UN Environment

Mid-Term Review of the UN Environment Project "Sudan Ecosystem Based Adaptation (EbA) project"

Final Report

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UNEP Evaluation Office

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Project Title- Enhancing the resilience of communities living in climate change vulnerable areas of Sudan using Ecosystem Based approaches to Adaptation (EbA)

Project number- FL/ PMS

Start date - 01/ 2017

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ABOUT THE EVALUATION

Joint Evaluation: No

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Brief Description:

The Mid-Term Review (MTR) was commissioned by UNEP's Climate Change Adaptation Unit (CCAU) of the Nature For Climate Branch, Ecosystem Division, in close coordination with Sudan's Higher Council for Environment and Natural Resources (HCENR) which is executing the GEF LDCF project "Enhancing the resilience of communities living in climate change vulnerable areas of Sudan using Ecosystem Based approaches to Adaptation (EbA)". Originally scheduled for Q4 2021, the MTR was postponed owing to a combination of COVID-19 restrictions affecting travel and the need to complete a Results Verification exercise to inform the MTR exercise. The MTR was conducted by consultants provided by "Le Groupe-conseil Baastel" under a systems contract issued by the United Nations Office in Nairobi (UNON) – re no. UNEP/2018/009 (4700014681).

The MTR was undertaken in the 4th year of the now five-year project with an aim to analyze whether the project is on-track, what problems or challenges the project is encountering, and what corrective actions are required. The MTR assesses project performance to date (in terms of relevance, effectiveness and efficiency), and determine the likelihood of the project achieving its intended outcomes, including their sustainability. Furthermore, the MTR looked at the following key strategic questions: 1) The extent to which the project is likely to generate evidence of ecosystem-based adaptation benefits to local livelihoods, White Nile State and national economy and what are the emerging lessons learned and best practice?; 2) The extent to which the project implementation approach is effectively demonstrating ecosystem-based adaptation, and is more than a community-based natural resource management project?;and 3) The extent to which the project approach on integrated watershed management and ecosystem-based adaptation can also contribute to evidence on scaling-up of ecosystem restoration work to support the forthcoming UN Decade on Ecosystem Restauration (2021-2030) address the severe degradation of landscapes, including wetlands and aquatic ecosystems.

Key words: Sudan, White Nile State, mid-term review, climate change adaptation, ecosystem-based adaptation, ecosystem restoration, relevance, efficiency, effectiveness, impact, sustainability.

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LIST OF ABBREVIATIONS AND ACRONYMS

Acronym	Definition
AETTA	Agricultural Extension and Technology Transfer Administration
BL	Budget Line
ARC	Agricultural Research Corporation
CBNRM	Community Based Natural Resources Management
CCA	Climate Change Adaptation
CSO	Civil Society Organizations
CTA	Chief Technical Adviser
EA	Expected Accomplishment
EbA	Ecosystem Based Adaptation
GEF	Global Environment Facility
HCENR	Higher Council for the Environment and Natural Resources
HYPR	Half-Yearly Progress Report
LDCF	Least Developed Country Fund
MENRPD	Ministry of Environment Natural Resources and Physical Development
M&E	Monitoring and Evaluation
MTR	Mid-Term Review
NAP	National Adaptation Plan
NAPA	National Adaptation Program of Action
PCA	Project Cooperation Agreement
PCU	Project Coordination Unit
PPG	Project Preparation Grant
PIR	Project Implementation Review
PIU	Project Implementation Unit
PM	Project Manager
PoW	Programme of Work
PPG	Project Preparation Grant
PSC	Project Steering Committee
RLACC	Rural Livelihoods Adaptation to Climate Change Programme
TNA	Technology Needs Assessment
ToR	Terms of Reference
UNDP	United Nation Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Framework Convention on Climate Change
VDCs	Village Development Committees
WNS	White Nile State

PROJECT IDENTIFICATION TABLE

Table 1: Project summary

UNEP Sub-programme:	Climate Change Adaptation	**Programme of Work Output(s):**	Indicators 1.
Expected Accomplishment(s):	The project aims to increase the resilience of livelihoods and integrated productive agricultural systems in the White Nile State (WNS) through Ecosystem-based Adaptation (EbA) approaches.		
Project Title	Project title: Enhancing the resilience of communities living in climate change vulnerable areas of Sudan using Ecosystem Based approaches to Adaptation (EbA)		
Coverage - Country(ies):	Sudan	**Coverage - Local(s):**	White Nile State
Executing Organization	Higher Council on the Environment and Natural Resources (HCENR)	**Project partners**	White Nile State's Water Corporation Animal wealth administration of the White Nile State Range and Pasture administration of the White Nile State White Nile State Ministry of Agriculture, Irrigation and Forests
Project Type:	FSP	**Project number:**	5703
Focal Area	Climate Change Adaptation	**GEF OP #:**	SCCF
GEF Strategic Priority/Objective:	Climate Change Adaptation	**GEF approval date*:**	11 August 2016
UNEP approval date:		**Date of first disbursement*:**	5 April 2017
Actual start date:	19 January 2017	**Planned duration:**	48 months
Intended completion date*:	September 2020	**Actual or Expected completion date:**	30 June 2023
Project Type:	MSP	**GEF Allocation*:**	USD 4,284.00
PPG GEF cost*:	USD 100,000	**In-kind-financing*:**	USD 7,915,200
Funds Managed by UNEP*:	USD 4,284,000	**Total Cost:**	USD 12,199.20
No. of revisions:	4	**Date of last revision:**	June 2021
No. of Steering Committee meetings:	4	**Date of last/next Steering Committee meeting:**	24th June 2021
Mid-term Review/ Evaluation *(planned date):*	Q1 2021	**Mid-term Review/ Evaluation (actual date):**	April 2022
Terminal Review (planned date):	August/Sept 2023	**Terminal Review (actual date):**	N/A
Disbursement as of 31 December 2021:	USD 2,440,161.68	**Date of financial closure:**	31 December 2023
Total co-financing realized as of 31 June 2021:	USD 2,444,837	**Actual expenditures reported as of 31 December 2021:**	USD 2,124,815
Leveraged financing:			

EXECUTIVE SUMMARY

Project background

The project "Enhancing the resilience of communities living in climate change vulnerable areas of Sudan using Ecosystem Based approaches to Adaptation" in Sudan is a project funded by the Global Environment Facility (GEF)/ Least Developed Country Fund (LDCF). The Implementing Agency (IA) for the project is the UN Environment Programme (UNEP), and the Higher Council on Environment and Natural Resources (HCENR), acts as the Executing Agency (EA). The project got approval from the GEF/LDCF on August 11, 2016, and actual project launch took place in January 19th 2017. Project implementation will last for a duration of 4 years, with a two year no-cost project extension of up to June 30, 2023[1].

As indicated in Sudan's National Adaptation Program of Action (NAPA-2007) and National Adaptation Plan (NAP-2016), small holder rain-fed farmers and pastoralists in the White Nile State (WNS) are particularly vulnerable to climate change due to inappropriate and unsustainable agricultural practices, insufficient water and land management and lack of alternative non-agricultural and non-pastoral income generating activities. Most notably, increasing temperatures, decreasing trends of annual precipitation as well as increased variability, are causing a gradual shift of arid ecological zones from north to south. As a result, climate change impacts in WNS have already manifested in declining crop and animal productivity, loss of grazing resources and rangeland valuable species, land degradation increased frequency of human, animal and crop diseases, loss of livelihoods and human migration in search for jobs and alternative livelihoods.

In response to these challenges mentioned above, the project "Enhancing the resilience of communities living in climate change vulnerable areas of Sudan using Ecosystem Based approaches to Adaptation (EbA)" was developed by Higher Council for Environment and Natural Resources (HCENR) in collaboration with UNEP and other stakeholders. The project aims to increase the resilience of livelihoods and integrated productive agricultural systems in the WNS through EbA approaches.

Implementation of the project will be done at multiple levels aiming to mainstream EbA approaches into policies, planning and budgets and to develop capacities at national, state and local (community) levels on EbA. The ultimate aim of the project is to build climate resilience of ecosystems and local communities in the WNS by improving their access to ecosystem services, such as agriculture, food and water. Further, the project is expected to support communities to manage agro-ecological systems in a sustainable manner while at the same time increasing rangeland productivity.

The project is expected to achieve the following outcomes:

- Outcome 1: Improved and strengthened technical capacity of local, state and national institutions to plan, implement and upscale EbA.
- Outcome 2: Reduced vulnerability of local communities to climate change impacts in the White Nile State.
- Outcome 3: Strengthened information base and knowledge on EbA and its cost-effectiveness are readily available for various uses.

[1] The project extension was announced in the PSM meeting 24 June 2021. The Project Cooperation Agreement (PCA) between UNEP and HCENR has been signed to reflect the changes

The Mid-Term Review

The objective of this Mid-Term Review (MTR) was:

- to provide evidence of results to meet accountability requirements, and
- to promote operational improvement, learning and knowledge sharing through results and lessons learned among UNEP, GEF and implementing partners.

The MTR was conducted from November 2021 to April 2022, with a few breaks in between due to a combination of COVID-19 restrictions and the political situation in the country. The review assessed the project performance to date in terms of progress against planned outputs and outcomes and the use of resources to this end. It aims to understand whether the implementation of activities and progress in delivering outputs will lead to achievements of outcomes and secure long-term impacts. The MTR aims to encourage reflection and learning by the project implementation team, UN Environment staff and other key project stakeholders, and formulates recommendations to make adjustment to the project in order to complete the project successfully. The mid-term review has been postponed several times owing to COVID-19 and the need to gather external results verification (RV) prior to the MTR[2] and therefore it is not exactly at the half way mark, as a result. The MTR was supported by the RV consultant, Dr Adam Abdalla, who was critical in providing local context and information on impact of the project. Careful consideration has been given in developing recommendations that are implementable during the remaining period of project implementation.

To this end, the evaluator assessed the project along a series of evaluation criteria and key strategic questions. A review matrix built around the evaluation criteria covered by the evaluation, namely: i) strategic relevance; ii) effectiveness; iii) financial management; iv) efficiency; v) monitoring and reporting; vi) sustainability; and vii) factors affecting project performance, was used as the backbone of the evaluation. For each criterion, the matrix identifies evaluation questions, indicators, means of verification and sources of information.

To collect the data, the evaluator conducted an in-depth literature review as well as a field mission to Sudan from 28 February 2022 to 09 March 2022. During the mission to Sudan, the evaluator met and interviewed key project stakeholders at the national, subnational and community levels. Furthermore, the evaluator conducted site visits to project sites in WNS. Additional interviews were also conducted virtually after the physical mission.

Key findings – TO be competed in the final MTR report

Strategic Relevance

The project is well aligned with the MTS, the POW and the GEF strategic priorities. The project is also well aligned with the national, and sub-national development plans and priorities. The communities in the WNS are very vulnerable to climate change and have little to no capacity to deal with climate change impacts. Therefore, the project is well aligned with the community needs and priorities.

The project is also relevant and responding to national, subnational and communities' needs and priorities, and in some instances, filling in a gap. However, the main weaknesses of the

[2] The Results Verification exercise took place from January to April 2022. The report was finalised in April 2022.

project lies in the lack of coordination and synergies with other relevant initiatives and this might affect the sustainability of the project

Effectiveness

The project faced a number of obstacles which impacted the delivered of the key output, many of such obstacles were external factors. The prolonged inception phase was a result of many factors including the 2019 revolution, which led to changes in government structures and institutional arrangements. Other factors that delayed project delivery include the extended period taken to secure a Project Coordinator. Delivery of key outputs was further compounded by the global Covid 19 pandemic, which led to national lockdown measures and restriction of gatherings to contain the virus.

Despite the challenges mentioned above, some progress was made. For example, 8,389 households (43% being women/women headed households) in the 43 targeted villages of White Nile State have adopted ecosystem-based adaptation (EbA) measures. It is worth mentioning that the number of households targeted as beneficiaries for EbA project was revised based on population growth from 6,800 to 8,389 households. Therefore, the target in terms of number of households, has been reached. However, some key outputs have not been delivered. For example, outputs related to outcome 1 on improved technical and institutional capacity to implement EbA measure is lagging behind because of reasons, including the political situation in the country and the covid-related restrictions that have hampered travel for international consultants. The stocktaking exercise and the economic cost-benefit assessment will need to be completed and validated if outcome 1 has to be achieved. Outputs related to outcome 2 on reduced vulnerabilities of local communities has been mostly achieved, for example rangeland rehabilitation has been completed at a percentage of 124% of the target area- exceeding the target area. For distribution of improved cookstoves, the revised targeted population of 8,389 households has been reached. While progress has been made, some outputs have not been delivered fully such as the rehabilitation of rainwater harvesting infrastructure.

At 'mid-term', the achievement of the two outcomes are not on track, while one of the outcomes is on track (Outcome 2) and it would be critical at this stage to prioritize some activities, given the limited time remaining for the project. Some of the outputs have been delivered and impact is assessed as likely. However, some outputs have been significantly delayed and therefore a prioritization exercise has to be done.

Financial Management

The rate of spend is at 49.6% as of Q4 of 2021. The slow rate of spending is due to a slow project start-up but spending has picked up in 2019, but then spending reduced again because of Covid 19 pandemic and the restrictions associated with the pandemic. This percentage is likely to have changed to more than 50% spending because a significant amount of the budget has been disbursed for rainwater harvesting rehabilitation activities with the WNS Water Corporation after the 2021 Q4 reporting.

In the remaining months of the project, additional amounts should be disbursed quickly given that EbA interventions are almost completed.

Efficiency

Budget revisions were made to accommodate the changes made at the inception meeting, particularly as it relates to having a second office at the WNS. Some structural changes were justified. Other than that, the resources have been used wisely with an attention to the best value for money option. Cost saving measures have been employed where possible. Efficiency in the implementation of project activities, such as jointly holding meetings or merging activities where possible. While cost effective measures were employed, the fact that there were significant delays in implementation- such as the prolonged negotiations with the Water Corporation and with ARC makes this less efficient.

Monitoring and Reporting

The project reporting was done on time, with all the documents for reporting progress done, while meeting UN Environment standards.

On monitoring, the ProDoc includes a costed monitoring and evaluation plan which is well-conceived and sufficient to monitor results and track progress toward achieving objective. However, the lack of an M&E officer affected the day to day monitoring of project activities and achievements, and the perioding reporting and monitoring of progress. In the end, because of lack of an M&E officer, there was no systematic and continuous monitoring of the project result framework indicators, nor was there a systematic collection of lessons learned at PCU level- which contributes to outcome 3 of the project.

Other than the MTR, which was significantly delayed, project reporting meets UN Environment standards and is substantial and timely. In addition, the Results Verification Exercise by an external consultant was an adaptive management approach to overcome the limited monitoring taking place at project level, and also to support the MTR.

Sustainability

A number of sustainability strategies were included in the project document, but some were missing and have not been detected at project start, nor during implementation, which hinders sustainability. While that is the case, corrective action can still be taken at this stage and should be given priority. Of urgency is the development of an exit strategy that would explore how the project will be brought to a close, while sustaining its benefits.

Conclusions/ Response to MTR key strategic questions

This section focuses on the key strategic questions raised in the Terms of Reference of the Mid Term Review, and during the inception phase.

Extent to which the project is likely to generate evidence of ecosystem-based adaptation benefits to local livelihoods, State and national economy whilst considering medium and long-term climate change projections. What are the emerging lessons learned and best practice?

1. Based on the project documentation and the discussion with stakeholders during the MTR mission, evidence has been generated to demonstrate ecosystem-based adaptation as an approach to benefit local livelihoods, while considering current climate impacts. For example, the use of improved seeds for groundnuts and millet led to communities harvesting at a minimum double what they would have harvested if they used traditional seeds. The same can be said about the rearing of drought resistant small stock, communities were able to generate income from the sale of milk and milk products, meat and sale of young goats for production.

2. A weakness of the project is the link to near term and long term climate risks. For example, climate projections did not inform some of the activities and the actions taken. The project was informed largely by current climatic events and impacts, such as recent crop yield losses, animal mortality and water scarcity.
3. Some of the lessons include:
    - Important to understand the concept of EbA at all levels. When decision makers understand the concept and the benefits, they will support it. Even the coordinators and other project officers need to understand the concept of EbA, so they can engage with it more and push the EbA agenda. Many stakeholders emphasized this point.
    - Determination of climate risk assessments in order to identify range of adaptation options and careful assessment of options to ensure ecological, social and environmental suitability, and avoid maladaptation.
    - Important to select the most appropriate implementation modality based on project realities. Currently, the EbA project is dependent on international and national consultants to carry out project activities.
    - Understand the finance and procurement systems of the country, and assess the strengths and weaknesses and requirements for integrating a donor funded project within the finance systems for ownership. At project inception, ensure that project is integrated into Ministry of Finance systems, to ensure no procurement challenges and also that co-finance is provided.

Extent to which the project implementation approach is effectively demonstrating ecosystem-based adaptation, and is more than a community-based natural resource management project?

4. By integrating climate change adaptation and EbA into the approach, the project is demonstrating that it is more than just a CBNRM approach. For example, there was strong consideration in the project design and in the implementation to balance between the activities that yield hard economic benefits such as using of improved sesame seeds or rearing improved goats, and balancing with long term EbA ecosystem services such as establishing shelterbelts on 10% of agricultural land. The aim of establishing shelterbelts is to reduce erosion on fertile land, protect from strong winds, control salinity and improve biodiversity. All of these are projected to worsen with climate change, therefore integrating shelterbelts in to agricultural activities contributes to building long term climate resilience.

Extent to which the project approach on integrated watershed management and ecosystem-based adaptation can also contribute to evidence on scaling-up of ecosystem restoration work to support the forthcoming UN Decade on Ecosystem Restauration (2021-2030) address the severe degradation of landscapes, including wetlands and aquatic ecosystems.

5. The project has demonstrated that ecosystem-based adaptation is an important approach to be used to scale up the ecosystem restoration work

in support of the UN Decade on Ecosystem Restoration. Systems approach and systems thinking is required. For example, the tree Damas Saudi was selected because of its ability to serve as a wind breaker and reduce evaporation from the open surface of Hafir. However, it was later learnt that the tree is deep rooted, water thirsty and can cause considerable damage to pipelines and infrastructure. Even though the aim of planting the trees around a Hafir was to serve as a wind breaker, it would have caused more damage because of its deep roots and water thirst, which would contribute to the depletion of the already scarce resources. .

6. The central role of the WNS Technical Committee was crucial to demonstrate EbA approaches. Multi-sectoral approach is important to break the silos and to have the different sectors talk to one another and allow for meaningful debates on the cross sectoral nature of climate change. Equally important is to have sub-national actors implement EbA projects. Subnational actors have an important role in engaging directly with and respond to the needs of the vulnerable sectors and communities. Ideally, they are fully conversant and compliant with the range of environmental and social safeguards at local levels. Therefore, when it comes to drive and deliver adaptation responses, subnational actors can meaningfully engage in the processes that show how climate change drivers and hazards impact the livelihoods and wellbeing of communities at the local level.

Summary of project findings and ratings

The table below provides a summary of the ratings and finding discussed in Chapter III. Overall, the project demonstrates a rating of Moderately Satisfactory.

