness, and knowledge-sharing. Such a strategy should ensure that all communication activities are strategically tailored to specific audiences — including government institutions, local communities, development partners, and the private sector — and that messages are consistently aligned with project objectives. A structured approach would help move beyond ad hoc communication and allow for more targeted, impactful messaging. It should define the purpose of communication for each stakeholder group (e.g., awareness-raising, behavior change, policy influence), identify appropriate channels (community radio, training manuals, social media, policy briefs, etc.), and establish feedback loops to strengthen two-way engagement. By adopting this framework, the project would enhance visibility, transparency, and ownership, while also supporting replication and scaling of successful practices.	HCNER/PMU	Low	Q1 2026
12	**Strengthen the capacity of the Project Management Unit (PMU) by providing systematic training and orientation for all personnel on UNDP and GCF rules, policies, and procedures, as well as on core project management principles such as Results-Based Management (RBM).** Strengthen the capacity of the Project Management Unit (PMU) by providing systematic training and orientation for all personnel on UNDP and GCF rules, policies, and	UNDP	Medium	Q4 2025 – Q1 2026

	procedures, as well as on core project management principles such as Results-Based Management (RBM). This should include dedicated sessions on financial and procurement guidelines, safeguards compliance, monitoring and evaluation standards, and reporting requirements under both UNDP's Programme and Operations Policies and Procedures (POPP) and GCF's Integrated Results Management Framework. In addition, refresher trainings should be held periodically to account for staff turnover and to ensure consistent understanding across all team members. Beyond procedural knowledge, capacity building should emphasize practical application, enabling PMU staff to plan, implement, and report activities in alignment with RBM principles—linking inputs, outputs, outcomes, and impacts with measurable indicators. This will help strengthen adaptive management, accountability, and evidence-based decision-making. Tailored mentoring, on-the-job coaching, and knowledge exchange with other UNDP-implemented GCF projects could also be introduced to reinforce learning. By institutionalizing these practices, the PMU will be better positioned to provide strategic leadership, ensure compliance, and enhance the overall effectiveness and credibility of project delivery.			

5. Annexes

5.1 Annex 1: IE ToR (excluding ToR annexes)

Attached separately

5.2 Annex 2: List of documents reviewed.

List of documents that have been reviewed includes, but not limited to:

1. Funding Proposal
2. Funded Activity Agreement (FAA)
3. UNDP Project Document
4. UNDP Environmental and Social Screening results
5. Project Inception Report
6. All Annual Performance Reports (APRs)
7. Progress reports and work plans of the various implementation task teams
8. Project deliverables that provide documentary evidence of achievement towards project outcomes
9. Audit reports
10. Mission reports
11. All monitoring reports prepared by the project
12. Project operational guidelines, manuals and systems
13. UNDP country/countries programme document(s)
14. Minutes of the Project Board Meetings and other meetings (i.e. Project Appraisal Committee meetings)
15. Project site location maps
16. First submission of Sudan's NDC
17. Gender assessment and action plan
18. Financial data, including actual expenditures by project outcome, including management costs, and including documentation of any significant budget revisions.
19. Co-financing data with expected and actual contributions broken down by type of co-financing, source, and whether the contribution is considered as investment mobilized or recurring expenditures.
20. Sample of project communications materials
21. All project technical deliverable
22. related projects/initiatives contributing to project objectives approved/started after project approval (i.e. any leveraged or "catalytic" results)

5.3 Annex 3: Evaluation Matrix

Evaluation matrix is important to identifying the key evaluation questions and how they will be answered through the selected methods. The evaluation matrix is a tool that evaluators create as a map and reference in planning and conducting an evaluation. It also serves as a useful tool for summarizing and visually presenting the evaluation design and methodology for discussions with stakeholders. It details evaluation questions that the evaluation will answer, data sources, data collection and analysis tools or methods appropriate for each data source, and the standard or measure by which each question will be evaluated.

Table 8: Evaluation Matrix

Evaluative Criteria Questions	Indicators/evidence	Sources	Methodology
1. **Project design (relevance and coherence)**: To what extent is the project strategy relevant to country priorities and beneficiaries needs? To what extent the project design is appropriate?			
· Review the relevance of the project strategy and assess whether it provides the most effective route towards expected/intended results. Were lessons from other relevant projects properly incorporated into the project design? · Review how the project addresses country priorities. Review country ownership. Was the project concept in line with the national sector development priorities and plans of the country (or of participating countries in the case of multi-country projects)? · Review decision-making processes: were perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process, considered during project design processes? · Was the context, problem, needs and priorities well analyzed and reviewed during project initiation? Review the project's alignment with UNDP priorities, the GCF result areas, and GCF Investment Criteria. · Are the planned project objectives and outcomes relevant and realistic to the situation on the ground? · Review the problem addressed by the project and the underlying assumptions. Review the effect of any incorrect assumptions or changes to the context to achieving the project results as outlined in the Project Document.	· Level of alignment of project's activities with relevant stakeholders' plans · Stakeholders' perceptions on the relevance of project's activities to their needs · Degree of involvement and inclusiveness of beneficiaries and stakeholders in project design and implementation · Assessment of gender integration into the project design · Identification of the problem and its causes in the project being addressed? ·	· project documentations · national policies or strategies, websites · Project stakeholders feedback	· Desk review · Stakeholders' interviews
· Undertake a critical analysis of the project's logframe indicators and targets, assess how "SMART" the midterm and end-of-project targets are (Specific, Measurable, Attainable, Relevant, Time-bound), and suggest specific amendments/revisions to the targets and indicators as necessary.	· Degree of coherence of the project design in terms of theory of change, components, choice of partners, structure, delivery mechanism, scope, budget, use of resources, etc.	· project documentations · national policies or strategies, websites	· Desk review · Stakeholders' interviews ·

Evaluative Criteria Questions	Indicators/evidence	Sources	Methodology
· Undertake an examination of the means of verification and completeness of the assumptions. · Are the project's objectives and outcomes or components clear, practical, and feasible within its time frame? · Ensure broader development and gender aspects of the project are being monitored effectively. Develop and recommend SMART 'development' indicators, including sex-disaggregated indicators and indicators that capture development benefits. · Ensure that the indicators (gender-disaggregated) are SMART, aligned with GCF/Results Management Framework (RMF)/Performance Measurement Frameworks (PMFs) and the guidance in the GCF programming manual. · Review the extent to which relevant gender issues were raised in the project design. · Was an exit strategy developed during the design stage? · Evaluate the Theory of Change (ToC) proposed by the project during the inception and design phases in comparison to the approach, relevance, actions, interventions, practicality, and current context. Foresee the way forward and propose necessary adjustments.	· Level of coherence between programme design and project implementation approach · SMARTness testing of indicators (Suitability assessment of the defined indicators/measures to demonstrate impacts) · Indicators inclusion of gender aspects · Assessment of gender integration into the project design · Existence of a sustainability (oo exit) plan	· Project stakeholders feedback	
Effectiveness and Efficiency: To what extent has the project been effective and efficient in delivering on its objectives, outcomes and outputs?			
· Are the outputs being achieved in a timely manner? Is this achievement supportive of the ToC and pathways identified? · Is the project Theory of Change (ToC) and intervention logic coherent and realistic? Does the ToC and intervention logic hold or does it need to be adjusted? · Are the planned inputs and strategies identified realistic, appropriate and adequate to achieve the results? Were they sequenced	· Level of progress in achieving outputs · Level of project team understanding of the ToC role · Degree of robustness of the ToC · Stakeholders' perspective on project management effectiveness	· project documentations · Progress reports · Project deliverables · Project stakeholders feedback	· Desk review · Stakeholders' interviews