Table 2: Summary of project findings and ratings

Criterion	Summary Assessment	Rating
A. Strategic Relevance		**S**
1. Alignment to MTS and POW and the GEF strategic priorities	The project is well aligned with the MTS, the POW and the GEF strategic priorities.	HS
2. Relevance to regional, sub-regional and national environmental priorities	The project is also well aligned with the national, and local priorities, needs and development plans. The communities in the WNS are very vulnerable to climate change and have little to no capacity to deal with climate change impacts. Therefore, the project is well aligned with the community needs and priorities too. The main weakness of the project lie in the lack of coordination and synergies with other relevant initiatives and this might affect the sustainability of the project	S
B. Effectiveness		**MS**
1. Delivery of outputs	The project faced a number of obstacles which impacted the delivery of the key outputs. Many of these obstacles were external factors such as the 2019 revolution, inflation and the global Covid 19 pandemic, which led to national lockdown measures and restriction of gatherings to contain the virus. Despite the challenges, some progress was made. For example, outputs related to improved technical and institutional capacity to implement EbA measure is lagging behind such as the policy briefs. The stocktaking exercise and the economic cost-benefit assessment are not completed. Outputs related to outcome 2 on reduced vulnerabilities of local communities has	MS

Criterion	Summary Assessment	Rating
	been mostly achieved, for example rangeland rehabilitation has been completed and so is the distribution of improved stoves. Majority of the outputs under outcome 3 have not been delivered.	
2. Achievement of direct outcomes	At 'mid-term', the achievement of two of the the three outcomes is lagging behind, while outcome 2 is on track. it would be critical at this stage to prioritize some key outputs to deliver such as the application of the EbA protocol template and the cost effectiveness of EbA. Some assumptions for progress from project outputs to direct outcomes partially holds; and drivers to support transition from output to direct outcome are partially in place	MS
3. Likelihood of impact, where appropriate/feasible	Even though it is difficult to assess likelihood of impact at mid-term it can nonetheless be noted that outcomes can be achieved, dependent on the delivery of remaining key outputs which would need to be prioritized. Some assumptions from project outputs to direct outcome either hold (A1 and A2), or hold partially (A3); and drivers to support transition from output to direct outcomes are either partially in place (D1) or in not in place (D2).	L
C. Financial Management		**S**
1.Rate of spend	The rate of spend is at 49.6%. The slow rate of spending is due to a slow project start-up but spending has picked up in 2019, but then spending reduced again because of Covid 19.This percentage is likely to have changed to more than 50% spending because a significant amount of the budget has been disbursed for activities with the WNS Water Corporation in 2022. In the remaining months of the project, additional amounts should be disbursed quickly given that EbA interventions are almost completed	MS
2.Quality and consistency of financial reporting	Most required items were complete and made available for the MTR (see Project Financial Table)	S
D. Efficiency	Budget revisions were made to accommodate the changes made at the inception meeting, particularly related to having a second office at the WNS. Some structural changes were justified but others, such as the two finance/admin posts were seen not to be cost-effective and that one finance officer would have been sufficient. Other than that, the resources have been used wisely with an attention to the best value for money option. Efficiency in the implementation of project activities, such as jointly holding meetings or merging activities where possible. While cost effective measures were employed, the fact that there were significant delays in implementation- such as the prolonged negotiations with the Water Corporation and with ARC makes this less efficient.	**MS**
F. Monitoring and Reporting		**S**
1. Monitoring design	The monitoring design in the project document covers all requested items	HS
2. Monitoring Implementation	The lack of an M&E officer affected the day to day monitoring of project activities and achievements, and the perioding reporting and monitoring of progress. As a result, there was no systematic and continuous monitoring of the project result framework indicators, nor was there a systematic collection of lessons learned at PCU level- which would contribute to outcome 3 of the project	MU
3.Project reporting	The project reporting meets UN Environment standards and is substantial and timely, other than the MTR which was significantly delayed because mostly of external factors.	S
F. Sustainability	A number of sustainability strategies were included in the project document, but some were missing and have not been detected at project start, nor during implementation, which hinders sustainability. While that is the case, corrective action can still be taken at this stage and should be given priority. Of urgency is the development of an exit strategy that would explore how the project will be brought to a close, while sustaining its benefits.	**MS**
I. Factors Affecting Performance		**MS**

Criterion	Summary Assessment	Rating
1. Preparation and readiness	Most project preparation procedure were dealt with in a timely manner. However, due to challenges such as difficulties in securing the project management team and changes in HCENR leadership, the project startup was severely delayed, with the project having a fully functional project management team only in the second quarter of 2018, while project signing was done in 2017	MS
2. Quality of project implementation and execution	The Project Steering Committee (PSC) and the WNS Technical Committee (TC) have been established on time and both functioning well and carrying out their mandates. The relationship between PCU and the WNS TC is both constructive and positive. It was reported that at the beginning, cross sectoral collaboration at the level of the WNS TC was challenging, but with time and as the project continued, stronger cross sectoral collaboration emerged, and even promoted outside of the project However, some challenges have been reported during the MTR mission. The main challenge is the high staff turnover of the members of the WNS TC, some of the members could be deployed to different departments and as a result, there is limited continuity. Secondly, while it was reported that the EbA project was 'filling in a gap', it was also reported that sometimes implementation of EbA activities was not prioritized because the activities would fall outside of the institutional workplan. The UN Resident Coordinator Office determined DSA rates for Sudan are considered as low and was also mentioned as a disincentive to prioritise the EbA activities by the WNS partners. Other challenges include the high dependence of international consultants to implement activities and the procurement challenges. All these factors have contributed to the delay in the implementation of the project. Nonetheless, the project so far has shown adaptive management abilities. It has been the case for instance through budget revisions: several budget lines were merged which allowed to save funds that were reallocated to cover the cost associated with changes made at the inception workshop of having a second office in the WNS, and the project extension	S
3. Biophysical conditions	The MTR mission interviews revealed that a tree by the name of Damas Saudi (conocarpus lancifoliu) has been planted in the area as part of the activities that fall under output 2.2 on regeneration of critical ecosystems. However, stakeholders particularly from the National Forest Corporation, raised concern that the tree might not be appropriate for adaptation in that it is deep rooted, water thirsty and can cause considerable damage to pipelines and infrastructure in urban environments as reported elsewhere. The evaluator tried to investigate how the tree was selected and learnt that the trees was selected based on the understanding that it is drought resistant, a source of woodfuel and fodder, can serve as a wind breaker and reduce evaporation from the open surface of Hafir and that it is used in Khartoum and adjacent areas as a windbreak and for landscaping. It is still not clear how the tree was selected because neither the ProDoc nor the baseline survey mentions the criteria for selection of trees, and this tree in particular. Moving forward, it is strongly recommended that the EbA project and the NFC discuss the suitability of this tree in the EbA project, particularly for regeneration of critical ecosystems and for establishing wind shelter beds, in the context of current and future climate change scenarios.	MS
4. Stakeholder participation	Stakeholder engagement took place with a diverse range of stakeholders through a variety of platforms such as the Project Steering Committee meetings, White Nile State Technical Committee meetings, Project Coordination Working Group, Village Development Committees and community meetings. However, the MTR mission has revealed that there are some key stakeholders that are missing in the project implementation and governance structure, such as Meteorological services- who are important players particularly as the project intends to understand the current and future climate vulnerabilities and risks for vulnerable communities	MS

Criterion	Summary Assessment	Rating
	The major challenge to the stakeholder engagement process has been the COVID-19 pandemic. To contain the virus, the Government of Sudan took measures, including social distancing, travel restrictions and lock downs. This affected the stakeholder engagement process, particularly the face to face project meetings and outreach activities that were originally planned. To this end, the project team did institute adaptive management measures to ensure the project is not significantly affected. For example, project meetings, training sessions and stakeholder consultations were done using virtual platforms.	
5. Responsiveness to human rights and gender equity	As per project document, "All project interventions have been developed in accordance with internationally proclaimed human rights, in conformity with UN guidelines. In addition, all activities were developed together with various stakeholders to ensure that no rights or laws are infringed by the proposed activities". In addition, gender has been taken into account in the project logical framework through several gender disaggregated indicators. Since the project started, reports indicate that women formed 43% of all project beneficiaries. Training sessions have also recorded an average of 39% to 53% women representation. Similarly, women are also involved in the local community governance structures (Village Development Committees) where they constitute at least 30% of membership. At the same time, the project is supporting implementation of gender-specific adaptation technologies such as the improved stoves. However, there is no strong representation of women's organisation in the governance structure, despite them being included in the project documents. For example, the White Nile State Women's Union. There is only the gender department. in addition, in terms of leadership of VDC's, men still dominate, with only 1 out of 43 VDC's being chaired by a woman.	S
6. Country ownership and driven-ness	Consultation with project stakeholder have expressed during the MTR their willingness to mainstream EbA across the different sectors but mentioned that one of the main challenges was the limited funding available. Some stakeholders have even suggested that the project be scaled up to all states in Sudan, and not just limit it to the WNS At the community level, strong positive sentiments were shared about the EbA project, and the impact it is having on communities. Despite some of the challenges highlighted earlier, communities still saw many positives of the project and see this as a launching pad for other EbA type of projects and initiatives. The only challenge they foresee is funding, and it is hoped through the revolving fund, many of the EbA activities can continue after the life of the project. The government has pledged significant co-financing for the project as a testament of the willingness and commitment to the project. However, circumstances changed from the time the commitment was made, for example, the 2019 revolution, political instability, Covid 19 have all contributed to the government not meeting their commitments. Although not fully realised, the government has met 30% of the government co-financing contribution. Given all the challenges the country is facing, this contribution is significant and needs to be acknowledged. Stakeholders mentioned that they would be looking to the Green Climate Fund to support follow up activities	MS
7. Communication and public awareness	Awareness creation activities were conducted at various levels, including at the highest decision-making level and at the state level. Activities included training on the template protocol and developing monitoring plans of the EbA interventions. In addition, all foundational work in strengthening the information base and knowledge of EbA is ongoing. For example, a draft concept on the methodology for undertaking a stocktaking exercise to identify entry points to incorporate EbA. This is an important activity to	MS

Criterion	Summary Assessment	Rating
	enhance the knowledge base of EbA in the country, and to promote mainstreaming into existing policies, strategies and budgets. While this has been done at the federal level and state level, more interaction at the community level is needed. The VDCs and WUAs in particular provide an opportunity for the project to strengthen their capacity to enable them to better integrate EbA principles in natural resources management.	
Overall Project Rating	**MODERATELY SATISFACTORY**	**MS**

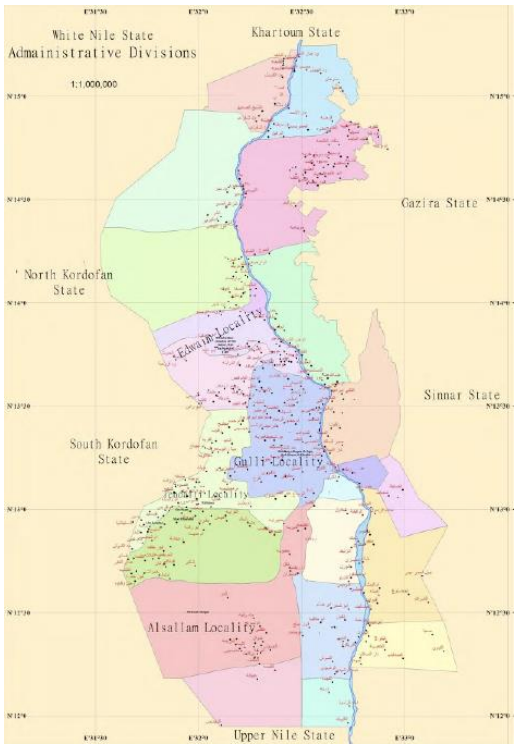
I. PROJECT OVERVIEW

A. Context and Project Description

7. The project "Enhancing the resilience of communities living in climate change vulnerable areas of Sudan using Ecosystem Based approaches to Adaptation" in Sudan is funded by the Global Environment Facility (GEF)/ Least Developed Country Fund (LDCF). The Implementing Entity (IE) for the project is the UN Environment Programme (UNEP), and the Higher Council on Environment and Natural Resources (HCENR) acts as the Executing Agency (EA). The project got approval from the GEF/LDCF on August 11, 2016, and actual project launch took place in January 19th 2017. Project implementation was initially set to last for a duration of 4 years, but a two year no cost project extension of up to June 30, 2023 was approved by the PSC on the 24th June 2021.

8. Sudan is classified as highly vulnerable to climate change and climate variability, as a result of climatic and non-climatic factors. These factors, in addition to the interaction of other multiple stresses such as ecosystem degradation, disasters, limited financial resources, high rates of unemployment and poverty have all weakened people's ability to adapt to changes in climate. As one of Sudan's most vulnerable regions, the White Nile State (WNS) is severely impacted by the climate change induced droughts and floods.

9. As indicated in Sudan's National Adaptation Program of Action (NAPA-2007) and National Adaptation Plan (NAP-2016), small holder rain-fed farmers and pastoralists in the WNS are particularly vulnerable to climate change due to inappropriate and unsustainable agricultural practices, insufficient water and land management and lack of alternative non-agricultural and non-pastoral income generating activities. Most notably, increasing temperatures, decreasing trends of annual precipitation as well as increased variability, are causing a gradual shift of arid ecological zones from north to south. As a result, climate change impacts in WNS have already been manifested in declining crop and animal productivity, loss of grazing resources and rangeland valuable species, land degradation increased frequency of human, animal and crop diseases, loss of livelihoods and human migration in search for jobs and alternative livelihoods.



10. Due to the acute vulnerability to current and future climate change impacts faced by poor communities, the risks associated with climate change therefore need to be carefully managed in order to ensure the survival and

well-being of Sudanese communities. In response to this, the project "Enhancing the resilience of communities living in climate change vulnerable areas of Sudan using Ecosystem Based approaches to Adaptation (EbA)" was developed by the Higher Council for Environment and Natural Resources (HCENR) in collaboration with UNEP and other stakeholders. The project aims to increase the resilience of livelihoods and integrated productive agricultural systems in the WNS through EbA approaches. More detailed maps of project sites in the WNS are included in Annex III.

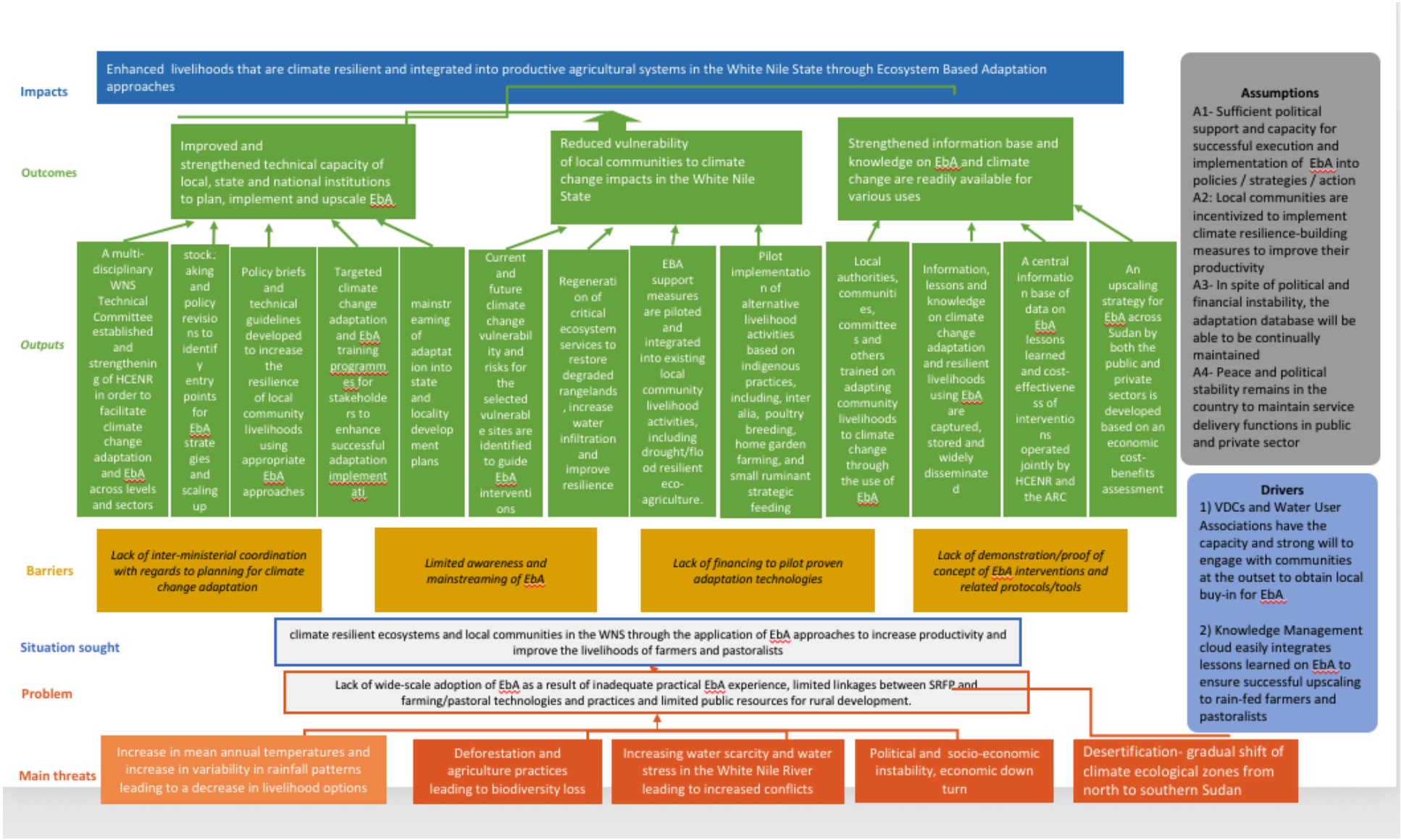
11. The ultimate aim of the project is to build climate resilience of ecosystems and local communities in the WNS by improving their access to ecosystem services, such as agriculture, food and water. Further, the project is expected to support communities to manage agro-ecological systems in a sustainable manner while at the same time increasing rangeland productivity. This objective will be achieved through three components:

    - Outcome 1: Improved and strengthened technical capacity of local, state and national institutions to plan, implement and upscale EbA.
    - Outcome 2: Reduced vulnerability of local communities to climate change impacts in the White Nile State.
    - Outcome 3: Strengthened information base and knowledge on EbA and its cost- effectiveness are readily available for various uses.

12. The detailed project's results framework is presented in Annex I.

13. The projects Theory of Change (TOC), which was provided in the ProDoc presented the objective, outcomes, outputs, assumptions and drivers. While the TOC provides more link between inputs and results, it does not adequately provide a clear problem statement, and explain some of the barriers and possible threats that could possibly impact project results. Based on the results frameworks in the ProDoc, the baseline study, the Inception Report and the PIRs, a reconstructed project TOC is presented in Figure 1

Figure 1: Reconstructed Theory of Change of the Project



B. Institutional Context and Implementation Structure

14. The project is implemented by UN Environment and executed by the Higher Council for the Environment and Natural Resources (HCENR).

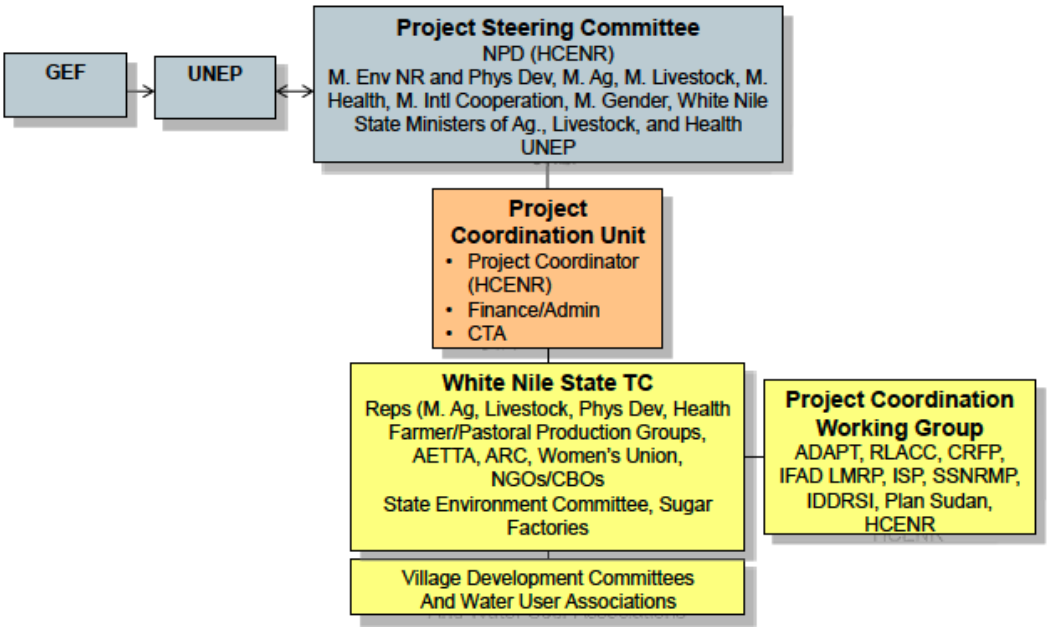
15. The management structure of the EbA project, as conceived at project design, is presented in Figure 2: Organogram of the Project with key project key stakeholdersFigure and comprises:

- The Project Coordination Unit (PCU) for the execution of the project, comprising of a Project Coordinator, a Financial and Administrative Assistant and a Chief Technical Advisor. At the state level, the PCU is assisted by a State Technical Committee delegated by HCENR, who is responsible for state-level technical implementation of the project. However, at the inception workshop, the management structure was changed to establish the White Nile State (WNS) Project Implementation Unit (PIU) composed of State Project Coordinator, Monitoring and Reporting Officer, Administrative/Finance Assistant and Driver. The rationale was to establish an additional layer at the local WNS level to facilitate the smooth execution of project activities at the local level and to support the federal level PCU in coordination of project activities.
- The Project Coordinator (PC) has the responsibility to lead and direct the PCU and be accountable to the Project Steering Committee (PSC) and its Chair, under the direct supervision of HCENR.
- The PSC was expected to be chaired by the Secretary General (SG) of HCENR at project design. However, during the inception phase, this chairing role changed to the Minister under the Ministry of Environment Natural Resources and Physical Development (MENRPD), and deputized to the SG of HCENR. During this time, most of the members of the PSC were Ministers. But from the 2nd of December 2018, the Ministry of Environment ceased to exist, and the chairing of the PSC reversed to the Secretary General of HCENR, and the membership of the PSC during this time were mostly senior government officials. The PSC is expected to play an oversight role, and provide support, policy guidance and supervision for the project.
- The State Technical Committee (TC) supports the PCU at the state level. It builds of the State Environment Committee (SEC) formed during NAP preparation. Other than the SEC members, it is comprised of state representatives from the WNS Ministries of Agriculture / Livestock, Ministry of Physical Development, Ministry of Health, and Plan Sudan (an international NGO), Farmer/Pastoral Producer's Groups (2), the Agricultural Extension and Technology Transfer Administration (AETTA) (1), the Agricultural Research Corporation, the White Nile State's Women's Union and representatives from the sugar factories in the state and the Village Development Committees (VDCs). However, during the MTR mission, it was observed that the NGO Plan Sudan and the WNS Women's Union were no longer participating at the meetings. For the WNS Women's Union, it was learnt that the organisation was no longer active after the revolution. But for Plan Sudan, while they were not part of the TC, they were invited to the project events and other activities, but their participation was low. In later sections, their future involvement in the project will be discussed.
- Project Coordination Working Group (PCWG) responsible for the coordination and dialogue between the ongoing projects at the state level including the LDCF2 project (UNDP), the African Developmen Bank's Rural Livelihoods Adaptation to Climate Change Programme (RLACC) , the ADAPT!

project (UNEP), the current State CRFP project, the IFAD Project coordinator, the Sudan Sustainable NRM Project (SSNRMP). While the project reports show that the PCWG met at least bi annually, there was no evidence to demonstrate that the group engaged on complementarity of the project with similar initiatives, as they are mandated to. There were no minutes of the meetings to further validate this point but from the interviews during the MTR mission, lack of complementarity was highlighted as a gap. The role of the PCWG was to work towards i) promoting synergy between projects; ii) preventing the duplication of activities; iii) optimizing the effects of the project interventions; and iv) sharing lessons learned. The lack of engagement on the issue on complementarity has severely affected the project's ability to develop synergies for greater impact. More details on this situation are provided in the section on complementarity

- National and international experts to provide technical support for tasks that cannot be conducted by government staff. This includes a Chief Technical Advisor (CTA) who works closely with the PC to assist in the management of project activities. Other experts include the International adaptation and EbA policy expert, the International EbA expert, the international Adaptation economist, the national Community Based Natural Resources Management (CBNRM) expert. During the course of the project, it was proposed to recruit a national adaptation policy expert to support the International adaptation and EbA policy expert as well as the international Adaptation economist to carry out their tasks. This is an adaptive management response to deal with delays from the international consultants as a result of Covid 19 pandemic restrictions on travel.
- During the inception workshop, the following institutions were included as part of the PSC- Ministry International Cooperation, Ministry of Water Resources, Irrigation and Electricity and the National Research Center.
- The UNEP Task Manager monitors the project's implementation and achievement of the project outcomes and outputs – and ensures the proper use of GEF funds.