Evaluative Criteria Questions	Indicators/evidence	Sources	Methodology
sufficiently to efficiently deliver the expected results? · What and how much progress has been made towards achieving the overall outputs and outcomes of the project (including contributing factors and constraints)? · To what extent is the project able to demonstrate changes against the baseline (assessment in approved Funding Proposal) for the GCF investment criteria (including contributing factors and constraints)? · How realistic are the risks and assumptions of the project? · How did the project deal with issues and risks in implementation? · To what extent did the project's M&E data and mechanism(s) contribute to achieving project results? · Are the project's governance mechanisms functioning efficiently?	· Suitability of project management structure including gender balance · Level of utility of the log frame and indicators in guiding project implementation	·	
Progress Towards Results: To what extent have the expected outcomes and objectives of the project been achieved or likely to be achieved thus far?			
· By reviewing the aspects of the project that have already been successful, identify ways in which the project can further expand these benefits. · Assess the logframe indicators against progress made towards the end-of-project targets using the Progress Towards Results Matrix and colour code progress in a "traffic light system. · Assess whether the total number of beneficiaries and indirect beneficiaries of the project has been properly calculated. · Identify remaining barriers to achieving the project objective in the remainder of the project.	· Analysis of progress towards logframe indicators · Analysis of the GCF Core Indicators	· project documentations · Progress reports · Project deliverables · Project stakeholders feedback ·	· Desk review · Stakeholders' interviews
Project Implementation and Adaptive Management: Has the project been implemented efficiently, cost-effectively, and been able to adapt to any changing conditions thus far? To what extent are project-level monitoring and evaluation systems, reporting, and project communications supporting the project's implementation? To what extent has progress			

Evaluative Criteria Questions	Indicators/evidence	Sources	Methodology
been made in the implementation of social and environmental management measures? Have there been changes to the overall project risk rating and/or the identified types of risks as outlined at the CEO Endorsement stage?			
· Management Arrangements · Review overall effectiveness of project management as outlined in the Project Document. Have changes been made and are they effective? Are responsibilities and reporting lines clear? Is decision-making Review overall effectiveness of project management as outlined in the FAA/Funding proposal. Have changes been made and have these been approved by GCF? Are responsibilities and reporting lines clear? Is decision-making transparent and undertaken in a timely manner? Recommend areas for improvement. · Review the quality of execution of the Executing Agency/Implementing Partner(s) and recommend areas for improvement. · Review the quality of support provided by UNDP and recommend areas for improvement.	· Stakeholders' perspective on project management effectiveness · Suitability of project management structure including gender balance · Adequacy and timeliness of UNDP support services · Inclusion of gender into project operations	· project documentations · risk/issue register · Project stakeholders feedback	· Desk review · Stakeholders' interviews
<u>Work Planning</u> · Review any delays in project start-up and implementation, identify the causes and examine if they have been resolved. · Are work-planning processes results-based? If not, suggest ways to re-orientate work planning to focus on results?	· Timeliness of activities delivery · Alignment of defined plans with the logframe · Coherence of project planning process	· project documentations · risk/issue register · Project stakeholders feedback	· Desk review · Stakeholders' interviews
· Finance and co-finance · Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions. · Review the changes to fund allocations because of budget revisions and assess the appropriateness and relevance of such revisions. · Have project resources been utilized in the most economical, effective, and equitable	· Cost in view of results achieved compared to costs of similar projects from other organizations · Level of discrepancy between planned and utilized financial expenditures · Planned vs. actual funds leveraged	· project documentations · risk/issue register · Project stakeholders feedback	· Desk review · Stakeholders' interviews

Evaluative Criteria Questions	Indicators/evidence	Sources	Methodology
ways possible (considering value for money; absorption rate; commitments versus disbursements and projected commitments; co-financing; etc.)? - Informed by the co-financing monitoring table to be filled out, provide commentary on co-financing: Is co-financing being used strategically to help the objectives of the project? Comment on the use of different financial streams (parallel, leveraged, mobilized finance), as applicable in the context of the project – see GCF policy on co-finance . Discuss whether co-finance related conditions and covenants, as listed in the FAA, have been fulfilled, as applicable.	- Co-financing data and evidence		
<u>Coherence in climate finance delivery with other multilateral entities</u> - Who are the partners of the project and how strategic are they in terms of capacities and commitment? - Is there coherence and complementarity by the project with other actors for local other climate change interventions? - How has the project contributed to achieving stronger and more coherent integration of shift to low emission sustainable development pathways and/or increased climate resilient sustainable development (GCF RMF/PMF Paradigm Shift objectives)? Please provide concrete examples and make specific suggestions on how to enhance these roles going forward.	- Degree of complementarities with other ongoing projects - Partnerships established with relevant initiatives - Stakeholders perspectives on the project partnership strategy and its effectiveness	- project documentations - risk/issue register - Project stakeholders feedback	- Desk review - Stakeholders' interviews
<u>Project-level monitoring and evaluation systems</u> - Review the monitoring tools currently being used: Do they provide the necessary information? Do they involve key partners? Do they use existing information? Are they efficient? Are they cost-effective? Are additional tools required? How could they be made more participatory and inclusive?	- Existence, quality and use of M&E, feedback and dissemination mechanism to share findings, lessons learned and recommendation - Review of progress reports and financial reports - Data disaggregation by gender - Alignment of M&E to the GCF, UNDP and national needs	- project documentations - risk/issue register - Project stakeholders feedback	- Desk review - Stakeholders' interviews

Evaluative Criteria Questions	Indicators/evidence	Sources	Methodology
· Discuss any quality assuring mechanisms being used (e.g., ISO standard, government accreditations, international certificates, etc.)			
<u>Stakeholder Engagement</u> · Project management: Has the project developed and leveraged the necessary and appropriate partnerships with direct and tangential stakeholders? · Participation and country-driven processes: Do local and national government stakeholders support the objectives of the project? Do they continue to have an active role in project decision-making that supports efficient and effective project implementation? · Is a grievance mechanism in place? If so, assess its effectiveness.	· Evidence that particular partnerships/linkages will be sustained · Types/quality of partnership cooperation methods utilized · Coherence of the established partnerships · Existence and effectiveness of the grievance mechanism	· project documentations · risk/issue register · Project stakeholders feedback	· Desk review · Stakeholders' interviews
<u>Social and Environmental Standards (Safeguards)</u> · Summarize and assess the revisions made since Board Approval (if any) to: - The project's overall safeguards risk categorization. - The identified types of risks (in the SESP). - The individual risk ratings (in the SESP) . · Describe and assess progress made in the implementation of the project's social and environmental management measures as outlined in the SESP submitted at the Funding Proposal stage (and prepared during implementation, if any), including any revisions to those measures. Such management measures might include Environmental and Social Management Plans (ESMPs) or other management plans, though can also include aspects of a project's design; refer to Question 6 in the SESP template for a summary of the identified management measures.	· Assessment of SESP · Compliance with SESP requirements · SESP update and monitoring	· project documentations · risk/issue register · Project stakeholders feedback	· Desk review · Stakeholders' interviews

Evaluative Criteria Questions	Indicators/evidence	Sources	Methodology
· A given project should be assessed against the version of UNDP's safeguards policy that was in effect at the time of the project's approval.			
<u>Reporting</u> · Assess how adaptive management changes have been reported by the project management and shared with the Project Board. · Assess how lessons derived from the adaptive management process have been documented, shared with key partners and internalized by partners.	· Occurrence of change in project design/ implementation approach when needed to improve project efficiency · Lesson learned documentation	· project documentations · risk/issue register · Project stakeholders feedback	· Desk review · Stakeholders' interviews
<u>Communications & Knowledge Management</u> · Review internal project communication with stakeholders: Is communication regular and effective? Are there key stakeholders left out of communication? Are there feedback mechanisms when communication is received? Does this communication with stakeholders contribute to their awareness of project outcomes and activities and investment in the sustainability of project results? · Review external project communication: Are proper means of communication established or being established to express the project progress and intended impact to the public (is there a web presence, for example? Or did the project implement appropriate outreach and public awareness campaigns?)	· Assessment of the communication plan · Communication coverage · Communication material produced so far · Number and nature of knowledge products produced so far		
Sustainability: To what extent are there financial, institutional, socio-economic, and/or environmental risks to sustaining long-term project results? Validate whether the risks identified in the FAA and Funding proposal, APRs and the ATLAS Risk Management Module are the most important and whether the risk ratings applied are appropriate and up to date. If not, explain why.			
<u>Financial risks to sustainability:</u> · What is the likelihood of financial and economic resources not being available once the GCF assistance ends (consider potential resources can be from multiple sources, such as the public and	· Level and source of future financial support to be provided to relevant activities globally and at the country level · Evidence of commitments from government or other stakeholder to financially	· project documentations · risk/issue register	· Desk review · Stakeholders' interviews