Figure 2: Organogram of the Project with key project key stakeholders



C. Description of targeted stakeholders

16. Main project's stakeholders are presented in Table 3 below.

Table 3: Project stakeholders

Main stakeholders	Relationship to the project
PCU (Federal) and PIU (State)	Day-to-day management and implementation of the project
UN Environment	Project management and supervision
PSC Members	Project strategic direction and supervision
HCENR	Project execution, training beneficiary
Other Ministries at federal and state level	Coordination, training beneficiary
Other donors, baseline initiatives	Coordination
Water Corporation, Agricultural Research Corporation, National Forest Corporation, Range and Pasture	TC member, implementing partner, training beneficiary
White Nile State	Training and awareness raising beneficiary
Villages within WNS	Training and awareness raising beneficiary
Humanitarian Aid Corporation (HAC)	Training and awareness raising for communities, and the support of VDCs
Communities and VDCs	End beneficiaries (Training, awareness raising beneficiaries, EbA implementation, livelihood opportunities)
Consultants and project executing partners	Implementing partners
Private Sector	Implementing partners and beneficiaries

D. Major agreed changes to the project

Changes in the results framework

17. A baseline study was finalized in August 2020 and proposed some adjustments to the project results framework. However, there is no evidence that the updated project results framework was approved by the PSC and therefore integrated the changes. The main changes to the indicators, and evaluators comments, are shown in the table below:

	Indicator	Indicator from baseline	Evaluators comments
Project objective	Percentage of targeted HHs (head of HH disaggregated by gender) that have adopted EbA measures which improve access to climate change resilient food / water sources for improved agricultural productivity	Targeted households 8,389 HHs	The number of targeted HH was revised based on projected population of the villages where the project is piloted. This target population changed from 6,400 to 8,389. It is suggested to use the revised targeted HH number
Outcome 1	Number of national and state development frameworks that have integrated EbA planning and budgeting for implementation and upscaling	Additional indicator # of Staff from National and State institution have increased capacity and effectively participated in developing EbA frameworks.	The additional formulation from the baseline study is unclear as there is no current baseline of "capacity" and therefore difficult to measure. Suggested rephrasing to "# of Staff from National and State institution

	Indicator	Indicator from baseline	Evaluators comments
			that have ~~increased capacity and~~ effectively participated in developing EbA frameworks" Given the political situation in the country, it is unlikely that some of the outputs related to developing policy frameworks will be achieved. In order to achieve outcome 1, it would be crucial to revise some of the indicators and targets to ensure they are realistic. The suggested revisions are outlined in the table.
Output 1.1	Development of a White Nile State Technical Committee with a clear mandate to promote and coordinate climate change and resilience building projects and activities in the State	Rephrased - White Nile State Technical Committee established with a clear mandate to promote and coordinate climate change and resilience building projects and activities in the State	Revise indicator based on suggestion from baseline survey
Output 1.2.	A stocktaking exercise undertaken and revisions of existing national and White Nile State policies and strategies identifying entry points for EbA and cost-effective up-scaling strategies for climate-risk informed EbA planning and budgeting.	1.2.1 - Number of policies and strategies revised at State and national level that account for EbA	The target for Output 1.2 was "1 National level policy and 1 state level policy revised to account for gender-sensitive EbA". Given the reasoning in the above sections, it is recommended to amend to the following: • indicator 1.2.1 to - " number of reports that have identified entry points for mainstreaming EbA approaches" • target- a stocktaking report with identified entry points for mainstreaming gender sensitive EbA
Output 1.4	Number of field visits conducted to provide lessons learned on adaptation / EbA implementation with a focus on gender	Additional indicator - Number of stakeholders (disaggregated by gender) participated in CC adaptation and EbA planning/ implementation/ training programmes	Revise indicator based on suggestion from baseline survey
Output 1.5.	Facilitation of a local policy dialogue (based on vulnerability assessments and practical experiences from pilot	1.4.1 Number of state/locality development plans that have mainstreamed gender-sensitive EbA	The target for this At least 4 state/locality development plans have mainstreamed gender-sensitive EbA Given the reasoning in the above sections, it is recommended to amend to the following: • indicator 1.4.1 to -" Number of policy dialogues on

	Indicator	Indicator from baseline	Evaluators comments
			mainstreaming EbA into national and state policy frameworks" • target- "at least one national and one state level policy dialogues on mainstreaming EbA into policy frameworks"
Outcome 2	Percentage of targeted HHs (head of HH disaggregated by gender) that have adopted EbA measures which improve access to climate change resilient food / water sources and improved ecosystem services (e.g., via reforestation and rangeland regeneration)	same	The formulation of the indicator is exactly the same as the indicator of the project. Suggest to rephrase. Revised indicators- number of households that state that their vulnerabilities have reduced as a result of the EbA project.
Output 2.1	Risk and vulnerability assessments conducted for selected vulnerable sites in the White Nile State to guide EbA interventions	Additional- Number and geo-referenced locations for the vulnerable sites were identified	Suggested rephrasing to "Number of risk and vulnerability assessments conducted for selected vulnerable sites in the White Nile State to guide EbA interventions" Suggest to delete the word "were" to ensure indicator is SMART. Suggested rephrasing to "Number and geo-referenced locations for the vulnerable sites ~~were~~ identified"
Output 2.2	Number of hectares of land reforested and rangelands protected and regenerated to restore critical ecosystem services	Area (hectares) of forest land rehabilitated to restore ecosystem services Area (hectares) of rangeland rehabilitated/protected and regenerated to restore critical ecosystem services	Suggest to adopt the formulation of indicator from the baseline survey
Output 2.4	- Number of women practicing backyard gardening and/or post-harvesting in each locality - Number of women using improved cookstoves - Number of men/women with new access to solar powered hand pumps for wells - Number of men/women supported with feed	Additional - Number of men/women who have diversified cropping system	Suggest to adopt the additional indicator from the baseline survey

	Indicator	Indicator from baseline	Evaluators comments
	supplements for small ruminants - Number of men/women using revolving funds established by the project - % of men/women revolving fund recipients who have successfully repaid loans		
Output 2.5	Percentage of targeted local authorities, community members, VDCs and WUAs trained on implementing, maintaining and monitoring EbA interventions	Additional - Number of training workshops organized by the staff or the project partners on CC and EbA measures.	Suggest to adopt the additional indicator from the baseline survey
Outcome 3	Number of lessons learned, demonstrations of intervention cost-effectiveness and upscaling strategies on EbA integrated into the existing Cloud database	Additional - Number of websites mentioning EbA Sudan activities, news and interviews. - Number of citations and online visits that are linked to EbA Sudan and CC reviews	Suggest to adopt the additional indicator from the baseline survey
Output 3.1	Number of workshops held in local communities to disseminate lessons learned on using EbA	Additional- Number of publications (books booklets, manuals, or articles, online posts) on EbA and CC adaptation developed by the project or partners	Suggest to adopt the additional indicator from the baseline survey
Output 3.2	Number of links between the Cloud database and regional adaptation databases such as the African Adaptation Knowledge Network in order to disseminate lessons learned on EbA from Sudan experiences	Additional - - Number of citations	The indicator "number of citations" is incomplete. It is also similar to indicator of outcome 3. The formulation of the activity does not include dissemination, and therefore it is suggested that this additional indicator is removed from output 3.2
Output 3.3	Upscaling strategy developed for EbA based on a cost-benefit assessment	same	Reformulate to read "Existence of an upscaling strategy for EbA based on a cost benefit analysis"

Budget changes

18. The following budget changes were agreed upon so far:

- Budget line (BL) 1101 "National Project coordinator (USD 120,000) was increased to 263,303 in order to cater for the increase from 2,500 to 3,000 monthly, and include National Social Security; and to cater for the salary during the extension period of 2 years until 2023;
- BL 1103 "Project drivers" (USD 16,400) the allocation was increased to USD 38,500 to cater for a second driver in the White Nile State Project Office, as per the recommendations from the National Inception Workshop. The increase is also as a result of the project extension until 2023;
- BL 1201 "International EbA Expert" was reduced from USD 75,000 to USD 72, 460 as per the agreed costs between UN Environment and UNOPS;
- BL 1202 "National Community-Based NRM Expert" was increased significantly from USD 139,000 to USD 284,477 to accommodate the costs of the WNS Coordinator, as per the recommendations of the Inception workshop. The budget was further revised in 2020, and 2021 to cater for the salaries of the National Community-Based NRM Expert and the WNS Coordinator during the project extension period;
- BL 1204 and 1205 were each reduced in line with project costs estimates between UN Environment and UNOPS. The Adaptation expert (BL 1204) was revised from USD 112,000 to USD 102,112; and the International Adaptation Economics/Policy Expert (BL 1205) was revised from USD 85,800 to USD 70,488;
- The budget for the National Revolving Fund Expert (BL 1206) was increased from USD 20,000 to USD 35,000 to accommodate inflation and foreign exchange variations;
- A "National Adaptation Intervention and Policy/Economic Expert" role was created under a new budget line 1207 to support the international adaptation and policy expert and the international adaptation economic expert;
- BL 1301 "Admin and Finance Assistants" was increased to accommodate the salary of a second Admin and Finance Assistant at the WNS, according to the recommendations of the inception workshop. The budget increased from USD 72,000 to USD 208,212 to cater for the second staff and the salary during the extension period;
- A new budget item BL 1302 "Support staff" was introduced in 2019 to accommodate costs in the two project offices- Khartoum and WNS. The budget of USD 38,196 was allocated to cover the costs of support staff, including during the extension period;
- A new budget item BL 1303 "Strengthening procurement systems of HCENR" was introduced in 2019 to facilitate the strengthening of procurement processes to enhance effective implementation of the project. The budget was USD 15,000;
- Budget related to travel, including BL1601, 1602, 1603, 1604 and 1605 were reduced because of a number of reasons, including reduced travel costs because of the availability of two project cars, which has meant that the amount allocated for car rentals will reduce, and secondly, budget for travel is spread out in 5 budget lines, which means the project can utilise all these budget lines for travel purposes.
- The budget lines for the subcontract component- BL 2201,2202, 2203, 2205, 2206, 2207, 2209, 2211, 2215 and 2218 were all revised and decreased by an overall 13% against the original budget. Reasons for the revisions include the engagement of a national Policy/ Economic expert and the M&E expert- both will provide support to some of the activities, thereby reducing the subcontract costs.

19. The bulk of the budget revision was done to accommodate three major issues outlined below. The revisions followed the GEF and UN Environment guidelines for budget revisions. The major issues are:

- Establishment of the White Nile State Project implementation Unit, which was decided at the inception report meeting to support the PMU to facilitate the smooth execution of project activities at the local level. Learning from previous project implementation, it was considered necessary to address one major problem related to low project delivery. Therefore, this change in the structure has budgetary implications and therefore revisions were necessary.
- Extension of project until 2023 has budgetary implications by increasing the budget for project management and budget reallocation from other activities to accommodate the increase. Overall total budget for the project remained the same.
- Inflation that occurred in the aftermath of the 2019 revolution had implications on costs as prices soared and the depreciation of the Sudanese Pound.

E. External challenges faced by the project

20. One of the main external challenge faced by the project was and still remains the political instability of Sudan. The revolution of 2019, and possibly a year prior to that, brought about institutional changes in government, the ministries and the leadership of the ministries. Of relevance to the EbA project, the environment ministry was removed and the environment mandate was moved to HCENR. This meant that the role that was to be played by the environment ministry in the project was now moved to HCENR.

21. The other external challenge relates to the high inflation that the country experienced after the 2019 revolution, which led to prices of goods and services soaring, the subsequent depreciation of the Sudanese Pound against the US Dollar and periodic shortages of fuel. This impacted the project negatively because the cost of goods and services that the project had planned to procure, increased sharply in a short space of time affected the budget. Additionally, severe shortage of currency in the banks in 2019 and 2020 affected cash flow thus causing delays in execution of project activities.

22. The Covid 19 Pandemic affected the project negatively. For almost two years, activities were largely paused because of national lockdowns and containment measures to halt the spread of the virus. This meant that gatherings and any activity that involved contact were paused for almost two years. Therefore trainings, workshops and international travel were paused, which had a negative impact on the project.

23. Lastly, the project experienced challenges with regards to the cultural barriers in promoting inclusion. Gender mainstreaming remains a challenge in some communities, particularly in Adweim locality, due to cultural barriers that limit women's participation in decision-making processes. According to the project reports, the project team has been holding sensitization workshops with village elders to raise awareness on the need for gender inclusion in development processes.

F. Project financing

24. The project budget amounts to USD 4,284,000 as the GEF contribution. At the end of 2021, USD 2,207,968.73 (51.5%) was disbursed, and by end of Q4 of 2021, 49.6% of the total budget was spent, which is USD 2,124,815.20. In the project document, five co-financing sources were identified, namely White Nile Water Corporation, WNS Animal Wealth Administration, WNS Range and Pasture Administration, Ministry of Agriculture, Irrigation and Forests and UNEP's UK Government financed Adapt for Environmental and Climate Resilience in Sudan Project (ADAPT!), for a total co-financing amount of USD 7,915,200. By the end of 2021, only 30% of co-financing contribution has materialized, mostly in-kind, with only UNEP ADAPT! project having met 100% of their commitment. Detailed project financing information is provided in Section C below.

II. REVIEW METHODS

25. The Mid-Term Review (MTR) was conducted from November 2021 to April 2022. The aim of the MTR is to assess project performance to date (in terms of relevance, effectiveness and efficiency), and determine the likelihood of the project achieving its intended outcomes, including their sustainability. The detailed ToR of the MTR are included in Annex VII. The MTR is informed by the project results framework as outlined in the ProDoc, the inception report and the baseline survey, and this serves as a basis for ensuring the project delivers on its intended outcomes. As part of the implementation, a baseline study was undertaken in August 2020, with the intention of updating the indicators and targets. Further, the Results Verification (RV) exercise, was carried out between January and March 2022, with the aim of measuring and verifying actual project results as reported against the project's results framework indicators and targets and using the means of verification stated in the results framework. The RV report has been completed and approved.

26. It should be noted that work had to pause because of the political instability in the country which delayed the MTR field mission.

Inception

27. The MTR started with an inception phase including a preliminary documentation review, and preliminary interviews with UN Environment, the PC, the CTA and the SG of HCENR. This phase closed with the validation of the inception report that included a presentation of the project, a preliminary analysis of the project results framework, a reconstructed theory of change, an analysis of the project design, a stakeholder analysis, a description of the review methods, and the structural framework of the review in the form of a detailed review matrix. For each evaluation criteria, the matrix identifies evaluation questions, indicators, means of verification and sources of information. This matrix is presented in Annex II and serves as the backbone of the MTR.

Literature review

28. The evaluator reviewed all project-related documentation, including relevant background documentation, project design documents, annual work plans and budgets, PSC meetings minutes, project budgets and expenditure reports, project progress reports (including six-monthly progress and financial expenditure reports), technical studies and reports produced by the project. All the data collected through the literature review was compiled in a data collection matrix following the structure of the review matrix in order to ensure systematic triangulation of information. A list of reviewed documentation is presented in Annex V.

Field mission and interviews

29. The evaluator conducted a field mission to Sudan from 28 February to 09 March 2022 to meet and interview key project stakeholders and to conduct site visits in Khartoum (5 days) and in the White Nile State (4 days). The list of people met during the mission and the mission agenda are presented in Annex III. Additional interviews were conducted virtually with a few stakeholders that could not be met in the field.

30. Similarly, to the literature review, all the information collected during the field mission and interviews was compiled in a data collection matrix.

31. At the end of the field mission, the evaluator presented the reflections to HCENR, PC, CTA and UN Environment and discussed the main outcomes of the mission and further collected their comments and feedback. This approach aimed to ensure that the project team was actively associated to the data collection process and analysis, in order to increase their ownership of the review findings.

Analysis and reporting

32. The MTR used a mix of quantitative and qualitative methods and both secondary and primary data, which were systematically triangulated, to come up with an evidence-based assessment. The analysis aims to not only use information on the progress of implementation of each of the project outputs, but also on the context, on the role of the implementing partners, and on the institutional and political changes brought about by the project. While an MTR cannot measure final impacts, the evaluator sought to draw a picture as to whether all the ingredients required to bring lasting change are into place, whether any risks should be addressed, or any opportunities should be seized. In this sense, the evaluator intends to go beyond the assessment of "what" the project performance is to provide a deeper understanding of "why" the performance is as it is, and what can be done to improve the achievement of the expected project objectives and their sustainability.

33. In addition to the evaluation questions provided in the review matrix, the MTR aims to answer three Key Strategic Questions provided in the Terms of reference (ToR) in Annex VII, namely:

    - Extent to which the project is likely to generate evidence of ecosystem-based adaptation benefits to local livelihoods, State and national economy whilst considering medium and long-term climate change projections. What are the emerging lessons learned and best practice?
    - Extent to which the project implementation approach is effectively demonstrating ecosystem-based adaptation, and is more than a community-based natural resource management project?
    - Extent to which the project approach on integrated watershed management and ecosystem-based adaptation can also contribute to evidence on scaling-up of ecosystem restoration work to support the forthcoming UN Decade on Ecosystem Restauration (2021-2030) address the severe degradation of landscapes, including wetlands and aquatic ecosystems.

34. These cross-cutting questions are addressed throughout the report and in the Conclusions paragraph 172-178 below.

Review limitation

35. While the duration of the in-country mission was sufficient to carry out all interviews both at the federal level and at the state level, the evaluator could not reach most of the villages in the WNS because of the remoteness of the villages. As a result, the evaluator was able to travel to two localities out of four to meet with the beneficiaries. Secondly, the manner in which the meetings were organised did not allow for in-depth discussions with the

project beneficiaries as the village leadership was always in meetings, and sometimes dominating and answering questions on behalf of the beneficiaries. To mitigate against this, additional focus group meetings were held with a smaller group of beneficiaries, without the village leadership. For example, in Wadalkoat village in Al-Salam locality, an additional meeting was organised with a group of women in order to provide them with opportunity to share their views on the project. The final limitation is that the evaluator was not able to meet any Civil Society Organisation (CSO) or any other projects/initiatives, other than the UNEP ADAPT project. This limitation experienced by the evaluator is also one of the major challenges faced by the project regarding limited engagement with CSO and other initiatives.

III. REVIEW FINDINGS

A. Strategic Relevance

Alignment to the UN Environment Medium Term Strategy (MTS) and Program of Work (PoW) and the Global Environment Facility (GEF) Strategic Priorities

36. The project is aligned to the UNEP Medium Term MTS (2018 – 2021), the UNEP's MTR 2022-2025 and the Program of Work (PoW) 2018-2019, 2020-2021 and 2022-2023 under the Sub programme "Climate Change". Under this Sub-programme, the PoW specifically aims to provide support to vulnerable countries in the implementation of EbA approaches, analyse their effectiveness and enhance the economic benefits of EbA approaches. The programme is also aligned with the Sub-programme 3 on "Healthy and productive ecosystems", which aims to support countries with the management of ecosystems through an integrated approach that helps to restore ecosystems while at the same time, enhance ecosystem good and services.

37. The EbA project is also linked to Sudan's UNDAF 2018-2021 focus area 2 on Environment, Climate Resilience and Disaster Risk Management. The contribution of the project to the UNDAF is outcome 2, which states that "By 2021, people's resilience to consequences of climate change, environmental stresses and natural hazards is enhanced through strengthened institutions, policies, plans and programmes.

38. The main aim of the EbA project is to "increase the climate change resilience of livelihoods and integrated productive agricultural systems in the White Nile State through Ecosystem Based Adaptation Approaches". Furthermore, the project is to improve the resilience of vulnerable rain-fed farming and pastoral communities against the known and predicted effects of climate change. The project also demonstrates the cost-effective, low-regret options for adaption, and this includes demonstration of climate-resilient practices such as EbA and climate-resilient land and water management. This makes the project very well aligned with the UN Environment Medium Term MTS (2018 – 2021) and the Program of Work PoW 2018-2019 and 2020-2021, in particular the following outcomes:

    - Countries increasingly advance their national adaptation plans which integrate ecosystem-based adaptation
    - Increase in the number of countries that are ready to access or that have accessed climate change adaptation finance to implement adaptation plans

39. The project is also aligned with the GEF 7 Climate Change Adaptation strategy objectives and targets. In particular, the project contributes to increase the number of people benefiting from vulnerability reduction interventions. The project reached 43 targeted villages with the objective of enhancing climate resilient food/water sources and improved ecosystem services.

40. As the project intends to build capacity and foster climate change outreach and awareness-raising through undertaking EbA pilot initiatives, it contributes to the following EA1 indicators:

- i) Countries increasingly advance their national adaptation plans, which integrate ecosystem-based adaptation- under the climate change sub-programme
- ii) Policymakers in the public and private sectors test and consider the inclusion of the health and productivity of ecosystems in economic decision-making- under the Healthy and productive Sub-programme

The key deliverables from the above sub-programmes include the following:

- Ecosystem-based adaptation is piloted and integrated into national development plans- key deliverable
- Development and dissemination of tools and methodologies for integrated ecosystem management

41. The EbA project falls under two replenishment cycles, GEF 6 (2014 - 2018) and GEF 7 (2018-2022)[3], both of which are aligned with the EbA project. Specifically, the project contributes to the following GEF Focal Area Objectives:
    - CCA-1, Outcome 1.1: Institutions on national, state and local levels supported to mainstream adaptation (particularly EbA) into development frameworks.
    - CCA-1, Outcome 1.2: By improving ecosystem services and supporting sustainable land / water management practices, the EbA project aims to reduce the vulnerabilities of rain-fed farmers and pastoralists.
    - CCA-1, Outcome 1.3: Diversified and strengthened livelihoods. Strengthening the capacity of rain-fed farming and pastoral communities to find alternative sources of livelihoods such as backyard gardening and poultry keeping. This will reduce the impacts of climate change on the SRFP.
    - CCA-2, Outcome 2.1: Increased awareness of climate change impacts, vulnerability and adaptation. Through awareness-raising component of the EbA project, outcome CCA-2 is very well aligned with the activities of the project. Furthermore, the vulnerability assessments and demonstrate adaptation interventions, which will further contribute to an increased awareness about vulnerability and adaptation.
42. The alignment to MTS and PoW and the GEF strategic priorities is rated as **Highly Satisfactory.**

Relevance to national and sub-national environmental needs and priorities

National Strategic Framework

43. The project document shows that the project is aligned with a number of national and sub-national strategic priorities articulated in the national

[3] GEF 7- Programme Directions. https://www.thegef.org/sites/default/files/council-meeting-documents/GEF-7%20Programming%20Directions%20-%20GEF_R.7_19.pdf

policies and strategies. For example, both Sudan's Initial National Communication (INC)[4] and the Second National Communications[5] to the UNFCCC is the main documented under the convention to articulate the needs and challenges faced by Sudan with respect to climate change. The INC identified agriculture, water and health as the main priority sectors affected by climate change in Sudan, additionally causing challenges such as the reduction in ecosystem integrity and a reduction in crop yield. The INC has emphasized the importance of adaptation measures for rain-fed farming and pastoral systems in dealing with the above challenges in climate change.

44. The project specifically aims at supporting the implementation of the Sudan's NAPA, which identified urgent adaptation initiatives to reduce the increasing vulnerability of the rural communities to current and future climate risk. The NAPA explicitly identified adaptation support to rain-fed farmers and pastoralists as a priority, which is in line with the project objectives.

45. The project is completely aligned with the National Adaptation Plan (NAP)[6] under the UNFCCC. The NAP highlighted that the WNS is one of Sudan's most vulnerable regions impacted by the climate change. The NAP stressed that increasing extreme climatic events such as droughts are causing a gradual shift of arid ecological zones from north to south. As a result, major impacts are observed in the area, including, declining crop and animal productivity, loss of grazing resources, land degradation, increased frequency of human, animal and crop diseases, loss of livelihoods and human migration to urban areas in search of jobs and alternative livelihoods. The project has completely aligned its activities with those proposed in the NAP. These include 1) dissemination of improved seeds, 2) promotion of vegetable production to address the nutritional needs, 3) enhance water harvesting techniques to capture water for domestic and animal use, 4) establishment of shelter beds to support agro-forestry practises and 5) rehabilitation of rangelands by establishing enclosures and improve the management of pasture and rangeland. It is also important to note that the project was designed after the NAP and the stakeholders involved in the NAP and in the project were the same.

46. The project is also in line with the following strategies, plans and assessments: Technology Needs Assessment (TNA), 25 Year Strategic National Development Plan, The Sudanese government's Five-Year Plan (2012-2016), Action Plan for Agricultural Revival (APAR), Sudan's Medium-Term Strategy, Interim Poverty Reduction Strategy Paper (IPRSP, 2011)

47. The legislative provisions and frameworks relevant to the project include: Environment Protection Act 2001, Environment and Natural Resource Article 11, Decentralized System of Governance (Levels of Government, Article 24), Right to Own Property Article 43, Land Regulation Article 186, National Land Commission Article 187, National Water Policy 1992 Updated 2000, Sudan Nation Forestry Policy Statement 2006 and Civil Transaction Act (CTA). However, as noted in the project document, pastoralism as a livelihood activity is not supported by strong legal

[4] First National Communication (2009). https://unfccc.int/sites/default/files/resource/South%20Sudan%20INC.pdf

[5] Second National communication (2013). https://unfccc.int/sites/default/files/resource/Sudan-2NC-Final.pdf

[6] National adaptation plan (2016). https://www4.unfccc.int/sites/NAPC/Documents%20NAP/National%20Reports/Sudan%20NAP.pdf

frameworks, particularly in defining the activity and understanding the extent of livestock mobility. Another gap in the legal framework is climate change, climate adaptation and EbA as an approach to deal with climate change. The absence of these aspects from the legal framework makes Component 1 of the EbA project, which addresses the policy and institutional landscape, even more pertinent.

48. According to Agricultural Research Corporation (ARC), the EbA project is filling an existing gap in technology transfer. ARC ideally produces technology such as improved, drought resistant seeds such as sesame and groundnuts and the EbA project is able to transfer to the farmer, which not only disseminates the technology but allows the technology to be further tested and improved. According to ARC, without the EbA project, some 80% of the dissemination will not happen during the project implementation period. This further reiterates the relevance of this project in that it is filling in an identified gap that the government alone would not be able to fill with the current resources and capacity.

Regional and site priorities

49. According to the baseline report, the White Nile State is severely impacted by the climate change induced droughts and floods. Most notably, increasing temperatures, decreasing trends of annual precipitation as well as increased variability, are causing a gradual shift of climate end ecological zones from north to south. That is, formerly semiarid ecological zones, such as the majority of the White Nile State, are gradually moving southward as the climate becomes increasingly hotter, thus taking on characteristics similar to the arid zones currently found further north.

50. The vulnerability and adaptation assessment for the project was completed in 2019. It confirmed that indeed vulnerabilities exist in the area, and climate change exacerbates the problem. For example, it is documented that forest cover deterioration in the project sites, for example in Al Salam locality, the initial forest area in 2000 was estimated at 365,726 ha, and this decreased to 147,089 ha in 2018, with about 41% of forest cover converted to agricultural land and 26% to grazing land. Other vulnerabilities include water scarcity, desertification and land degradation.

51. Government of Sudan has made effort to address these vulnerabilities though the activities implemented at the state level. It was raised several times during the review mission that the activities of the EbA project are essentially the same activities of the various departments responsible for EbA related activities- therefore the project is aligned with the regional priorities.

52. During the project inception phase, it was reiterated by representatives of the then Federal Ministry of Environment, Natural Resources and Physical Development of Sudan's commitment to the EbA and the importance of capacity development on EbA and institutional capacity enhancement was stressed.

Local priorities and needs

53. Stakeholder consultation during the inception phase was conducted and some of the issues raised during the validation meeting included, as for example reservation against the inclusion of the poultry component in livelihoods activities. Stakeholders stated that previous experiences were

unsuccessful, as usually foreign chickens' breed introduced in the WNS do not survive local conditions. It was suggested that the EbA project should focus on distribution of small ruminants (goats and sheep) and the poultry component to be restricted to local breed. However, the project justified the inclusion of poultry noting that it was based on the needs expressed by the communities in the targeted localities during the project consultation visits.

54. Various stakeholders were consulted during the Project Preparation Grant (PPG) phase. A key objective of the PPG phase was to ensure, through community level consultations, that the needs and priorities of all vulnerable communities were included in the project. The project was designed in consultation with multiple local stakeholders. This participation of communities and government institutions contributed to strengthened buy-in and ownership of relevant stakeholders at a national and local level during the PPG phase. This local support is seen to be important for the long-term sustainability of the EbA project.

55. Stakeholder consultations also took place during the inception phase of the project between 2017-2018. The aims of the stakeholder meetings were to build strong ownership and to further engage stakeholders. These included project planning and strategic meetings involving Senior Government Officials in the then Ministry of Environment, Natural Resources and Physical Development (MENRPD), HCENR, UN Environment team and other key stakeholders. Stakeholders reiterated their commitments in ensuring successful implementation of the project and the concept of EbA as an approach to enhance the resilience of human and natural systems to the impacts of climate change. At the same time, stakeholders pledged to support replication and upscaling of successful EbA project demonstrations as well as mainstreaming of EbA approaches in various national and regional policies and development processes in Sudan.

56. Additionally, engagement and stakeholder sensitization forums have been taking place in order to achieve high level political support from the variety of government agencies that were deemed critical in the implementation of the project. During these meetings, the concept of ecosystem based adaptation as well as opportunities for collaboration; networking and partnership building including co-financing elements were deliberated. One such strategic meeting was a project stakeholder workshop that was held in August 2017 in Kosti town of the White Nile State where senior government officials that included the Federal Minister of Environment, Natural Resources and Physical Development, the Governor and Ministers of White Nile State, community representatives and other stakeholders participated. The workshop provided an opportunity for stakeholder to further understand their role. In addition, the White Nile State administration committed to provide office facilities for the project field team based in Kosti as part of White Nile State co-financing contribution. Unfortunately, this co-financing commitment was not realised due to the impacts of the political revolution that affected government operations. As a result, the project has been using GEF funds for the project office in Kosti, WNS.

Complementarity with other initiatives

57. According to the project documents, the project builds upon the priorities and projects identified in the Sudan NAPA (2007) and NAP (2016). In particular, it is building upon the recommendations of the UNDP project

entitled "Implementing NAPA Priority Interventions to Build Resilience in the Agriculture and Water Sectors to the Adverse Impacts of Climate Change in Sudan". This project, under the LDCF 1, implemented a number of adaptation activities aimed at improving climate resilience and food security of small scale farmers and pastoralists in four states in Sudan. The EbA project is building on the outcomes of this initiative and also filling in the gaps identified in the LDCF1 project, which is to enhance the EbA principles in addressing climate change in agricultural production, while at the same time, promoting the diversification of income generating activities emanating from ecosystem goods and services.

58. Complementarities were identified at the project design level with several GEF and non-GEF funded projects. The Climate Risk Sustainable Project (CRSP), funded by LDCF and implemented by UNDP was also mentioned a few times by the stakeholders during the interviews. The project aims to enhance climate resilience of rainfed farmers and pastoralists in six states in Sudan, including the White Nile State. Therefore the expectation was for the EbA project to utilise the outputs of the CRSP from the improved modelling, climate projections and weather foresting. However, interviewed stakeholders indicated that the use of climate projections in this project has been minimal. And the fact that the Department of Meteorological services is not part of the project steering committee nor the technical committee makes integration of long-term climate projects challenging.

59. The EbA project was designed to further the recommendations of the ADAPT! project, and therefore the components of the EbA project are completely aligned with the objectives of ADAPT! - such as building institutional capacities to address longer-term climate issues, which is inked to component 1 of EbA. Another area of complementarity is the component of informing and influencing national policy and planning, which is clearly linked with component 1 of the EbA project, aiming to enhance capacity for EbA and mainstream EbA in to policy and institutions. It was indicated in the project documents that the ADAPT project would co-finance USD 1,400,000. However, interviewed stakeholders from the project team and ADAPT staff indicated that the synergies between the two projects were weak from the beginning. But nonetheless, ADAPT! co-financing contributed to Component 1 on capacity development for EbA and policy mainstreaming and on Component 3 on knowledge management. However, the fact that stakeholders consider that no synergies could be created indicate that knowledge exchange regarding the EbA project results, recommendation, or lessons learned, if any, were limited.

60. At least one visit was documented in the project document that promoted learning and exchange with other initiatives. The EbA team visited sites piloting Sudan EbA project activities as well as rangelands that have been rehabilitated through the through the Sudan EbA Project as well as adjacent areas rehabilitated by the Drought Resilience and Sustainable Livelihoods Programme financed by IGAD as well as the Livestock Marketing and Resilience Programme (2014-2021) financed by IFAD. The objective of the visits was to promote learning, knowledge sharing as well as collection of feedback and lessons learnt that will be used to inform ongoing/planned project activities and future programmes. However, there is no evidence that any concrete activities or synergies were identified or implemented as a result of this exchange learning visit.

61. Some additional synergies with other current on-going initiatives could be explored further. In particular, Sudan has recently received readiness support from the GCF with FAO as the delivery partner. The readiness funds aim to support Sudan's national adaptation planning and implementation by generating mid-to- long term climate data focusing on agriculture and water sectors. Outcome 3 of the NAP readiness is particularly relevant for the EbA project as it aims to re-activate state-level Technical Committees for CC adaptation that revise state level adaptation plans based on inclusive stakeholder participation. This component aims to support the strengthening of state-level actors on climate change as the past few years, because of lack of funding, these actors have been fairly inactive. With this project, the state level technical committee's capacity will be strengthened, ultimately improving their outreach and communication. It would be relevant for the EbA project to explore how synergies can be built with this readiness project.
62. The relevance of the project to sub-national and national priorities is rated as **Satisfactory.**

Quality of project design and preparation, and strength of the adaptation rationale

63. The inception meeting agreed that the project rationale and the problem analysis of the project are valid and relevant.
64. As analyzed in the MTR inception report, the project design is overall satisfactory as illustrated above in the sections on relevance to national and local priorities. However, as stated in the inception report, some elements of the project document could have been further developed (clearer theory of change, clearer problem statement and explaining some of the barriers and threats that could possibly impact project results). This has been addressed in the reconstructed TOC in Figure 1 above.
65. The income generation component is very strong in the project. Given the high levels of poverty in the WNS, this component is much needed as illustrated strongly during community consultations. Therefore, activities such as diversified cropping system using drought resistant seeds, are contributing to poverty eradication objectives of the country.
66. Given the circumstances on the ground regarding past extreme climatic events and projected increased frequency, fluctuation of rainfall, loss of income because of animal mortality due to insufficient pasture, insufficient budget to support governmental departments implementation of projects, and general poverty in the area, the project looks relevant to address the challenges mentioned. Despite the prolonged delays in implementation owing to external factors, the project remains relevant to address the climate challenges in the area, which is beyond both the local communities and the local government's capacity.

Rating for Strategic Relevance: Satisfactory

The project is well aligned with the MTS, the POW and the GEF strategic priorities. The project is also well aligned with the national, and sub-national development plans and priorities. The communities in the WNS are very vulnerable to climate change and have little

to no capacity to deal with climate change impacts. Therefore, the project is well aligned with the community needs and priorities.

The project is also relevant and responding to national, subnational and communities' needs and priorities, and in some instances, filling in a gap. However, the main weaknesses of the project lies in the lack of coordination and synergies with other relevant initiatives and this might affect the sustainability of the project.

B. Effectiveness

Delivery of outputs

67. Table 4 below describes the degree of achievement of each output, on the basis of the Half Yearly Progress Reports (HYPR), Project implementation reviews (PIR), and interviews conducted during the review. The table and the implementation status are informed by the Results Verification exercise that was conducted prior to the MTR.

68. Outcome 1- Improved and strengthened technical capacity of local, state and national institutions to plan, implement and upscale EbA. This outcome has been partly achieved. Several cross-sectoral dialogues were held at federal and state level, training and awareness building sessions were facilitated, and technical guidelines in the form of template protocols have been developed. However, activities related to the mainstreaming of EbA approaches into federal, and WNS level policies, development frameworks and sectoral budgets were delayed because of Covid 19 restriction measures and the current political situation which hampers progress on policy discussions.

69. Outcome 2- Reduced vulnerability of local communities to climate change impacts in the White Nile State. This outcome has the highest achievement rate of 73%. Successes of the project include the use of improved seeds, restoration efforts, access to the water reservoir (Hafir) and the reduction of deforestation from the use of improved stoves. Project progress reports have also reported increased agricultural activity through the use of improved seeds and the replication and upscaling of EbA practices by beneficiaries by sharing harvests of improved varieties with neighbouring communities. However, there are challenges such as the delay in completing the Hafir construction, the low survival rate of fruit trees, the competition of water use for fruit trees and the lack of follow up activities mostly because of the remoteness of the project sites. And therefore, it is difficult at this stage to assess the level of contribution the project is making towards integration or EbA approaches to local practices.

70. Outcome 3- Strengthened information base and knowledge on EbA and climate change are readily available for various uses. This outcome has the least rate of achievement, with about 18% completion rate. Work has started on undertaking an economic cost-benefit assessment for EbA measures in Sudan, however that work is still at its infancy. The main challenge that hampered the achievement of this outcome is Covid 19 restriction measures, which limited national and international travel to facilitate the documentation of knowledge products.

71. Even though the project start-up was slow and there were some significant delays in implementation, the project has overall delivered on a number of

key outputs and project activities are now progressing again. The challenges will be elaborated in the effectiveness section of the report.

72. The project has had a slow start with an extended inception phase. This can largely be attributed to challenges in establishing an effective Project Management Team in the year 2017. A Project Coordinator was recruited in the third quarter 2017 but his contract was terminated by HCENR before the end of the probation period. There was also a change in the leadership of HCENR during 2017 as well as staffing changes with UN Environment. However, since the second quarter of 2018, a fully-fledged Project team has been on board.

73. The workplans of 2019 to 2021 were ambitious and had identified sub-activities for each activity of each output. Annual workplans were also well elaborated, with clear timelines and budget. However, the outputs were delayed in their execution. Examples include:

- Output 1.2: the stocktaking exercise and revisions of federal and state level policies and strategies identifying entry points for EbA and cost-effective up-scaling strategies for climate-risk informed EbA planning and budgeting. This activity started in 2020 but was not completed because of mostly the delay in recruiting a national consultant. The expected completion date of this activity has been moved to March 2022;
- Output 1.3: the policy briefs and technical guidelines on using EbA approaches to strengthen the resilience of communities and their livelihoods has been delayed because this activity is dependent on the completion of the following activities, which still remain incomplete:
    - the stock taking exercise of relevant legal and institutional frameworks
    - documentation of best practices of EbA based on lessons learnt
- Output 2.3: on integrated pest management (IPM) techniques for farms- this has also been delayed because HCENR has to sign an MoU with the Agricultural Research Corporation. This activity is important because the MTR mission demonstrated a great demand by the communities to acquire knowledge on pest management.
- Output 2.3: on the design and rehabilitation of rainwater harvesting infrastructure, this activity was planned in 2019 to take over from El-Sugya[7] (non-profit organisation that provides humanitarian aid related to the provision of potable water around the world particularly to communities that suffer water scarcity). At the beginning, El-Sugya was implementing this activity, but immediately after the 2019 revolution, the license of the organisation was revoked by the Sudanese government and the activity stalled for a long time thereafter. As a result, the activity has significantly been delayed because of lengthy negotiations between HCENR and the White Nile State Water Corporation. However, during the MTR mission, the evaluator was able to establish that the MoU was finally signed and that execution of this activity will now resume.
- Output 2.3: White Nile State Ministry of Water could also not undertake training sessions targeting Water User Associations (WUAs) on water-

[7] El-Sugya is a charity organisation that works in providing potable water to rural communities.

borne diseases and proper hygiene including provision of medical kits with prophylactics due to a ban on mass gathering during the COVID-19 pandemic. This activity is now scheduled to be undertaken in 2022.

- Output 2.4: the activity related to promotion of alternative building materials to reduce dependencies on trees as biomass fuel was not undertaken since HCENR has not yet concluded negotiations and established a MoU with National Center for Research (NCR). This activity was postponed and rescheduled to 2022.
- Output 2.5: template protocols were developed and training was conducted for technical experts in White Nile State local authorities and members of the White Nile State Technical Committee. However, due to the COVID-19 pandemic, training of VDCs and local communities on the application of the template protocols were postponed and rescheduled to 2022.

74. The high turn-over of the members of the technical committee is a major challenge, affecting the effectiveness of the project. During interviews it was mentioned that because of the political situation in the country, officers keep getting redeployed to different ministries and departments, sometimes where there's no capacity and therefore staff turnover is very high. For example, one officer mentioned that she was moved from the gender ministry to finance and investment ministry. It was also mentioned that from the beginning of the project to date, only two (out of 29) of the technical committee members have remained from the beginning. In addition, since inception, there has been a change of at least four Director Generals at the state level. This affects the effectiveness of the project because continuity is not maintained and capacity is not appropriately deployed.
75. Project effectiveness was also affected by the infrequent number of meetings by the PSC. While the project documents indicate that PSC should meet at least twice annually to review implementation progress and to address any challenges or major changes in implementation plans, according to the project reports, the PSC has been meeting only once annually. However, further analysis has revealed that the PSC had proposed to meet in June 2020, but due to Covid-19 challenges, the meeting did not take place. More frequent PSC meetings could allow for quicker adaptive management solutions to address the ongoing challenges, such as the adoption of the revised results framework that was submitted as part of the baseline survey.
76. The PIU at WNS is small with insufficient technical capacity, making project execution challenging. Currently the PIU has a state level coordinator and the CNBRM expert, who are both working as consultants. From the administration and finance side, it initially used to have one person dealing with administration and finance but the individual was overwhelmed and now they have managed to create two positions for administration and finance, which has eased the amount of work for one individual. On the technical side, the insufficient capacity has also affected project implementation, especially effectiveness. For example, the EbA template protocol has been developed but the application of the template has been pending as this is an activity of the international consultant. During interviews, it was also mentioned several times that the PIU needs more

technical capacity building to reduce the dependence of international consultants and the WNS staff;

77. The project intervention sites are far from town where the office is located (Kosti), difficult to access because of roads and very remote, making site visits challenging. Further, transportation to the project areas is challenging and the few staff for the project make follow up activities difficult. In addition, most of the activities are time dependant because they have to be implemented during the short rainy season, and with scattered project sites, it makes it difficult to visit all sites during that short time during the rainy season. This leads to low rates of follow up of activities. According to the interviews, follow up activities are supposed to be carried out by the WNS local officers but that is not happening often enough. For example, in some project sites, there has been no follow up at all since the activity started. One woman beneficiary mentioned that she was engaging in backyard gardening, and initially it was doing well and she was able to harvest okra. But after some time, she started getting diseases that affected okra crop. Because of no follow up, she was not able to get assistance on how to deal with diseases and pests and in the end, she abandoned the activity. This demonstrates how lack of follow up can affect effectiveness of activities.

78. Morale of staff has been affected because of changes in staff salaries by HCENR. Staff contracts were terminated when the project was expected to end in 2021. However, once the project received a no-cost extension, staff contracts were renewed with renegotiated terms where salaries of the national coordinator and WNS coordinator were reduced while at the same time the contractual agreements for the WNS Coordinator, CBNRM Expert and M&E Officer were converted from staff positions to consultant positions. According to the interviews, this change has resulted in staff getting demotivated to work and therefore effectiveness was affected.