Evaluative Criteria Questions	Indicators/evidence	Sources	Methodology
	support relevant sectors of activities after project end Level of recurrent costs after completion of project and funding sources for those recurrent costs	Project stakeholders feedback	
Socio-economic risks to sustainability: Are there any social or political risks that may jeopardize sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public / stakeholder awareness in support of the long-term objectives of the project? Are lessons learned being documented by the Project Team on a continual basis and shared/ transferred to appropriate parties who could learn from the project and potentially replicate and/or scale it in the future? Institutional Framework and Governance risks to sustainability: Do the legal frameworks, policies, governance structures and processes pose risks that may jeopardize sustenance of project benefits? While assessing this parameter, also consider if the required systems/ mechanisms for accountability, transparency, and technical knowledge transfer are in place.	Evidence/Quality of sustainability strategy Evidence/Quality of steps taken to address sustainability Degree to which project activities and results have been taken over by local counterparts Elements in place in those different management functions, at appropriate levels (globally and at country level) in terms of adequate structures, strategies, systems, skills, incentives and interrelationships with other key actors Exit strategy in place and actively operationalisation level of capacities at the country level to continue effective PA management Efforts to support the development of relevant policies at the country level Evidence of commitment by the targeted countries to pursue the supported activities	project documentations risk/issue register Project stakeholders feedback	Desk review Stakeholders' interviews
Environmental risks to sustainability: Are there any environmental risks that may jeopardize sustenance of project outcomes?	Outcome of the EIAs for project on the ground	project documentations Project stakeholders feedback	Desk review Stakeholders' interviews

Evaluative Criteria Questions	Indicators/evidence	Sources	Methodology
Country Ownership: How well is country ownership reflected in the project governance, coordination and consultation mechanisms or other consultations?			
· How well is country ownership reflected in the project governance, coordination and consultation mechanisms or other consultations? · What are recommendations for improving achievements of outcomes? · What are recommendations for adjusting or modifying the design of the project that maybe applied for the duration of the remaining 42 months? · Were the modes of deliveries of the outputs appropriate to build essential/necessary capacities, promote national ownership and ensure sustainability of the result achieved?	· Level of alignment of project's activities with relevant stakeholders' plans · Stakeholders feedback on the level of ownership · Level of adoption and endorsement of the project products and policies	· project documentations · Project stakeholders feedback	· Desk review · Stakeholders' interviews
Gender equity: To what extent the project integrates gender equity into its design and operation?			
· Does the project only rely on sex-disaggregated data per population statistics? · Are financial resources/project activities explicitly allocated to enable women to benefit from project interventions? · Does the project account in activities and planning for local gender dynamics and how project interventions affect women as beneficiaries?	· Gender disaggregated data · Presence of gender-related indicators · Women's level of awareness of their rights and roles · Women: men benefits distribution · Women's participation in decision making process · Project staff gender balance	· project documentations · Project stakeholders feedback	· Desk review · Stakeholders' interviews
Innovativeness in results areas · What are the lessons learned to enrich learning and knowledge generation in terms of how the project played in the provision of "thought leadership," "innovation," or "unlocked additional climate finance" for climate change adaptation/mitigation in the project and country context? Please provide concrete examples and make specific suggestions on how to enhance these roles going forward.	· Documented examples of innovative approaches · Project team's level of understanding of innovation · Stakeholders feedback	· project documentations · Project stakeholders feedback	· Desk review · Stakeholders' interviews

Evaluative Criteria Questions	Indicators/evidence	Sources	Methodology
Unexpected results, both positive and negative - What has been the project's ability to adapt and evolve based on continuous lessons learned and the changing development landscape? Please account for factors both within the AE/EE and external. - Can any unintended or unexpected positive or negative effects be observed because of the project's interventions?	- Documentation of lessons learned and adaptive actions - Stakeholders feedback on unintended results	- project documentations - Project stakeholders feedback	- Desk review - Stakeholders' interviews
Replication and Scalability - Assess the effectiveness of exit strategies and approaches to phase out assistance provided by the project including contributing factors and constraints? Is there a need for recalibration? - What factors of the project achievements are contingent on specific local context or enabling environment factors? - Are the actions and results from project interventions likely to be sustained, ideally through ownership by the local partners and stakeholders?	- Presence, and effectiveness, of the exit strategy - Interdependence for future replication and upscaling - Existence of clearly defined financing mechanisms beyond the GCF resources	- project documentations - Project stakeholders feedback	- Desk review - Stakeholders' interviews

5.4 Annex 4: Interview questions

Introduction

Thanks for taking the time to speak with us today. The UNDP is conducting an Interim Evaluation of UNDP/GCF 'Building resilience in the face of climate change within traditional rain fed agricultural and pastoral systems in Sudan' project.