79. The project faced a number of obstacles both internal and external, which impacted the delivered of the key outputs. Despite the challenges, some progress was made such as activities related to Component 2. However, Component 1 and 3 are still lagging behind.

80. At mid-term, the overall rating for delivery of outputs is rated as **Moderately Satisfactory**.

Table 4: Delivery of outputs

Expected Output	Achievement	Implementation status[8]
Output 1.1. A multi-disciplinary White Nile State Technical Committee established and strengthening of HCENR in order to facilitate cross cutting dialogue at the state and national levels of climate change adaptation and EbA and coordination of EbA measure planning in vulnerable sectors.	1) An initial discussion between EbA sectors (agriculture, livestock, water, forestry, food security and energy), White Nile State Administration, potential members of the Project Coordination Working Group (PCWG) and HCENR was held to promote programmatic synergies at the State level and to improve the coordination levels. 2) A cross-sectoral dialogue at the federal and White Nile State levels were held between HCENR, relevant ministries, and EbA with the objective to provide technical guidance and backstopping of Sudan EbA project activities. 3) Project stakeholders were engaged to facilitate cross cutting dialogue, institutional linkages, and planning on climate change adaptation at White Nile State level.	80%
Output 1.2. A stocktaking exercise undertaken and revisions of existing national and White Nile State policies and strategies identifying entry points for EbA and cost-effective up-scaling strategies for climate-risk informed EbA planning and budgeting.	1) A draft stocktaking report of existing national and White Nile State legal and policies frameworks was done as part of the efforts to identity entry points for mainstreaming EbA in national policies, strategies, budgets and development frameworks. 2) National consultant to support the international adaptation and policy expert is now on board and implementation of activities under this output is expected to resume.	35%
Output 1.3. Policy briefs and technical guidelines developed and distributed for policy − and decision makers on increasing the resilience of local community livelihoods to current and future climate change risks using appropriate ecosystem-based	1) The Technical guidelines in the form of template protocols outlining the standard procedure and guidelines to identify/verify sites to carry out EbA interventions and monitoring plans have been developed. 2) Policy briefs have not yet been developed	30%

[8] The percentages of implementation status is informed by the Results Verification exercise that was conducted prior to the MTR.

adaptation and knowledge gained from demonstration activities.		
Output 1.4. Targeted CC adaptation and EbA planning/implementation training programmes for stakeholders completed, including field visits to learn from successful adaptation implementation.	1) Training session targeting White Nile State Technical Committee members and communities was done. The aim of the training was to enhance locally applicable adaptation approaches 2) Two learning sessions and information exchange field visits conducted by members of the State Technical Committee to successfully implement adaptation programmes on rangeland rehabilitation in White Nile State. 3) Training on the concept and application of EbA conducted for staff of HCENR, relevant ministries and White Nile State Technical Committee. 4) Training for Village Development Committees (VDCs) and sub-committees in all 43 targeted villages conducted to enable beneficiaries to effectively participate in decision making process during planning, implementation, monitoring, and upscaling community based EbA measures 5) Training on EbA principles and approaches conducted virtually due to the global COVID-19 pandemic that has restricted international travels. 6) Exchange visits to pilot sites in Tendalti and Al Salaam localities were done by White Nile State Technical Committee members, beneficiaries and White Nile State officials. The aim of the visit was to guide on going/planned project activities and future programmes.	50%
Output 1.5. Facilitation of a local policy dialogue (based on vulnerability assessments and practical experiences from pilot implementation of EbA in component 2) on mainstreaming of adaptation into state and locality development plans.	1) Strategic meetings with Federal and State level officials including policy makers held to sensitize them on the concept of EbA. This was aimed at improving and strengthening the technical capacity of local, state and national institutions to plan, implement and upscale EbA 2) Training sessions on strategies for integrating climate change considerations into relevant policies, development plans and budgets was done 3) Policy dialogues on mainstreaming of adaptation into state and local development plans during community's meetings and stakeholder engagement forums e.g. White Nile State Technical Committee and Project Coordination Working Group meetings held biannually	55%

Output 2.1 Current and future climate change vulnerability and risks for the selected vulnerable sites are identified to guide EbA interventions in pilot sites in the White Nile State.	1) 43 Village Development Committees (VDCs) and sub-committees were established (with at least 30% female) to manage, monitor and evaluate community based EbA measures. 2) Identification of EbA priority interventions for the selected vulnerable sites in consultations with HCENR, White Nile State Technical Committee and the VDCs and sub-committees were completed 3) A participatory vulnerability and adaptation (V&A) assessment including gender tracking was conducted , which guided the identification of specific EbA interventions for each village 4) Training of VDCs and sub-committees to enhance their participation in decision making process. 5) Registration of the 43 VDCs with Humanitarian Aids Commission (HAC) to give them legal recognition and ensure they live beyond the Sudan EbA Project is on-going and is almost complete. 6) Training on the establishment and management of revolving funds to beneficiaries has been completed. 7) Targeted capacity building was conducted on the concept of EbA and strategies for incorporating climate change issues into relevant policies, development plans and budgets 8) Development of template protocol outlining the standard procedures and guidelines to identify/verify sites for EbA interventions. 9) Virtual training sessions on the application of the protocols targeting HCENR staff and White Nile State Technical Committee was done.	85%
Output 2.2. Regeneration of critical ecosystem services to restore degraded rangelands, increase water infiltration and improve resilience of rain fed agriculture and pastoralism under increasing drought conditions and dry seasons.	1) Afforestation of 234 hectares with a mixture of drought tolerant trees, including *Acacia Senegal* and *Acacia Tortilis. R*eplanting of trees along 1,486ha of riparian zones was done. 2) Shelterbelt in farmlands were established through planting of 10,065 seedlings of *Acacia Senegal* species. 3) Identification and mapping of 1,000 ha of degraded rangeland and 750 ha of forest lands for 39 villages/ vulnerable sites for EbA interventions. The activity was implemented in	80%

	collaboration with Range and Pasture Administration, Forest National Corporation, Village Development Committees, and sub-committees. 4) Pilot pasture enclosure were established in an area of 42 ha and 2 ha in Um Zureiba and Um Naam villages respectively. 5) Rehabilitation of approximately 1,492 hectares of rangeland with 6,250 kg of nine different varieties of early maturing, high nutritive value, and drought tolerant rangeland seeds was done. 6) 200 hectares of land was cultivated with animal feeds (Clitoria & Phaseolus) around the farmers' fields in Al Salam locality villages. 7) Restoration of 504 ha of rangeland reserves in Um-Zureiba village through broadcasting of 2,600 kgs of pasture seedlings (Total rehabilitated rangeland is 1,996 Ha (representing 124% of the target) with 9,185 kgs of nine different varieties of early maturing, high nutritive value, and drought tolerant rangeland seeds). 8) A grass cutter (feed chopper) machine was purchased for the local community in Tagei village for preparation of feedstock before storage to be used during dry seasons for feeding animals. 9) Afforestation of 579 ha with a mixture of Acacia Senegal and Acacia resistance (total a afforested area is 814 ha). 10) Establishment of afforestation nursery with shelterbelt around farmlands with 10,065 seedlings of *acacia Senegal* as a multipurpose tree variety that is durable to dry lands.	
Output 2.3.A number of EBA support measures are piloted and integrated into existing local community livelihood activities, including in situ rainwater harvesting and drought/flood resilient eco-agriculture.	1) Two 'haffir' dams were constructed for rainwater harvesting with a capacity of (30,000m^3 each) to benefit 4,200 households in 33 villages. Another dam was rehabilitated to provide water to an additional 800 households.	78%

	2) Three rainwater harvesting reservoirs with a capacity of 30,000m^3 each were designed and constructed. 3) One borehole was rehabilitated and three ponds constructed to support micro-irrigation in farms. 4) Climate-resilient land management practices were implemented in 42,500 hectares for 800 farms (20 farms/village with 2-4ha each farm). Agricultural implements used included chisel plough form ploughing during tillage of these farms for conservation of soil structure and enhancement of water harvesting.  5) Climate-smart agricultural practices were introduced, and these included improved seeds (early maturing, drought and pest tolerant); top dresser fertilizer; training on agronomic practices and post-harvest handling. 6) Land management practices that are climate-resilient were implemented in 42,500 hectares of agricultural lands with the introduction of 'agricultural package' which included improved seeds (early maturing, drought and pest tolerant) were implemented.	

	7) Training was conducted on agronomic practices and post-harvest handling; in-situ rainwater harvesting in farms; application of appropriate fertilizers; integrated pest management; mixed cropping; application of appropriate agricultural implements e.g. chisel plough (locally known as Kharbash) and light implements in sandy and clay soils respectively as a way of conserving soil structure and enhancing in-situ rainwater harvesting. 8) Construction of water harvesting infrastructure was done in Al Rawat (a cluster of 33 villages for 2,800 households). 9) Implementation of EbA support measures in climate-resilient land management practices across 42,500 ha. 10) 10 demonstration farms were established.  11) Improved seeds were distributed to 1,880 households in 39 villages that included 6,500kgs of sesame, 5,000kgs of groundnut, 11,000kgs of sorghum, 500kgs of millet. 12) The 'agricultural package' was introduced in 42,500 ha of community farms (1,648 ha belonging to 1,288 farmers (22% women headed)).The 'agricultural package' include: provision of improved seeds (early maturing, drought and pest tolerant); training on agronomic practices and post-harvest handling; in-situ rainwater harvesting in farms; application of appropriate fertilizers; application of appropriate agricultural implements e.g. chisel plough (locally known as Kharbash) and light implements in sandy and clay soils respectively as a way of conserving soil structure. 13) Improved seeds that were distributed included 8 tons of Sorghum, 1 tons of millet, 3 tons of groundnut and 4 tons of sesame benefiting a total of 652 (21% female headed) farmers.	
Output 2.4. Pilot implementation of alternative livelihood activities based on indigenous practices, including, inter alia, poultry breeding, home garden farming, and small ruminant	1) Backyard gardens for vegetable production were developed for 300 households. 2) 147 Kg of vegetable seeds were distributed to females for home gardens and these seeds includes queen finger, watermelon, Karkadi, corn, beans and cucumber (total number of women/women headed households supported by inputs for backyard gardens for vegetable production was 1,111 household (69% of the project target).	73%

strategic feeding as well as alternative energy use strategies to enhance community resilience to current and predicted climate change impacts.	3) 3,389 improved cook stoves were distributed to households across 43 targeted villages. 4) Distribution of improved cookstoves to 8,389 households (123% of the project target). 5) 20 small ruminant 'Shami' (improved) goats for milk and meat production were distributed to female headed households. 6) 35,690 seedlings of fruit trees were supplied to 5,000 households. 	
Output 2.5. Local authorities, communities, committees and user groups trained on adapting community livelihoods to climate change through the use of EbA and on monitoring of EbA measures.	1) field demonstrations were conducted in demo farms after training sessions on climate resilient land management techniques and practices. 2) Training sessions were conducted on the application of EbA protocol targeting project local authorities. 3) Training of 29 farmers on climate resilient land management techniques and practices was done. 4) 29 farm's demonstrations were conducted on 2 ha each in 6 farms for sesame and sorghum in 3 villages, 8 farms for groundnut, sesame, millet and sorghum in 4 villages, 6 farms for sesame, millet and groundnuts in 3 villages, 9 farms for sorghum, sesame, groundnuts in 33 villages in the localities of Gulli, Tendalti, Adweim, Al Salam respectively. 5) Training sessions on application of monitoring plans was conducted and it was attended by technical experts in White Nile State local authorities and members of the White Nile State Technical Committee. 6) Training for communities on the establishment and management of farmer and pastoralist production groups was done. 7) Training sessions were conducted for community VDCs and WUAs to oversee, monitor and coordinate local community involvement in the implementation of EbA and climate-resilient land/water management interventions. 8) Training sessions for local communities at each project intervention site on the implementation and maintenance of EbA interventions and climate-resilient land management techniques was done.	50%

	9) Four experience-sharing events were hosted and attended by nearby communities and trained on climate-resilient land management techniques. 10) A nationally based monitoring strategy was designed and implemented	
Output 3.1. Information, lessons learnt from project interventions and knowledge on climate change adaptation and resilient livelihoods using EbA are captured, stored, and widely disseminated among stakeholders at all levels.	1) Two field visits to project sites were conducted and attended by senior level officials from Federal and White Nile State ministries with the objective of gathering practical evidence and lessons learnt from EbA interventions 2) Due to the global corona virus (COVID-19) pandemic, cross visits by VDCs and WUAs as well as an international exchange visit by Federal and White Nile State government representatives to EbA project sites were postponed and rescheduled to 2021 or 2022. KM to check	35%
Output 3.2. A central information base of data on EbA lessons learned and cost-effectiveness of interventions established within the existing Cloud operated jointly by HCENR and the ARC.	1) It has been scheduled to 2022.	0%
Output 3.3. An upscaling strategy for EbA across Sudan by both the public and private sectors is developed based on an economic cost-benefits assessment.	1) An international adaptation economics expert has been hired to provide technical guidance in conducting an economic cost-benefit assessment for EbA measures in Sudan. The assessment is expected to demonstrate evidence of EbA as an adaptation strategy that generates livelihood benefits for local communities. Proving the cost effectiveness of these measures is essential to making the case for EbA to stakeholders, ranging from local communities, to national level decision-makers and donors.	20%

Achievement of direct outcomes

Outcome 1. Improved and strengthened technical capacity of local, state and national institutions to plan, implement and upscale EbA

The target for outcome 1- At least 1 national development framework and 1 state Five Year Sector Plan are updated with a budget of at least USD 30,000 to implement and upscale gender-sensitive EbA measures.

81. Project outputs have contributed to the achievement of outcome 1 through the different targeted training sessions and awareness building of different stakeholders, including HCENR, federal, local and community actors on the concept of EbA. The trainings included further understanding what the EbA approach means and how to integrate EbA into sectoral planning and decision-making processes. EbA is a relatively new concept and so it was important to ensure that the concept is understood by all stakeholders, including the project coordinators who are working on a daily basis on the project. While it is not easy to quantify the extent to which the technical capacity of local, state and national institutions has been strengthened, from the interviews, there was a sense from the different stakeholders that the concept is understood, although more could be done to refine and deepen that understanding, particularly for decision makers. If the EbA concept is understood at the decision makers level, project implementation would be much smoother, according to one interview.

82. Cross sectoral coordination and policy dialogues were facilitated by the project at the levels of Project Steering committee, the White Nile State Technical Committee and the Project Coordination Working Group. According to the interviews, cross sectoral collaboration, which is fundamental to supporting EbA approaches centered on cross-sectoral coordination to effectively manage water, land/soil and forest/rangeland ecosystems in WNS, was not fully institutionalised and therefore happening in an adhoc manner for a specific initiative prior to the EbA Project. When the EbA project came to being, structures were set up to enable cross sectoral collaboration. Initially it was reported that there was little interest from the stakeholders, but with time and more awareness, stronger cross-sectoral coordination and engagement has been reported, particularly at the local level with the WNS Technical committee.

83. To strengthen institutional capacity and coordination to enable the implementation of EbA, technical guidelines in the form of template protocols have been developed. These template protocols outline the standard procedure and guidelines to identify/verify sites to carry out specific EbA interventions as well as community based EbA intervention as well to enable the monitoring of EbA activities. Virtual sessions took place to train the application of the template protocols and this was attended by HCENR staff, EbA team and WNS technical committee. This activity is important in building the knowledge and expertise which is an important element for promoting and sustaining uptake of EbA concept beyond the life of the project. However, training of VDCs and local communities on the application of the template protocols have not taken place. Therefore, it would be important moving forward to assess the usefulness of the template protocols by ensuring the training takes place.

84. The activities related to the mainstreaming of EbA approaches into federal, and WNS level policies, development frameworks and sectoral budgets were delayed because of the following limitations:
    - Political instability in the country which made engagement on policy related issues challenging
    - Covid 19 and the containment measures, which meant that the international EbA consultant could not travel to Sudan and the national staff could not travel from Khartoum to Kosti.
    - Change in the project coordinator. The first coordinator's contract was not extended beyond the probation period. The current coordinator was hired thereafter, but the contractual process took a long time to conclude, which impacted negatively the implementation of the activities, in particular the project had a delayed start.
85. Nonetheless, a draft stocktaking report was prepared as part of the efforts to identity entry points for mainstreaming EbA in national and sub-national policies, strategies, budgets and development frameworks. The stocktaking report was meant to inform the development of policy briefs, which aimed to support decision makers to increase the resilience of local community through EbA. However, the stocktaking report remains in a draft form and has not been concluded due to the delays is concluding the contract of the local consultant. As a result, the policy briefs have not been developed to guide the integration of EbA into development plans at the multi-level governance.
86. Referring back to the theory of change presented in figure 1:
    - Assumption 1 (A1 - assumption for the change process from output to outcome) "Sufficient political support and capacity for successful execution and implementation of EbA into policies / strategies / action" is still on hold as the current political situation does not allow for full high level political support, which is key in ensuring EbA is mainstreamed in policies and strategies. From the interviews, stakeholders indicated that political support is key in ensuring the successful execution of the project, particularly as it relates to policy frameworks.
87. An identified gap in Sudan in embracing EbA approaches is the lack of a policy framework to guide its application. According to many stakeholders, integration of EbA in to National and State development frameworks is still a priority and it would help fill the policy gap.
88. However, the delays caused by Covid 19 and the prolonged political instability hinders opportunities for establishing for EbA in the country, and in particular, meeting the target of integrating EbA into national and local development plans.

Outcome 2. Reduced vulnerability of local communities to climate change impacts in the White Nile State.

The target for outcome 2- 100% of all targeted 6,800 HHs (head of HH disaggregated by gender) have access to climate change resilient food / water sources and improved ecosystem services relative to the baseline.

89. Component 2 has had the greatest level of achievement when compared to components 1 and 3, despite some challenges in implementation, with an average of 73% completion rate. For example, Output 2.1 on identifying current and future climate risks and vulnerabilities in selected sites has achieved 85% completion, while output 2.2 on regeneration of critical ecosystems is 80% complete, according to the results verification exercise conducted prior the MTR mission. Output 2.1 is an important building block in the achievement of the entire component 2, such as the development of a template protocol that outlines the standard procedures and guidelines to integrate EbA. This protocol is meant to guide the implementation and monitoring of community based EbA. While the protocol has been developed and a virtual training of stakeholders has been done, it has not yet been used by the EbA stakeholders. The application of the protocol was to be conducted under the supervision of the international EbA expert supported by the CBNRM expert, however, the international EbA expert has not completed this task because he has not been able to travel to Sudan because of Covid restrictions. From consultations, the protocol seems useful, but it will serve no purpose if it is not used/applied by the targeted beneficiaries. Therefore this activity will need to be expedited to ensure communities are enabled to promote EbA approaches.

90. Output 2.2 and 2.3 has been able to distribute an 'agricultural package' to 42,500 ha of community farm, which includes: provision of improved climate resilient seeds, training on agronomic practices and post-harvest handling, in-situ rainwater harvesting in farms; application of appropriate fertilizers; application of appropriate agricultural implements e.g. chisel plough (Kharbash) and light implements in sandy and clay soils respectively as a way of conserving soil structure. All these are likely to reduce vulnerability of local communities to climate change impacts in the White Nile State.

91. The project has supported the development of vegetable backyard gardens that included queen finger, watermelon, karkadi, corn, beans and cucumber, among other vegetables. The project also supported growing of drought resistant cash crops like sesame and groundnuts. These seeds should help the communities better withstand the impacts of climate change. From the interviews, the most impactful is groundnuts because it is a cash crop. Communities are able to sell the groundnuts and use the residue for animal feed.

92. The project was also able to construct and rehabilitate three earth dams 'hafir' with the capacity of 30,000m^3 each in Al Rawat, Um Naam Um and Zureiba village. Water is a scare resource in the area, and climate change and extreme droughts are exacerbating the situation. Therefore, construction of water points in the WNS will contribute to building the resilience of communities in a climate changing world. One community member during field visits stressed that water is life and confirmed that the provision of new water sources has improved their lives. Previously, they used to take two hours to and from the collection point, and another hour to wait for water to fill from a shallow well. Altogether it would take 3 hours to get water. Through the project, they do not have to travel long distances to collect water as water is available in the village. The project has also helped because children, who are mainly responsible for water collection,

do not have to travel long distances to fetch water and therefore avoid the heat from walking long distances.

93. 3,389 improved cook stoves were distributed to 3,389 households. During the mission, several advantages of the stove were reported by the beneficiaries: the stoves consume less wood than the traditional stoves, they burn for longer which allows women in particular to finish other work, and they also produce less smoke. Improved stoves reduced the amount of tree cutting for biomass by 50%, and saved about 26 big trees per family per year. The fact that the stoves use less wood did have positive impacts on deforestation. However, many of the stove users said that there is no local capacity to maintain the stoves, thus when broken there are thrown away rather than being fixed and some have reported that they go back to cutting wood.

94. Another issue that was brought up during the interviews is the fact that women would have preferred to have the stove that can accommodate two to three pots at the same time. Ideally a meal will consist of more than one dish at a time and therefore if the stove could have options to increase the number of pots, that would save them more time. According to the project management, consultation did take place prior to rolling out of the stoves, however, the issue of stove design was not sufficiently discussed during the consultations.

95. 35,690 seedlings of fruit trees were supplied to 5,000 households. This activity, according to the results verification exercise, was completed, however, the trees have a very low survival rate of approximately 30%. Some of the reasons given during the MTR mission were 1) growing of fruit trees is not common practice in the area and it is not a livelihood activity they are familiar with. 2) the area is a water scarce area and water is mostly reserved for domestic use and not for watering trees. As a result, very little care was given to the fruit trees in the areas visited because of the conflict in water use, according to some stakeholders. The same was reported about backyard gardening, in areas where water for domestic use was limited, success was low. Low success rate of fruit trees and the vegetable garden impacts negatively on the effectiveness of the activities and the project results.

96. On the activities related to the regeneration of critical ecosystem services to restore degraded rangelands, significant progress has been made. Examples include the establishment of pasture enclosure - 42 ha and 2 ha in Um Zureiba and Um Naam respectively; afforestation with drought tolerant trees such as Acacia Senegal and Acacia Tortilis; replanting of trees along riparian zones; and shelterbelt in farmlands were established through planting of seedlings of Acacia Senegal species. Restoration efforts of degraded rangelands has made the most progress in the project, and according to the RV estimates, these activities are 73% complete.

97. Environmental and social safeguards- it was reported in all the annual reports that there are no major grievances reported from the implementation of the project, however, during the MTR mission, it was reported that a boy has drowned in the Hafir because it has remained unfenced for many years. This will need further investigation in the follow up visits and will need to be documented so that measures are put in place to address the issue.

98. Referring back to the theory of change:

- It is difficult to assess whether Driver 1 (D1 - driver to support transition from output to outcome) "VDCs and water user associations have the capacity and strong will to engage with communities at the outset to obtain local buy-in for EbA" is in place at this stage. The capacity of VDCs and the sub committees were not assessed however it was reported that the VDCs worked well with the local communities to adopt EbA approaches. It can be said that this was partly in place;
- Assumption 2 (A2 - assumption for the change process from output to outcome) "Local communities are incentivized to implement climate resilience-building measures to improve their productivity" holds. Stakeholders interviewed during the mission mentioned that they are seeing improvements in the land and mindsets of many communities have changed with regards to taking better care of the environment. They reported that before the project, land was bare and degraded. But now, there is grass which provides feed for their animals and water which they use for domestic and animal use. All these positive changes they see have motivated them to continue the EbA approaches to improve productivity. However, they have seen some approaches do not work, such as planting of fruit trees as they need protection and they need water, which is still quite scarce in the area;
- Assumption 3 (A3- assumption for the change process from output to outcome) "peace and political stability remains in the country to maintain service delivery functions in public and private sector" partially holds as many of the service delivery functions in the area have been maintained, although it is still difficult to predict if the service delivery functions will remain, given the current political instability;

99. Overall, component 2 activities shall contribute to reducing vulnerabilities of local communities to climate change impacts in the WNS, looking at some of the successes of the project such as the use of improved seeds, restoration efforts, access to the water reservoir (Hafir) and the reduction of deforestation from the use of improved stoves. However, it is difficult at this stage to assess whether the project will help local communities and businesses to integrate EbA approaches in their practices, or increase their income, in order to make them more resilient to climate change.

<u>Outcome 3</u>. Strengthened information base and knowledge on EbA and climate change are readily available for various uses

<u>The target for outcome 3- At least 10 lessons learned, 10 demonstrations of intervention cost-effectiveness and 1 upscaling strategy on EbA integrated into the existing Cloud database. At least 10 websites mentioning EbA Sudan activities.</u>

100. The various activities related to documenting lessons learnt, cost effectiveness of EbA and upscaling strategies all contribute to outcome 3, which is to strengthen the information base and knowledge on EbA. However, while some work was initiated, not much progress has been achieved. In August 2020 and June 2021, some exchange visits took place to gather lessons learnt on EbA practices for the EbA project, and other projects that have an EbA component such as the IGAD funded project as well as the IFAD funded project (see section on strategic relevance and complementarity for more details of the projects). Further, a cost benefit assessment has been initiated but not conducted due to the international consultant not being able to travel to Sudan.

101. During interviews, many stakeholders indicated that the activities under this component have been slow to execute. At this stage, it is difficult to assess how the information base and knowledge on EbA will be strengthened. Nevertheless, a systematic collection and sharing of lessons learned from the project implementation thus far, including the exchange visits, which has not been done so far owing to the political situation and COVID-19, would have contributed to the achievement of this outcome.

102. Referring back to the theory of change:

- It is difficult to assess whether Driver 2 (D2 - driver to support transition from output to outcome) "Knowledge management cloud easily integrates lessons learnt on EbA to ensure successful upscaling to rain-fed farmers and pastoralists" is in place at this stage. The activities related to this driver have only been initiated and not completed due to various reasons, including a prolonged inception phase, Covid and the political situation in the country.

103. At mid-term, the overall rating for the achievement of direct outcomes is rated as **Moderately Satisfactory**.

Likelihood of impact

104. Likelihood of impact of the project can be assessed for some of the activities, but not all the activities as many of the project activities are still incomplete and therefore difficult to assess current and likely impact by the end of the project.

105. Some evidence of impact has been documented before in annual reports, such as during the 2019 planting season, it was documented that farmers who applied the 'agricultural package' and planted improved seed varieties of sorghum, millet and sesame registered an average of threefold and fourfold increase in yields as compared to when they used to plant traditional seed varieties. Additionally, improved crop varieties were more tolerant/resistant to diseases, insect pests, parasitic weeds as well as variability in rainfall pattern that was experienced in 2019.

106. During the MTR mission, it was reported by the beneficiaries that the most impactful activity of the project is the provision of drought-resistant groundnuts seeds. Some communities reported that because it is a cash crop, they have been able to sell the groundnuts and that has increased their income. For each bag, they were able to make 1000 Sudanese pounds (approximately USD 2). They also use groundnuts and enhance its value through making peanut butter, groundnut oil and groundnut cake for animal feed, which has improved their lives. Growing of sesame has also been reported to have been impactful, as using drought resistant seeds has increased production (from doubling of yields for most beneficiaries up to a ratio of 1:6 from previous traditional varieties according to one stakeholder).

107. Other impacts mentioned during the MTR interviews is that supporting of EbA approach has helped to stabilise some of the communities not to move to other areas for 'greener pasture". For example, provision of water points has helped people not to move in search of water and pasture.

108. When referring back to the project's theory of change (as presented in Figure 1) it can nonetheless be noted that:

- Assumption 2 (A2 - assumption for the change process from output to outcome) "Local communities are incentivized to implement climate resilience-building measures to improve their productivity" holds. According to the interviews during the MTR mission, communities seem to feel incentivized to continue EbA practices because of the impact elaborated above. However, because of lack of follow up of activities and results by both project staff and WNS staff, a major concern moving forward is how to maintain the momentum built from this project and how to sustain the EbA practices after the life of the project
- Assumption 3 (A3): "in spite of political and financial instability, the adaptation database will be able to be continually maintained" (assumption for the change process from outcome to impact) still holds but is not in place because the database has not yet been created;
- Driver 1 (D1 - driver to support transition from output to outcome) "VDCs and water user associations have the capacity and strong will to engage with communities at the outset to obtain local buy-in for EbA" is partly in place at this stage. According to the interviews during the MTR mission, there communities feel incentivized and they wished to have the EbA project expanded to cover a wider area such as the Blue Nile and also other parts of the project within the WNS. However, the evaluation was not able to get an indication if this will continue after the life of the project without the support of the project.

109. On this basis, it seems that the likelihood of impact is **Likely**.

Rating for Effectiveness: Moderately Satisfactory

The project faced a number of obstacles which impacted the delivered of the key output, many of such obstacles were external factors. The prolonged inception phase was a result of many factors including the 2019 revolution, which led to changes in government structures and institutional arrangements. Other factors that delayed project delivery include the extended period taken to secure a Project Coordinator. Delivery of key outputs was further compounded by the global Covid 19 pandemic, which led to national lockdown measures and restriction of gatherings to contain the virus.

Despite the challenges mentioned above, some progress was made. For example, 8,389 households (43% being women/women headed households) in the 43 targeted villages of White Nile State have adopted ecosystem-based adaptation (EbA) measures. It is worth mentioning that the number of households targeted as beneficiaries for EbA project was revised based on population growth from 6,800 to 8,389 households. Therefore, the target in terms of number of households, has been reached. However, some key outputs have not been delivered. For example, outputs related to outcome 1 on improved technical and institutional capacity to implement EbA measure is lagging behind because of reasons, including the political situation in the country and the covid-related restrictions that have hampered travel for international consultants. The stocktaking exercise and the economic cost-benefit assessment will need to be completed and validated if outcome 1 has to be achieved. Outputs related to outcome 2 on reduced vulnerabilities of local communities has been mostly achieved, for example rangeland rehabilitation has been completed at a percentage of 124% of the target area- exceeding the target area. For distribution of improved cookstoves, the revised targeted population of 8,389 households has been reached. While progress has been made, some outputs have not been delivered fully such as the rehabilitation of rainwater harvesting infrastructure.

At 'mid-term', the achievement of the two outcomes are not on track, while one of the outcomes is on track (Outcome 2) and it would be critical at this stage to prioritize some

activities, given the limited time remaining for the project. Some of the outputs have been delivered and impact is assessed as likely. However, some outputs have been significantly delayed and therefore a prioritization exercise has to be done. Some assumptions from project outputs to direct outcome either hold (A1 and A2), or hold partially (A3); and drivers to support transition from output to direct outcomes are either partially in place (D1) or in not in place (D2).

C. Financial Management

Budget execution

110. UNEP has made so far 5 disbursements to the project, with the first disbursement done on the 5th of April 2017. According to the annual reports, total disbursements as of 31 December June 2021 was USD 2,207,968.73, and total expenditure at the same was 2,124,815.20[9].

111. The budget execution at the beginning of the project was very low, with less than 1% of the annual budget (USD 40,61610) spent in the first year, and by the end of the second year (2018), only 6.6% of total budget was spent. The reasons for the very low spending at the start of the project was due to various reasons, including, the prolonged inception phase of the project as a result of changes of HCENR leadership, political situation in the country which led to the Sudan revolution of 2019, and securing the coordinator, which took longer than expected. As stated before, a Project Coordinator was recruited in the third quarter 2017 but his contract was terminated by HCENR before the end of the probation period.

112. Spending increased quite substantially in 2019 with the implementation of the project activities, and in 2020, about 40% of the annual budget was spent within the first quarter. But after Q1, spending almost stalled for the rest of the year due to various reasons, including the onset of the global pandemic Covid 19. See Table 5 below.

113. Some of the major reasons for the implementation delays mentioned in interviews were the following:

- External factors after the revolution such as inflation, which led to many economic challenges such as cash flow challenges in the country (liquidity) making cash acquisition for activities challenging; exchange rate fluctuations, at the beginning of the project the exchange rate with the dollar was 17, changing to 53 at the height of the 2019 revolution, to 445 which is the current rate. All these economic factors, while external, affected the project.
- At the beginning of the project, El-Sugya NGO was implementing some of the activities related to rainwater harvesting techniques. After El-Sugya left the project, HCENR entered negotiations to start engaging the Water Corporation of the WNS to take over the activities.
- The MoU between HCENR and the Water Corporation has taken long to conclude due to the lengthy negotiations between the two parties which started in 2019, and only concluded in January of 2022. This led to

[9] Annual report 2020-2021

[10] Expenditure report 2018

significant delays in the project implementation, particularly that many of the activities are reliant on the provision of water.

- The burdensome administrative and procurement procedures within the ministry and HCENR.
- A budget revision has been conducted in November 2018. This revision allowed the PMU to adjust some budget lines (BL) but the allocation per component remains unchanged.

114. Procurement has been reported to be challenging and considered one of the issues that have led to the many delays in project implementation. In the past, a procurement committee existed comprising of the various partner departments at the WNS. This committee would guide all procurement processes for the project based on various factors, including cost-effectiveness. This process was changed and now all procurement decisions are centrally made by HCENR, through the leadership. According to interviews, this change has contributed to significant delays because, as stated in the Audit report of 2022 for the project, "there is no formal procurement policy and procedure followed by the project". And while management response indicated that HCENR does have a procurement policy, it would seem from the evaluator's analysis, there is no formal procurement policy for externally funded projects that are hosted within HCENR and therefore the proposal in the audit report to consider developing a procurement policy for externally funded projects is valid and relevant.

Table 5: Expenditure by year as of Q2 of 2021

Year	Planned	Expenditure	Cumulative to date	Unspent
2017			40,616	
2018	656,782	244,089	284,705	3,999,295
2019	1,507,096	921,211	1,205,916	3,078,084
2020	1,548,912	561,294	1,767,210	2,516,790
2021	1,220,341	208,699[11]	2,124,815.20	2,159,185

Remaining unspent balance

115. As of Q4 of 2021, 49.6% of the project budget (USD 2,124,815.20) was spent, and USD 2,159,185 remained unspent. This is likely to have changed quite significantly after the successful signing of the MoU between HCENR and the WNS Water Corporation, which was a significant budget allocation done after the reporting period of Q4 2021. The spending is expected to have increased as a result of all BL related to rainwater harvesting activities such as rehabilitation of the infrastructure, rainwater harvesting tanks and hand pumps. However, it is not clear why budget line 2207 on support to

[11] Reported expenditure up to Q4 of 2021. It should be noted that expenditure related to 3 international consultants and the CTA for the FY 2021 have not been captured in this figure

the rainwater harvesting is large and not likely to be exhausted by the end of the project.

116. It also seems likely that a good portion of the budget will be spent on the international consultants and national consultants, now that covid-19 containment measures have been relaxed, traveling is allowed and gatherings for trainings are also allowed.

117. Other consultants such as the NRM consultant and the M&E expert are also on board and therefore some of the remaining funds will be used on their fees.

118. The remaining unspent budget for monitoring and evaluation related activities seem quite significant, given savings were made by recruiting a local M&E consultant, instead of subcontracting an NGO to implement EbA monitoring plan. The budget lines related to M&E are BL 2201 with unspent amount of USD 27,909; BL 2305 with unspent amount of USD 22,014 and BL 3306 with unspent amount of USD 14,000. The total amount allocated to M&E related activities is USD 63,923. Given that the EbA monitoring meetings will be jointly organised with other related community meetings that also have budget allocations, it is expected that these three budget lines BL 2201, 2305 and 3306 will not be exhausted. Therefore some of this budget could be reallocated to other activities that will form part of the sustainability of the project.

119. Remaining unspent budget for BL 2308 and 2309 both are for 'subcontract for IT services" add up to USD 69,740. It is not clear what the difference is between these two BL and according to the budget revision document, the same IT contractor will be engaged and therefore some saving will be done.

120. In order for the project to be able to disburse before its closure, a number of activities will have to speed up for the remaining time of the project.

121. Co-financing is considered a crucial part of the project performance and a key parameter for GEF reporting. At the development stage, a total of USD 7,915,200 was identified as co-finance

122. Because of the delay in starting the project, it was agreed at the inception meeting that a stocktaking exercise should be carried out to re-confirm the co-financing sources and figures. However, this was not done.

Tableau 1: Planned vs. actual cofinancing

Co-financing source	Planned cofinancing (USD)	Materialized cofinancing (USD)[12]
Higher Council for Environment and Natural Resources (HCENR)		251,964
White Nile Water Corporation	2,415,200	116,400
Animal wealth administration at the WNS	2,000,000	60,850
Range and pasture administration at the WNS	500,000	35,250
Ministry of Agriculture, Irrigation and Forests at the WNS	1,600,000	535,030

[12] Figures provided in the cofinance report as at 30 June 2021

UNEP Adapt for Environmental and Climate Resistance in Sudan Project (ADAPT!)	1,400,000	1,401,943

123. HCENR contribution included support such as provision of a vehicle, office space and participation of stakeholders at steering committee meetings, technical meetings and other project meetings as necessary.

124. ADAPT! Project contributed to component 1 and component 3. ADAPT! co-financing on Component 1 relates to capacity development for Ecosystems based Adaptation (EbA) and policy mainstreaming. On Component 3, it relates to knowledge management for appropriate EbA design as carried out by ADAPT! Activities and deliverables.

125. The in-kind contributions from other partners have mainly been on administrative and technical support during planning and implementation of project interventions in White Nile State. Only one partner made a cash injection: the Ministry of Finance contributed cash to the value of US$16,364 for HCENR to support the strengthening of procurement processes.

Financial reporting

126. The project has produced, to some extent, adequate project financial information that include quarterly expenditure reports to track internal expenditures and two financial audits for the years below. Two annual financial audit reports were made available to the MTR mission:

- 2018, for the period July 2017 to December 2018
- 2019, for the period January 2019 to December 2019
- 2022, for the period January 2020 to December 2020

The evaluation team could not locate financial audit reports for the year 2019.

127. Training was done for the project management team on the UNEP-GEF project management requirements and reporting tools. This training was conducted by the Finance Manager Officer (FMO) of UN Environment for the project team in Khartoum and those based in the White Nile State on 13-14 May 2018.

128. It should be mentioned that the UN Environment template used by the project team for the quarterly expenditure follows UN budget lines and does not disaggregate the information per component. For the sake of monitoring disbursements as they relate to implementation, it would seem relevant to develop a reporting template that would allow for easier comparison with disaggregated information per component.

129. Table 6: Financial Management Table

FINANCIAL MANAGEMENT COMPONENTS		SCORE	EVIDENCE/ COMMENTS
1. Completeness of project financial information		**S**	
Provision of key documents to the evaluator (based on the responses to A-G below)		S	
A.	Co-financing and Project Cost's tables at design (by budget lines)	YES	Enough detail provided

B.	Revisions to the budget	YES	The budget has been revised annually to align with the changes made during the inception meeting, cost saving measures and to align with the project extension.
C.	Proof of fund transfers	N/A	The evaluator did not request this information.
D.	Proof of co-financing (cash and in-kind)	N/A	The evaluator did not request this information at the time of MTR
E.	A summary report on the project's expenditures during the life of the project (by budget lines, project components and/or annual level)	YES	Quarterly expenditure reports are issued. They include a breakdown of expenditure by BL and a comparison with the total project budget and current year budget.
F.	Copies of any completed audits and management responses *(where applicable)*	YES	3 financial audits have been conducted and provided to the MTR team.
H.	Any other financial information that was required for this project	YES	Latest disbursement reports were provided by the project team
Any gaps in terms of financial information that could be indicative of shortcomings in the project's compliance[13] with the UNEP or donor rules		NO	Although the expenditure report template complies with the UNEP rules, it does not allow for a quick comparison of expected budget / expenditure per component.
Project Coordinator, Task Manager and Chief Technical Advisor responsiveness to financial requests during the evaluation process		HS	The Task Manager, CTA and PCU have been very responsive to the requests of the evaluator.
Overall rating on quality and consistency of financial reporting		**S**	

Rating for Financial Management: Moderately Satisfactory

The rate of spend is at 49.6% as of Q4 of 2021. The slow rate of spending is due to a slow project start-up but spending has picked up in 2019, but then spending reduced again because of Covid 19 pandemic and the restrictions associated with the pandemic. This percentage is likely to have changed to more than 50% spending because a significant amount of the budget has been disbursed for rainwater harvesting rehabilitation activities with the WNS Water Corporation after the 2021 Q4 reporting.

In the remaining months of the project, additional amounts should be disbursed quickly given that EbA interventions are almost completed.

D. Efficiency

Cost Effectiveness

130. The biggest budget revision to the project was related to administrative support, which covered admin/finance, support staff and strengthening of HCENR procurement system. The initial budget was 72,000 and this was revised to USD 241,408, with a 263% budget variance from original budget. This was done to accommodate the changes made at the inception meeting that recommended structural changes to the PMU through the creation of a Project Implementation Unit in the WNS. The budget for both the Khartoum and WNS office in Kosti, as well as the staff and equipment

[13] Compliance with financial systems is not assessed specifically in the evaluation. Nevertheless, if the evaluation identifies gaps in the financial data, or raises other concerns of a compliance nature, a recommendation should be given to cover the topic in an upcoming audit, or similar financial oversight exercise.

of both offices meant that budget reallocation had to accommodate this change of two offices. The largest variance was an increase of 189% to accommodate two admin/finance assistants. From discussions with project management, the reasons for creating two posts was to address the inefficiencies. From August 2021 to January 2022, the project only had one finance officer based in Khartoum but with missions to Kosti to support WNS PIU. However, this created inefficiencies given that all financial requests need to be approved by HCENR management. The appointment of the WNS finance and admin officers were to ease the burden of the Khartoum Finance officer.

131. Other than that, effort was made to ensure cost-effectiveness of the project. Budget revisions were made annually to ensure there is no overspending, and where possible, budget lines were merged, significantly reduced or deleted. In cases where particular activities with different budget lines could be jointly done, efforts were made to merge those activities.

132. Budget for NGO subcontract EbA upscaling Plan was revised to hire a national adaptation consultant instead of engaging an NGO, which was cost effective in the long run. Additionally, it was important to have a local consultant, who provided local context and realities on the ground, which was helpful and in assisting both the international adaptation and policy expert and the international economic expert

Timeliness of project execution

133. As mentioned earlier, there were major delays which resulted from external factor, such as the 2019 revolution, inflation and liquidity issues, and all of these were compounded by the global Covid 19 pandemic, which instituted national lockdown measures and restriction of gatherings to contain the virus.

134. The extended period taken to secure the Project Coordinator also delayed project implementation, particularly the inception phase of the project.

135. Delays caused by the travel ban which affected the work of the International EbA Expert. This has led to the delayed conclusion of the EbA guidelines and protocols

136. The Covid-19 related travel ban also affected the work of the International economic consultant who was responsible for the development of the economic cost-benefit assessment for EbA measures in Sudan. The assessment is expected to demonstrate evidence of EbA as an effective adaptation strategy that generates livelihood benefits for local communities.

137. Delays in concluding the MoU with the Water Corporation for the rainwater harvesting activity. This was due to the lengthy negotiation period in concluding the MoU between HCENR and the Water Corporation. The negotiations started in 2019, and only concluded in January of 2022. This led to significant delays in project implementation, especially that majority of EbA activities are water reliant

138. The stocktaking exercise was started in 2020 but was not completed mostly because of the delay in recruiting a national consultant.

139. The activity related to promotion of alternative building materials has been delayed as HCENR has not yet concluded the MoU negotiations with the National Center for Research

140. The activity related to promotion of Integrated Pest Management (IPM) has been delayed as HCENR has not yet concluded the MoU negotiations with ARC

Cost or time saving measures

141. As mentioned in the section "Budget changes" above, a number of Budget Lines were merged or deleted, which allowed to save money to compensate the increased costs of having two offices (and staff) as well as to cover for the no cost project extension.