The IE aims to assess the achievement of project results against what was expected to be achieved and draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

As part of the evaluation, we are talking to stakeholders to hear a range of perspectives on the work done so far and future priorities. We've booked in one hour for this interview, but it may not take the full hour.

Participation in this consultation is voluntary and confidential. You can decline to participate or end the interview at any time. No comments will be attributed to any individual in discussions or reports, unless we request your express permission.

Do you have any questions before we start?

Interview questions

It should be noted that below interview questions are presented as a guide to be used in the interviews, however, each individual interview is unique, and questions will be tailored to the interviewees' roles and perspectives. In addition, follow up questions will be asked based on the responses to obtain full story from each response.

Questions

Introductory question

Could you please introduce yourself and explain your involvement and the role of your organization/agency in the project?

Effectiveness

1) In your opinion, what has been the greatest achievement in the project to date? And why?
2) What were the challenges in delivering project? How could we overcome these challenges?
3) What factors have contributed to achieving intended outputs and outcomes?
4) What worked so well and what didn't work so well? and why?

Impacts

5) What sort of impacts did the project have on its stakeholders?
6) What trends do you foresee in the climate adaptation measures in Sudan?

Relevance

7) In your opinion, to what degree the project activities are aligned to the needs of the participating stakeholders?
8) In your opinion, to what degree the project activities are aligned with the strategic plans and strategies of the participating stakeholders?

Efficiency

9) In your opinion, has the project been delivered on time and on budget? Has there been anything underachieved or overachieved within the agreed framework of the project, and what are the reasons/explanation for it?
10) In what ways has the project been adaptive to emerging issues and opportunities? Examples?
11) Currently, what are the major internal and external factors influencing the achievement or non-achievement of the outcome?

Sustainability

12) Do you foresee any social, financial or political risks that may jeopardize sustainability of the project outputs and outcomes?
13) What would happen to the project output and benefits when the GCF funding finishes?
14) Going forward, how do you see the capacity of participating stakeholders to pursue delivering on related outcomes? Are there signs of replication and scaling up? If not, what are the internal and external barriers preventing this?
15) What lessons have been learnt for the project in achieving outcomes?

Closing

- In what ways gender has been mainstreamed in the project? Do you have any gender-related concerns?
- Anything else you would like to add that we haven't covered?

Thank you for your kind participation!

5.5 Annex 5: IE Rating scales

Evaluation criteria and ratings: The standard evaluation criteria according to UNDP/GCF evaluation policy are Relevance, Impact, Effectiveness, Efficiency and Sustainability. The different scales for rating various criteria are shown in the tables below.

Table 9: IE Rating Scales & Evaluation Ratings Table

Ratings for Progress Towards Results: (one rating for each outcome and for the objective)		
6	Highly Satisfactory (HS)	The objective/outcome is expected to achieve or exceed all its end-of-project targets, without major shortcomings. The progress towards the objective/outcome can be presented as "good practice".
5	Satisfactory (S)	The objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings.
4	Moderately Satisfactory (MS)	The objective/outcome is expected to achieve most of its end-of-project targets but with significant shortcomings.
3	Moderately Unsatisfactory (HU)	The objective/outcome is expected to achieve its end-of-project targets with major shortcomings.
2	Unsatisfactory (U)	The objective/outcome is expected not to achieve most of its end-of-project targets.

1	Highly Unsatisfactory (HU)	The objective/outcome has failed to achieve its midterm targets and is not expected to achieve any of its end-of-project targets.