142. In general, there was careful consideration of cost-saving measures, and one key measure was to hire individuals instead of engaging NGOs, which would be costly in the end. Examples include when the project decided to hire an M&E officer. This resulted in budget reduction of 44% by hiring an M&E consultant, instead of an M&E NGO, which allowed for more cost savings

143. By grouping interrelated activities connected to training of EbA activities, cost savings were made such as Technical Support EbA (budget lines 3203), Training EbA Cost Effectiveness (budget line 3204), Awareness raising on EbA (budget line 3205), Training EbA Mainstreaming – local level (Budget line 3206) & Training on improving yield with EbA (budget line 3207) are undertaken under the same consultancy. Budget for monitoring and evaluation meetings were reduced because it was cost-effective to jointly organise those with other community based EbA meetings. The costs of such meetings would be cheaper and therefore cost savings would be achieved

144. A lot of cost savings were achieved with activities that could be jointly done either by WNS government partners or communities. For example, instead of sub-contracting of NGOs to implement EbA related activities such as rehabilitation of rangelands, the Range and Pasture Administration contributed in-kind to the activity and therefore cost-saving was achieved. Similarly, the activity community farm preparation, was jointly done with communities, resulting in cost saving and increased ownership.

145. This demonstrated an attention given to the best value for money in the procurement processes. Overall, the consultants and sub-contractors recruited by the project are well qualified for the services and engage reasonable costs.

Rating for Efficiency:	**Moderately Satisfactory**

Budget revisions were made to accommodate the changes made at the inception meeting, particularly as it relates to having a second office at the WNS. Some structural changes were justified. Other than that, the resources have been used wisely with an attention to the best value for money option. Cost saving measures have been employed where possible. Efficiency in the implementation of project activities, such as jointly holding meetings or merging activities where possible. While cost effective measures were employed, the fact that there were significant delays in implementation- such as the prolonged negotiations with the Water Corporation and with ARC makes this less efficient.

E. Monitoring and Reporting

Monitoring design

146. The ProDoc includes a costed monitoring and evaluation plan which is well-conceived and sufficient to monitor results and track progress toward achieving objective. The assessment of project performance is planned at mid-term and at the end of the project and a budget is allocated accordingly. Periodic monitoring of implementation progress, Yearly Project Implementation Reports (PIRs) are required as well as half yearly progress reports (HYPR)[14].

147. The M&E plan was meant to be reviewed and revised at the inception workshop to ensure that all stakeholder understand their roles in the M&E process. However, this was not done at the inception workshop and instead, it was recommended that a monitoring and reporting officer is hired to undertake the M&E functions of the project. In addition, the project document states that the PCU shall be responsible for the day to day project monitoring, in particular the PC is expected to inform the PSC if there are delays or difficulties faced in the project implementation, and PSC can make corrective action if and when needed. However, the PSC reports indicate that the PC has repeatedly (2019, 2020 and 2021) highlighted challenges related to procurement delays affecting the implementation of the project, and suggested engaging experts from partner institutions to form a procurement committee that will support and expedite the procurement process. There is no evidence from the PSC reports to suggest corrective action was taken by HCENR to address the procurement challenges highlighted by the PC and the CTA.

148. Another activity related to monitoring of project progress is the periodic monitoring through site visits by UNEP. The objective of the site visits is to assess progress and implementation challenges and based on the findings, suggest recommendations to address the identified challenges. A total of four site visits were conducted by the CTA, and the challenges identified include inflation and the liquidity crisis, both of which led to implementation delays. In addition, UNEP Task Manager participated in the inception meeting, undertook one site visit to WNS, attended 3 PSC meetings, two of which in Sudan and undertook three missions to Sudan. The UNEP Head of CCA and the FMO attended the inception workshop and provided training on financial management.

[14] Prodoc

149. Perhaps one of the greatest challenges in monitoring and reporting was the lack of an M&E officer for the project. The M&E officer was expected to elaborate a monitoring and reporting strategy to supplement the project M&E framework. However, this was delayed owing to a high staff turnover of project monitoring and reporting expert post. Currently, a third recruitment process for a monitoring and reporting expert has just been completed and an expert is in the process of developing a monitoring strategy and its implementation plan.

150. During the absence of an M&E officer, the CTA, as per the tasks included in his ToR, conducted high level monitoring of the indicators and targets which are included in the annual work plans and the periodic site visits reports. While this level of monitoring was not adequate, it provided some high level analysis of progress vis-a-vis the targets.

Monitoring implementation

151. At inception stage a baseline assessment was conducted which made proposal on adjusting its results framework, including its indicators and targets. The baseline survey assessed all the indicators of the result framework against the SMART methodology. The baseline survey concluded that most of the original indicators and targets defined during the design were specific, easily measurable, gender sensitive and cost-effective, and made proposals on some amendments on some of the indicators. However, the changes to the results framework were not presented to PSC and therefore they were never approved.

152. Because of the lack of M&E officer, there was no M&E reporting from the beginning of the project and the only reporting that was done was in the annual reports.

153. The monitoring reported in the PIR and the HYPR is done as implementation progress in terms of percentage. However, because of the lack of an M&E officer, project outputs and outcome indicators have not been monitored in a systematic way. The following observations were made:

- Reporting on the number of beneficiaries is done using the original target number, instead of the revised target number of 8389 (from the baseline survey). And as a result, when reporting on achievement, the percentage tends to be inflated showing that the project has achieved more than the target of 123%.
- In the HYPR and PIR, the team reports on the progress of outputs and outcome but does not inform the associated indicators. For example, the indicator for outcome 1.4 is "number of field visits conducted to provide lessons learned on adaptation / EbA implementation with a focus on gender" and "number of stakeholders (disaggregated by gender) participated in CC adaptation and EbA planning/implementation/ training programmes". The reporting is not done against the indicators, and the target, and therefore it is not clear how the percentages of implementation status is calculated.

154. Gender disaggregated data reporting was done on some indicators such as number of female headed households beneficiaries and the number of female led Village Development Committees. While not done for

all indicators, this is positive and can be useful in understanding the impact of the project on different gender groups.

155. While some reporting is done in the PIR and the HYPR, it remains that the project has no systematic and continuous reporting of M&E and the collection of lessons learned at all levels, and this is a significant gap.

156. HCENR commissioned the Results Verification Exercise by an external consultant to support the MTR process, but also as a means to overcome the limited monitoring taking place at project level owing to the challenges of hiring an M&R officer. Therefore, adaptive management action was demonstrated by UNEP and HCENR to strengthen monitoring.

Project reporting

157. The EbA project reporting is done mainly through the PCU and to date, 4 PIRs have been completed and submitted. The HYPRs are also submitted every year, covering the period of July to December annually. To date, 3 HYPRs have been submitted. In addition, since 2018, PMU submitted quarterly expenditure reports so a total of 18 quarterly expenditure reports have been received and cleared by the FMO up to 31 Dec 2021. The baseline survey has been finalised in August 2020, however, the amendments have not been approved by PSC. The MTR was scheduled to take place in 2020, however, due to the delays mentioned elsewhere in this report, commissioning of the MTR was significantly delayed.

158. According to Annex 11 of the ProDoc, the frequency of the PSC meetings was to be at least every 6 months, or as required by the PSC chair. From the PSC minutes, it is evident that effort was made to meet every 6 months, but factors external to the project such as the 2019 revolution and Covid 19 pandemic, prevented PSC meetings to take place every 6 months. Nonetheless, PSC meetings took place annually, and decisions related to project implementation were made. The PIR, HYPR and the financial expenditure reports are detailed and informative.

159. The GEF CC Strategy Results Framework Matrix was completed at design stage addressing the indicators of the project relevant to the GEF Focal Area Objectives under *CCA-1, Outcome 1.1: Vulnerability of physical assets and natural systems reduced, Outcome 1.2: Livelihoods and sources of income of vulnerable populations diversified and strengthened* and *CCA-2, Outcome 2.1: Increased awareness of climate change impacts, vulnerability and adaptation* The completed GEF CC Strategy Results Framework Matrix at mid-term is included in Annex VI.

160. The MTR interviews showed that the communication and collaboration between the PCU, the WNS PIU, the Task Manager and the rest of the consultants hired on the project was very good

Rating for Monitoring and reporting: Satisfactory

The project reporting was done on time, with all the documents for reporting progress done, while meeting UN Environment standards.

On monitoring, the ProDoc includes a costed monitoring and evaluation plan which is well-conceived and sufficient to monitor results and track progress toward achieving objective. However, the lack of an M&E officer affected the day to day monitoring of project activities and achievements, and the perioding reporting and monitoring of progress. In the end,

because of lack of an M&E officer, there was no systematic and continuous monitoring of the project result framework indicators, nor was there a systematic collection of lessons learned at PCU level- which contributes to outcome 3 of the project.

Other than the MTR, which was significantly delayed, project reporting meets UN Environment standards and is substantial and timely. In addition, the Results Verification Exercise by an external consultant was an adaptive management approach to overcome the limited monitoring taking place at project level, and also to support the MTR.

F. Sustainability

Exit strategy and risk mitigation

161. The sustainability of the project was justified at project design through the following aspects:

- Build on the successes of previous LDCF funded projects and initiatives, and partner with the existing organisations that supported the implementation of those projects, for example ARC which supported LDCF 1 and LDCF 2 projects;
- Selecting pilot areas that take local needs, priorities and culture into consideration;
- Selecting pilot areas that show clear and demonstrable benefits (both adaptation and general livelihood improvements) within the project lifetime and beyond;
- Providing successful awareness raising on climate change and training on the benefits of EbA;
- Contributing to the expanding Cloud knowledge base of good practices, successful practical examples from communities and shared via hosting and pilot demonstration to enable successful replication and long term sustainability of EbA across the country;
- Building capacity for local focal points and VDCs/WUAs at the village level to better understand EbA and to lead community-based EbA

162. This justification still holds, as the above aspects will be contributing to the project sustainability. However, while the project has demonstrated some successful EbA practical examples, and expanded the knowledge base, documentation of such practices, which falls under component 3, will need to be accelerated if sustainability of the project is to be achieved.

163. Some of the challenges related to sustainability include the activity of improved stoves. It was revealed during the MTR mission that while majority of the beneficiaries found the stoves to be useful, some beneficiaries' stoves were broken or damaged and needed maintenance services but could not find a service provider to fix the broken stoves. For example, one woman reported that, while the stove has tremendous benefits as highlighted previously, she has had to abandoned the improved stove because of lack of maintenance, and she has gone back to cutting wood because the stove is no longer working. This could undermine one of the project objectives of halting deforestation and to ensure sustainability of the project key objectives of promoting EbA approaches.

164. Consideration of culture and way of life are important elements of sustainability for any project, and in particular, the EbA project, as stated in the ProDoc. However, from the interviews conducted, it has revealed that activities such as planting of fruit trees is a new livelihood activity of the

communities, as majority are pastoralists. The results verification reported that success rate of the fruit trees was 30% on average, which is quite low. The baseline survey indicates that planting fruit trees is not very common in the area, with an average of about 20% of some of the households planting fruit trees, an activity introduced by an NGO in the past. While livelihood diversification is critical as a strategy in building community and individual resilience to climate change, stronger support, and capacity building efforts are needed to sustain livelihood activities that are new to communities.

165. The MTR mission found the EbA project to have limited complementarity and synergies formed with similar initiatives taking place in the same state. As part of building sustainability, it would be important to align with existing initiatives that have similar objectives. This can be achieved with the GCF Readiness project implemented by HCENR and FAO as the delivery partner. Outcome 3 of the NAP readiness project is particularly relevant for the EbA project as it aims to re-activate state-level Technical Committees for climate change adaptation through the revision of state level adaptation plans based on inclusive stakeholder participation.

166. The need for the development of an exit strategy was expressed by most stakeholders interviewed as a way of strengthening the sustainability element of the project.

Factors enabling or hindering the continuation of project achievements

Preparation and readiness

167. The following sustainability elements from above were analysed based on the MTR findings:

- 1) Selecting pilot areas that show clear and demonstrable benefits (both ecosystem-based adaptation and general livelihood improvements) within the project lifetime and beyond- a vulnerability and adaptation assessment (V&A) was done for the four localities selected for the project. The V&A showed that water scarcity, land degradation, low agricultural productivity and limited pasture are all some of the climate related impacts that the area is experiencing. The EbA project, using the identified sites, has to some extent demonstrated some positive results, such as the adoption of climate resilient land management practices and the production of climate resilient cash crops such as sesame seeds- both demonstrating positive benefits for adaptation and improved livelihoods.
- 2) Providing successful awareness raising on climate change and training on the benefits of EbA; and
- 3) Building capacity for local focal points and VDCs/WUAs at the village level to better understand EbA and to lead community-based EbA- these two elements are related. The project has conducted several awareness raising activities at the highest decision making level such as HCENR and the PSC, as well as WNS Technical Committee for example training on the template protocol on identifying sites to carry out EbA interventions (at various levels) and developing monitoring plans. While this has been

done at the federal level and state level, a lot still remains to be done at the community level. Communities at the local level are the custodians and managers of natural resources, the VDCs and WUAs in particular provide an opportunity for the project to strengthen their capacity to enable them to better integrate EbA principles in natural resources management during and beyond the life of the project

- 4) Contributing to the expanding Cloud knowledge base of good practices, successful practical examples from communities and shared via hosting and pilot demonstration to enable successful replication and long term sustainability of EbA across the country- this has not been done successfully yet, and without the M&E officer for a long period, documentation of good practices and successful lessons has been low. This documenting of lessons and good practices is key to the achievement of outcome 3 of the project.

Quality of project implementation and execution

168. The Project Steering Committee (PSC) and the WNS Technical Committee (TC) have been established on time and both functioning well and carrying out their mandates. The relationship between PCU and the WNS TC is both constructive and positive. It was reported that at the beginning, cross sectoral collaboration at the level of the WNS TC was challenging, but with time and as the project continued, stronger cross sectoral collaboration emerged, and even promoted outside of the project.

169. However, some challenges have been reported during the MTR mission. The main challenge is the high staff turnover of the members of the WNS TC, some of the members could be deployed to different departments and as a result, there is limited continuity. Secondly, while it was reported that the EbA project was 'filling in a gap' because the activities are part of the mandate of the WNS partners and there is strong commitment from the partners, it was also reported that sometimes implementation of EbA activities was not prioritized because the activities would fall outside of their institutional workplan. The low perdiem rates was also mentioned as a disincentive to prioritise the EbA activities by the WNS partners. This lack of prioritisation by state level staff can severely affect the performance of the project.

170. As previously mentioned, due to Covid 19 lockdown measures, the international consultants have not travelled to Sudan to complete their tasks. A few stakeholders pointed out that the heavy dependence of international consultants is problematic as some of the activities are delayed as a result. The high dependence on international consultants could hinder the achievement of results moving forward and identifying national consultants to augment the work of the national consultants would be key

171. Implementation challenges identified are related to external factors mentioned above, but also internal challenges, with delayed procurement being the main factor. This resulted from the centralised procurement process, lack of a procurement policy for externally funded projects and the lengthy contractual negotiations that take place between HCENR and the service providers. Procurement delays could significantly hinder project achievement moving forward.

172. The project so far has shown adaptive management abilities. It has been the case for instance through budget revisions: several budget lines were merged which allowed to save funds that were reallocated to cover the cost associated with changes made at the inception workshop of having a second office in the WNS, and the project extension.

Biophysical conditions

173. The MTR mission interviews revealed that a tree by the name of Damas Saudi (*conocarpus lancifoliu*) has been planted in the area as part of the activities that fall under output 2.2 on regeneration of critical ecosystems. However, stakeholders particularly from the National Forest Corporation, raised concern that the tree might not be appropriate for adaptation in that it is deep rooted, water thirsty and can cause considerable damage to pipelines and infrastructure in urban environments as reported in Pakistan and United Arab Emirates.. The evaluator tried to investigate how the tree was selected and learnt that the trees was selected based on the understanding that it is drought resistant, a source of woodfuel and fodder, can serve as a wind breaker and reduce evaporation from the open surface of Hafir and that it is used in Khartoum and adjacent areas as a windbreak and for landscaping. It is still not clear how the tree was selected because neither the ProDoc nor the baseline survey mentions the criteria for selection of trees, and this tree in particular. There is guidance provided in the ProDoc on elements to consider to guide selection of trees such as the checklist for environmental and social safeguards, it states that the project will promote the planting of indigenous, non-invasive trees. It is noted that the particular tree species originates from the Horn of Africa area (i.e. Somalia, Ethiopia, Djibouti) and it is not an invasive tree species.. Further, the ProDoc mentions that it will prioritise native trees that generate multiple goods, services and benefits. However, during the interviews, it was learnt that selection of trees was done by the National Forestry Corporation (NFC) based on their expertise of the area, but they were not involved in the selection of this particular tree. It still remains unclear how the tree was selected, however, this is an important lesson in ensuring that the project activities promote holistic approaches, and the understanding the interconnectedness of the entire ecosystem in climate adaptation, while ensuring maladaptation is avoided. Moving forward, it is strongly recommended that the EbA project and the NFC discuss the suitability of this tree in the EbA project, particularly for regeneration of critical ecosystems and for establishing wind shelter beds, in the context of current and future climate change scenarios.

Stakeholder participation

174. Stakeholder engagement within the project took place with a diverse range of stakeholders through a variety of platforms such as the Project Steering Committee meetings, White Nile State Technical Committee meetings, Project Coordination Working Group, Village Development Committees and community meetings. Further, local policy dialogues on mainstreaming of adaptation into state and locality development plans have also taken place during the implementation of the project as part of the stakeholder engagement process. As a result of these stakeholder meetings, some partnerships and collaboration emerged, including the

technical support and co-financing contributions from partners such as Range and Pasture Administration, Ministry of Agriculture (Horticultural Department, Rain-fed Agriculture, Technology Transfer Department, Veterinary Extension Department); National Forest Corporation. Equally important, as a result of the stakeholder consultations, some community members volunteered to carry out land preparation, sharing of seeds with non-beneficiaries, among others.

175. However, a key challenge to the stakeholder engagement has been the COVID-19 pandemic. To contain the virus, the Government of Sudan took measures including social distancing, working from home, reduced staff compliment in offices to about half capacity. Extreme measures such as travel restrictions and lock downs were also instituted. This affected the stakeholder engagement process, particularly the face to face project meetings and outreach activities that were originally envisioned in the project. To this end, the project team did institute adaptive management measures to ensure the project is not significantly affected. For example, project meetings, training sessions and stakeholder consultations were done using virtual platforms. And when the covid measures were relaxed, face-to-face meetings with stakeholders were conducted while adhering to the Ministry of Health guidelines.

176. Other gaps were found in terms of diversity of the stakeholders within the project governance structures. The PSC and the WNS Technical Committee form an important part of the implementation and governance structure of the project. However, the MTR mission has revealed that there are key actors that are missing in the project implementation and governance structure, such as Meteorological Organisation at federal level as well as state level. It was further established that this key actor is part of the PSC and STC, however, it would seem their participation is limited in the project. Meteorological actors are important players particularly as the project intends to understand the current and future climate vulnerabilities and risks for vulnerable communities. On the longer term, this may hinder the continuation of project achievements. For the sake of sustainability of project results, the project should mobilize key partners and define their roles and responsibilities as part of the project exit strategy.

Country ownership and willingness

177. Consultation with project stakeholder have expressed during the MTR their willingness to mainstream EbA across the different sectors but mentioned that one of the main challenges was the limited funding available. Some stakeholders have even suggested that the project be scaled up to all states in Sudan, and not just limit it to the WNS.

178. Additionally, engagement and stakeholder sensitization forums have been taking place in order to achieve high level political support from the variety of government agencies that were deemed critical in the implementation of the project. During these meetings, the concept of ecosystem based adaptation as well as opportunities for collaboration were identified and discussed for further follow up.

179. At the community level, strong positive sentiments were shared about the EbA project, and the impact it is having on communities. Despite some of the challenges highlighted earlier, communities still see many positives

of the project and see this as a launching pad for other EbA type of projects and initiatives. The only challenge they foresee is funding, and it is hoped that through the revolving fund, many of the EbA activities can continue after the life of the project.

180. The government has pledged significant co-financing for the project as a testament of the willingness and commitment to the project. However, circumstances changed from the time the commitment was made, for example, the 2019 revolution, political instability, Covid 19 have all contributed to the government not meeting its commitments. Although not fully realised, the government has met 30% of the government co-financing contribution. Given all the challenges the country is facing, this contribution is significant and needs to be acknowledged. Stakeholders mentioned that they would be looking to the Green Climate Fund to support follow up activities.

Communication and public awareness

181. Awareness creation activities were conducted at various levels, including at the highest decision-making level such as HCENR and the PSC, and at the state level such as WNS Technical Committee. Activities included training on the template protocol that outlines the standard procedure and guidelines for identifying sites to carry out EbA interventions. Training also included developing monitoring plans of the EbA interventions. Some of these activities were carried out during the Covid pandemic, and the project had to institute containment measures to control the spread of the virus by utilising virtual platforms.

182. In addition, all foundational work in strengthening the information base and knowledge of EbA is ongoing. For example, a draft concept on the methodology for undertaking a stocktaking exercise to identify entry points to incorporate EbA has been done. A methodology and data collection protocols to guide the economic cost benefit assessment for EbA measures has also been done. These are all important activities to enhance the knowledge base of EbA in the country, and to promote mainstreaming into existing policies, strategies and budgets. Further, at least two field visits were organised by high level representatives from federal and state level to gather practical evidence of EbA on the ground. While this has been done at the federal level and state level, more interaction at the community level is needed. The VDCs and WUAs in particular provide an opportunity for the project to strengthen their capacity to enable them to better integrate EbA principles in natural resources management.