Ratings for Project Implementation & Adaptive Management: (one overall rating)		
6	Highly Satisfactory (HS)	Implementation of all components – management arrangements, work planning, finance and co-finance, project-level monitoring and evaluation systems, stakeholder engagement, reporting, and communications – is leading to efficient and effective project implementation and adaptive management. The project can be presented as "good practice".
5	Satisfactory (S)	Implementation of most of components is leading to efficient and effective project implementation and adaptive management except for only few that are subject to remedial action.
4	Moderately Satisfactory (MS)	Implementation of some of components is leading to efficient and effective project implementation and adaptive management, with some components requiring remedial action.
3	Moderately Unsatisfactory (MU)	Implementation of some of components is not leading to efficient and effective project implementation and adaptive, with most components requiring remedial action.
2	Unsatisfactory (U)	Implementation of most of components is not leading to efficient and effective project implementation and adaptive management.
1	Highly Unsatisfactory (HU)	Implementation of none of components is leading to efficient and effective project implementation and adaptive management.

Ratings for Sustainability: (one overall rating)		
4	Likely (L)	Negligible risks to sustainability, with key outcomes on track to be achieved by the project's closure and expected to continue into the foreseeable future
3	Moderately Likely (ML)	Moderate risks, but expectations that at least some outcomes will be sustained due to the progress towards results on outcomes at the Midterm Review.
2	Moderately Unlikely (MU)	Significant risk that key outcomes will not carry on after project closure, although some outputs and activities should carry on
1	Unlikely (U)	Severe risks that project outcomes as well as key outputs will not be sustained

5.6 Annex 6: List of persons consulted

Stakeholders and beneficiaries engaged:

1. Shanti - UNDP
2. Tayseer Elyass - UNDP program associates
3. Dr. Ahmad Hassan Abu Esam - ARC acting director
4. Alwaiah khames othman albasha - Forest National Corporation
5. Abdulmonem othamn hassan - Range and Pasture General Directorate
6. Sawsan Ali - Manager of CC - under HCNER
7. Rasheed Fageeri - M&E offcier - PMU
8. Ibrahim Omdeh Khater - Manager of international affairs at the Ministry of Finance
9. Eng. Osman Ahmed Othman- Ministry of Agriculture- Northern State
10. Dr. Gamal Abu Baker - The project manager
11. Idriss Othamn- Acting - Head of Extension team - Ministry of Agriculture - Kassala
12. Dr. Khider - Ministry of Production, Kassala
13. Abdelqader Ibrahim - Head of Farmers and Pastoralists Unions
14. Ahmad Afaneh - UNDP RTA
15. Eglal Ateem - UNDP CO – Environment and Energy Analyst
16. Izeldin Elsamani Abdalla - Electric engineer, Ministry of production.

5.7 Annex 7: Signed UNEG Code of Conduct form

Independence entails the ability to evaluate without undue influence or pressure by any party (including the hiring unit) and providing evaluators with free access to information on the evaluation subject. Independence provides legitimacy to and ensures an objective perspective on evaluations. An independent evaluation reduces the potential for conflicts of interest which might arise with self-reported ratings by those involved in the management of the project being evaluated. Independence is one of ten general principles for evaluations (together with internationally agreed principles, goals, and targets: utility, credibility, impartiality, ethics, transparency, human rights and gender equality, national evaluation capacities, and professionalism).

Evaluators/Consultants:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings, and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.
8. Must ensure that independence of judgement is maintained, and that evaluation findings and recommendations are independently presented.
9. Must confirm that they have not been involved in designing, executing or advising on the project being evaluated and did not carry out the project's Mid-Term Review.

Evaluation Consultant Agreement Form

Agreement to abide by the Code of Conduct for Evaluation in the UN System:

Name of Evaluator: _____Mohammad Alatoom _____

Name of Consultancy Organization (where relevant): _____

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at ___August 2025_____ (Place) on _____ (Date)

Signature: _____Mohammad Alatoom _____

5.8 Annex 8: Signed IE Report Clearance form

Terminal Evaluation Report for Interim Evaluation of UNDP/GCF 'Building resilience in the face of climate change within traditional rain fed agricultural and pastoral systems in Sudan' project. Reviewed and Cleared By:

Commissioning Unit (M&E Focal Point)

Name: _____

Signature: _____ Date: _____

Regional Technical Advisor (Nature, Climate and Energy)

Name: _____

Signature: _____ Date: _____

5.9 Annex 9: IE Audit Trail (in a separate file)

Green Climate Fund
Department of Monitoring,
Evaluation and Learning (DMEL)
OCSIO.DMEL@gcfund.org