183. There is emerging evidence of replication/ upscaling of project results such as improved goat variety has spread to more than 10 villages in Tendalty locality. Similarly, beneficiaries of improved seed varieties of groundnuts and sesame seeds have been sharing their harvests with non-beneficiaries in an effort to promote upscaling of EbA technologies. In addition, several stakeholders mentioned during the MTR mission that the EbA approach demonstrated in the WNS for the first time through the project would be relevant and could be replicated to other areas of the country. For example, federal institutions such as the National Forest Corporation, as well as HCENR indicated interest in scaling up EbA approaches in the country. At the state level, there is also interest from WNS institutions to scale up EbA approaches. Therefore, there is evidence to

demonstrate replicability and scaling up of EbA approaches and technologies.

Funding opportunities

184. Sudan is one of the first African countries to develop a National Adaptation Plan (NAP). The next stage is to implement the NAP, using funds inside and outside the Green Climate Fund (GCF) but also other funding sources such as the LDCF and Adaptation Fund. As the EbA project was informed by Sudan's NAP (2016), it is safe to assume that when NAP is being implemented, activities related to the EbA project could also be integrated for the funding. For example, funding opportunities exist with the GCF readiness project on strengthening state level technical committees on climate change. The WNS is one of the states identified for this project, therefore the EbA project could secure additional funding through this readiness project.

185. In addition, an exit strategy should be developed in the coming weeks and that should provide input of funding opportunities, and the willingness and determination of project stakeholders in local and national government to secure additional funding.

Rating for Sustainability: Moderately Satisfactory

A number of sustainability strategies were included in the project document, but some were missing and have not been detected at project start, nor during implementation, which hinders sustainability. While that is the case, corrective action can still be taken at this stage and should be given priority. Of urgency is the development of an exit strategy that would explore how the project will be brought to a close, while sustaining its benefits.

IV. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

186. As the summary of project findings and ratings is provided in the following section, this section focuses on the key strategic questions raised in the Terms of Reference of the Mid Term Review, and during the inception phase.

Extent to which the project is likely to generate evidence of ecosystem-based adaptation benefits to local livelihoods, State and national economy whilst considering medium and long-term climate change projections. What are the emerging lessons learned and best practice?

187. Based on the project documentation and the discussion with stakeholders during the MTR mission, evidence has been generated to demonstrate ecosystem-based adaptation as an approach to benefit local livelihoods, while considering current climate impacts. For example, the use of improved seeds for groundnuts and millet led to communities harvesting at a minimum double what they would have harvested if they used traditional seeds. The same can be said about the rearing of drought resistant small stock, communities were able to generate income from the sale of milk and milk products, meat and sale of young goats for production.

188. A weakness of the project is the link to near term and long term climate risks. For example, climate projections did not inform some of the activities and the actions taken. The project was informed largely by current climatic events and impacts, such as recent crop yield losses, animal mortality and water scarcity.

189. Some of the lessons include:

- Important to understand the concept of EbA at all levels. When decision makers understand the concept and the benefits, they will support it. Even the coordinators and other project officers need to understand the concept of EbA, so they can engage with it more and push the EbA agenda. Many stakeholders emphasized this point.
- Determination of climate risk assessments in order to identify range of adaptation options and careful assessment of options to ensure ecological, social and environmental suitability, and avoid maladaptation.
- Important to select the most appropriate implementation modality based on project realities. Currently, the EbA project is dependent on international and national consultants to carry out project activities.
- Understand the finance and procurement systems of the country, and assess the strengths and weaknesses and requirements for integrating a donor funded project within the finance systems for ownership. At project inception, ensure that project is integrated into Ministry of Finance systems, to ensure no procurement challenges and also that co-finance is provided.

Extent to which the project implementation approach is effectively demonstrating ecosystem-based adaptation, and is more than a community-based natural resource management project?

190. By integrating climate change adaptation and EbA into the approach, the project is demonstrating that it is more than just a CBNRM approach. For example, there was strong consideration in the project design and in the implementation to balance between the activities that yield hard economic benefits such as using of improved sesame seeds or rearing improved goats, and balancing with long term EbA ecosystem services such as establishing shelterbelts on 10% of agricultural land. The aim of establishing shelterbelts is to reduce erosion on fertile land, protect from strong winds, control salinity and improve biodiversity. All of these are projected to worsen with climate change, therefore integrating shelterbelts in to agricultural activities contributes to building long term climate resilience.

Extent to which the project approach on integrated watershed management and ecosystem-based adaptation can also contribute to evidence on scaling-up of ecosystem restoration work to support the forthcoming UN Decade on Ecosystem Restauration (2021-2030) address the severe degradation of landscapes, including wetlands and aquatic ecosystems.

191. The project has demonstrated that ecosystem-based adaptation is an important approach to be used to scale up the ecosystem restoration work in support of the UN Decade on Ecosystem Restoration. Systems approach and systems thinking is required. For example, the tree Damas Saudi was selected because of its ability to serve as a wind breaker and reduce evaporation from the open surface of Hafir. However, it was later learnt that the tree is deep rooted, water thirsty and can cause considerable damage to pipelines and infrastructure. Even though the aim of planting the trees around a Hafir was to serve as a wind breaker, it would have caused more damage because of its deep roots and water thirst, which would contribute to the depletion of the already scarce resources. .

192. The central role of the WNS Technical Committee was crucial to demonstrate EbA approaches. Multi-sectoral approach is important to break the silos and to have the different sectors talk to one another and allow for meaningful debates on the cross sectoral nature of climate change. Equally important is to have sub-national actors implement EbA projects. Subnational actors have an important role in engaging directly with and respond to the needs of the vulnerable sectors and communities. Ideally, they are fully conversant and compliant with the range of environmental and social safeguards at local levels. Therefore, when it comes to drive and deliver adaptation responses, subnational actors can meaningfully engage in the processes that show how climate change drivers and hazards impact the livelihoods and wellbeing of communities at the local level.

B. Summary of project findings and ratings

193. The table below provides a summary of the ratings and finding discussed in Chapter III. Overall, the project demonstrates a rating of Moderately Satisfactory.

Table 7: Summary of project findings and ratings

Criterion	Summary Assessment	Rating
A. Strategic Relevance		**S**
1. Alignment to MTS and POW and the GEF strategic priorities	The project is well aligned with the MTS, the POW and the GEF strategic priorities.	HS
2. Relevance to regional, sub-regional and national environmental priorities	The project is also well aligned with the national, and local priorities, needs and development plans. The communities in the WNS are very vulnerable to climate change and have little to no capacity to deal with climate change impacts. Therefore, the project is well aligned with the community needs and priorities too. The main weakness of the project lie in the lack of coordination and synergies with other relevant initiatives and this might affect the sustainability of the project	S
B. Effectiveness		**MS**
1. Delivery of outputs	The project faced a number of obstacles which impacted the delivery of the key outputs. Many of these obstacles were external factors such as the 2019 revolution, inflation and the global Covid 19 pandemic, which led to national lockdown measures and restriction of gatherings to contain the virus. Despite the challenges, some progress was made. For example, outputs related to improved technical and institutional capacity to implement EbA measure is lagging behind such as the policy briefs. The stocktaking exercise and the economic cost-benefit assessment are not completed. Outputs related to outcome 2 on reduced vulnerabilities of local communities has been mostly achieved, for example rangeland rehabilitation has been completed and so is the distribution of improved stoves. Majority of the outputs under outcome 3 have not been delivered.	MS
2. Achievement of direct outcomes	At 'mid-term', the achievement of two of the the three outcomes is lagging behind, while outcome 2 is on track. it would be critical at this stage to prioritize some key outputs to deliver such as the application of the EbA protocol template and the cost effectiveness of EbA. Some assumptions for progress from project outputs to direct outcomes partially holds; and drivers to support transition from output to direct outcome are partially in place	MS
3. Likelihood of impact, where appropriate/feasible	Even though it is difficult to assess likelihood of impact at mid-term it can nonetheless be noted that outcomes can be achieved, dependent on the delivery of remaining key outputs which would need to be prioritized. Some assumptions from project outputs to direct outcome either hold (A1 and A2), or hold partially (A3); and drivers to support transition from output to direct outcomes are either partially in place (D1) or in not in place (D2).	L
C. Financial Management		**S**
1.Rate of spend	The rate of spend is at 49.6%. The slow rate of spending is due to a slow project start-up but spending has picked up in 2019, but then spending reduced again because of Covid 19.This percentage is likely to have changed to more than 50% spending because a significant amount of the budget has been disbursed for activities with the WNS Water Corporation in 2022. In the remaining months of the project, additional amounts should be disbursed quickly given that EbA interventions are almost completed	MS
2.Quality and consistency of financial reporting	Most required items were complete and made available for the MTR (see Project Financial Table)	S
D. Efficiency	Budget revisions were made to accommodate the changes made at the inception meeting, particularly related to having a second office at the WNS.	**MS**

Criterion	Summary Assessment	Rating
	Some structural changes were justified but others, such as the two finance/admin posts were seen not to be cost-effective and that one finance officer would have been sufficient. Other than that, the resources have been used wisely with an attention to the best value for money option. Efficiency in the implementation of project activities, such as jointly holding meetings or merging activities where possible. While cost effective measures were employed, the fact that there were significant delays in implementation- such as the prolonged negotiations with the Water Corporation and with ARC makes this less efficient.	
F. Monitoring and Reporting		**S**
1. Monitoring design	The monitoring design in the project document covers all requested items	HS
2. Monitoring Implementation	The lack of an M&E officer affected the day to day monitoring of project activities and achievements, and the periodic reporting and monitoring of progress. As a result, there was no systematic and continuous monitoring of the project result framework indicators, nor was there a systematic collection of lessons learned at PCU level- which would contribute to outcome 3 of the project	MU
3.Project reporting	The project reporting meets UN Environment standards and is substantial and timely, other than the MTR which was significantly delayed because mostly of external factors.	S
F. Sustainability	A number of sustainability strategies were included in the project document, but some were missing and have not been detected at project start, nor during implementation, which hinders sustainability. While that is the case, corrective action can still be taken at this stage and should be given priority. Of urgency is the development of an exit strategy that would explore how the project will be brought to a close, while sustaining its benefits.	**MS**
I. Factors Affecting Performance		**MS**
1. Preparation and readiness	Most project preparation procedure were dealt with in a timely manner. However, due to challenges such as difficulties in securing the project management team and changes in HCENR leadership, the project startup was severely delayed, with the project having a fully functional project management team only in the second quarter of 2018, while project signing was done in 2017	MS
2. Quality of project implementation and execution	The Project Steering Committee (PSC) and the WNS Technical Committee (TC) have been established on time and both functioning well and carrying out their mandates. The relationship between PCU and the WNS TC is both constructive and positive. It was reported that at the beginning, cross sectoral collaboration at the level of the WNS TC was challenging, but with time and as the project continued, stronger cross sectoral collaboration emerged, and even promoted outside of the project However, some challenges have been reported during the MTR mission. The main challenge is the high staff turnover of the members of the WNS TC, some of the members could be deployed to different departments and as a result, there is limited continuity. Secondly, while it was reported that the EbA project was 'filling in a gap', it was also reported that sometimes implementation of EbA activities was not prioritized because the activities would fall outside of the institutional workplan. The UN Resident Coordinator Office determined DSA rates for Sudan are considered as low and was also mentioned as a disincentive to prioritise the EbA activities by the WNS partners. Other challenges include the high dependence of international consultants to implement activities and the procurement challenges. All these factors have contributed to the delay in the implementation of the project. Nonetheless, the project so far has shown adaptive management abilities. It has been the case for instance through budget revisions: several budget lines were merged which allowed to save funds that were reallocated to cover the cost associated with changes made at the inception workshop of having a second office in the WNS, and the project extension	S

Criterion	Summary Assessment	Rating
3. Biophysical conditions	The MTR mission interviews revealed that a tree by the name of Damas Saudi (conocarpus lancifoliu) has been planted in the area as part of the activities that fall under output 2.2 on regeneration of critical ecosystems. However, stakeholders particularly from the National Forest Corporation, raised concern that the tree might not be appropriate for adaptation in that it is deep rooted, water thirsty and can cause considerable damage to pipelines and infrastructure in urban environments as reported elsewhere. The evaluator tried to investigate how the tree was selected and learnt that the trees was selected based on the understanding that it is drought resistant, a source of woodfuel and fodder, can serve as a wind breaker and reduce evaporation from the open surface of Hafir and that it is used in Khartoum and adjacent areas as a windbreak and for landscaping. It is still not clear how the tree was selected because neither the ProDoc nor the baseline survey mentions the criteria for selection of trees, and this tree in particular. Moving forward, it is strongly recommended that the EbA project and the NFC discuss the suitability of this tree in the EbA project, particularly for regeneration of critical ecosystems and for establishing wind shelter beds, in the context of current and future climate change scenarios.	MS
4. Stakeholder participation	Stakeholder engagement took place with a diverse range of stakeholders through a variety of platforms such as the Project Steering Committee meetings, White Nile State Technical Committee meetings, Project Coordination Working Group, Village Development Committees and community meetings. However, the MTR mission has revealed that there are some key stakeholders that are missing in the project implementation and governance structure, such as Meteorological services- who are important players particularly as the project intends to understand the current and future climate vulnerabilities and risks for vulnerable communities The major challenge to the stakeholder engagement process has been the COVID-19 pandemic. To contain the virus, the Government of Sudan took measures, including social distancing, travel restrictions and lock downs. This affected the stakeholder engagement process, particularly the face to face project meetings and outreach activities that were originally planned. To this end, the project team did institute adaptive management measures to ensure the project is not significantly affected. For example, project meetings, training sessions and stakeholder consultations were done using virtual platforms. .	MS
5. Responsiveness to human rights and gender equity	As per project document, "All project interventions have been developed in accordance with internationally proclaimed human rights, in conformity with UN guidelines. In addition, all activities were developed together with various stakeholders to ensure that no rights or laws are infringed by the proposed activities". In addition, gender has been taken into account in the project logical framework through several gender disaggregated indicators. Since the project started, reports indicate that women formed 43% of all project beneficiaries. Training sessions have also recorded an average of 39% to 53% women representation. Similarly, women are also involved in the local community governance structures (Village Development Committees) where they constitute at least 30% of membership. At the same time, the project is supporting implementation of gender-specific adaptation technologies such as the improved stoves. However, there is no strong representation of women's organisation in the governance structure, despite them being included in the project documents. For example, the White Nile State Women's Union. There is only the gender department. in addition, in terms of leadership of VDC's, men still dominate, with only 1 out of 43 VDC's being chaired by a woman.	S

Criterion	Summary Assessment	Rating
6. Country ownership and driven-ness	Consultation with project stakeholder have expressed during the MTR their willingness to mainstream EbA across the different sectors but mentioned that one of the main challenges was the limited funding available. Some stakeholders have even suggested that the project be scaled up to all states in Sudan, and not just limit it to the WNS At the community level, strong positive sentiments were shared about the EbA project, and the impact it is having on communities. Despite some of the challenges highlighted earlier, communities still saw many positives of the project and see this as a launching pad for other EbA type of projects and initiatives. The only challenge they foresee is funding, and it is hoped through the revolving fund, many of the EbA activities can continue after the life of the project. The government has pledged significant co-financing for the project as a testament of the willingness and commitment to the project. However, circumstances changed from the time the commitment was made, for example, the 2019 revolution, political instability, Covid 19 have all contributed to the government not meeting their commitments. Although not fully realised, the government has met 30% of the government co-financing contribution. Given all the challenges the country is facing, this contribution is significant and needs to be acknowledged. Stakeholders mentioned that they would be looking to the Green Climate Fund to support follow up activities	MS
7. Communication and public awareness	Awareness creation activities were conducted at various levels, including at the highest decision-making level and at the state level. Activities included training on the template protocol and developing monitoring plans of the EbA interventions. In addition, all foundational work in strengthening the information base and knowledge of EbA is ongoing. For example, a draft concept on the methodology for undertaking a stocktaking exercise to identify entry points to incorporate EbA. This is an important activity to enhance the knowledge base of EbA in the country, and to promote mainstreaming into existing policies, strategies and budgets. While this has been done at the federal level and state level, more interaction at the community level is needed. The VDCs and WUAs in particular provide an opportunity for the project to strengthen their capacity to enable them to better integrate EbA principles in natural resources management.	**MS**
Overall Project Rating	**MODERATELY SATISFACTORY**	**MS**

C. Recommendations

Recommendation 1. ***Strengthen the day-to-day monitoring of project activities, achievements and project capacity***

194. Based on the discussion from the Monitoring and Reporting section above, the Mid-term Review has the following recommendations:

195. The MTR mission has shown that the day-to-day monitoring activities lack sufficient capacity of technical staff as well as M&E capacity, although effort is now made to address the M&E gap within the project

196. With the new M&E officer on board, monitoring of project activities and achievements could be done more regularly in line with the requirements articulated in the ProDoc, which include day to day monitoring and periodic

reporting and monitoring of progress. A systematic and continuous approach of monitoring of the project result framework indicators is needed.

197. In addition, an increase in staff numbers at WNS project implementation unit would help in addressing some of the implementation challenges such as delayed implementation and lack of follow up of project activities. Given the short time frame remaining for the project, it is recommended to conclude the contract of the adaptation expert and explore the possibility of engaging an existing national consultant, such as the CBNRM expert, on a longer-term basis.

198. In addition, existing staff are feeling demotivated and in order to enhance the delivery of outputs within the remaining 12 months, it would be crucial to explore ways to motivate existing staff.

Recommendation 2. ***Strengthen partnerships and engagement with existing initiatives as part of sustainability***

199. Based on the discussions from the sections on sustainability and relevance to national and sub-national priorities and needs, the MTR has the following recommendations:

200. The MTR mission has revealed that synergies and complementarities with existing initiatives is weak. It is recommended that the PCWG, which was established by the project, meets to develop a document of complementarities of EbA with existing initiatives and programes, and how that can be enhanced. This document should inform the exit strategy.

201. There are existing initiatives that the EbA could explore synergies with, for example, the Sudan GCF readiness project on strengthening state level technical committee on climate change. It would be necessary for the EbA project to explore how synergies can be built with this readiness project in an effort to strengthen sustainability. Other complementary initiatives should be explored.

202. Explore partnerships with Plan Sudan to understand how sustainability of the improved stoves can be integrated at this stage of the project. Plan Sudan has experience in developing improved cook stoves and they were involved in the earlier stages of the project. For example, finding locally sources materials, identification of service providers and training of communities to provide services that are part of the project. It would also be important to identify other NGOs within WNS that the EbA project could partner on the issue of the stoves.

203. Given that climate change impacts are projected to get worse in the future, with impacts becoming increasingly severe and frequent, it would be crucial to understand and draw on latest climate projections projected impacts in order to devise adaptation measures to address long term risks. The Adapt for Environmental and Climate Resilience Project ADAPT project was supporting the Sudan Meteorological Authority with the development of a roadmap for the expansion of its climate services with a view to better inform the public and decision-makers. Therefore, the EbA project could ensure the Meteorological Authority information and services is well represented in WNS and that this important stakeholder is drawn in outputs 1.5, 2.1, 2.2, 2.3 and 3.1XXXX under outcomes 1,2 and 3.

Recommendation 3. ***Institutionalize Village Development Committees***

204. Based on the discussions from the sections on effectiveness, the MTR has the following recommendations

205. As mentioned before, one of the challenges to sustainability is the inadequate follow up from the project team on EbA implementation. Some of the reasons for the lack of follow up is that the localities where the projects are based are remote and sparsely located with difficult terrain to access the localities. It is therefore recommended that the established Village Development Committee (VDCs) and the Water User Associations (WUAs) are institutionalised and play a big role moving forward (linked to output 2.5). This will require building the capacities of communities to continue supporting EbA approaches even after the life of the project. The Humanitarian Aid Commission (HAC) is already supporting that element, they could continue supporting the VDCs and WUAs.

Recommendation 4. ***Develop an exit strategy***

206. Based on the discussions from the sections on sustainability, the MTR has the following recommendations

207. There is an urgent need to develop an exit strategy that would explore how the project will be brought to a close, while sustaining its benefits. This could be done in a workshop format with multi- sectoral engagement, including the participation of other initiatives and other states.

Recommendation 5. ***Streamline the procurement processes***

208. Based on the discussions from the sections on efficiency, effectiveness and financial reporting and the MTR has the following recommendations

209. The procurement process has led to several delays in the implementation of projects. One of the reasons given for the delays is the overly centralised procurement process, which leaves decision making to an individual. Moving forward and to improve performance of the project, it is recommended, in line with the procurement 'guidelines' of HCENR, to streamline the process and de-centralise the process to enable the proposed procurement committee at the WNS to support and expedite procurement. Alternatively, consideration should also be given for HCENR to use either UNEP Sudan office or UNOPS Sudan to procure consultants and services.

Recommendation 6. ***Speed up implementation of some activities while strengthening community engagement for remaining activities***

210. Complete the stocktaking exercise under component 1 to guide mainstreaming of EbA in to policies, strategies and institutions.

211. Complete the cost-benefit analysis for ecosystem-based adaptation to demonstrate the economic and socio-economic viability of EbA approaches in dealing effectively with climate change. This will be useful

not only in mainstreaming processes but also in advocating for the adoption of EbA approaches across the country.

212. To address the concern from NFC regarding the suitability of the tree species, it is recommended that the EbA project and the NFC discuss the suitability of the Damas Saudi (*conocarpus lancifoliu*) tree in the EbA project, particularly for rehabilitation and for establishing wind shelter beds, in the context of current and future climate change scenarios.

213. The revolving fund is an important element of sustainability of the project. However, it needs a strong institutional and governance structure, and procedures to ensure its sustainability.

214. In view of the current political instability, it is anticipated that some of targets, particularly as they relate to outcome 1, the indicators and targets, as well as output 1.2 and output 1.5, may not be achievable in the short-term. Therefore, it is recommended that the targets should be changed to as follows:

- Outcome 1 indicator, "number of policy briefs and policy dialogues on mainstreaming EbA into policy frameworks"
- Outcome 1 target, "at least one policy brief and one policy dialogue at federal and state level for mainstreaming and upscaling gender sensitive EbA measures"
- indicator 1.2.1, target is changed to "a stocktaking report with identified entry points for mainstreaming gender sensitive EbA'
- indicator 1.4.1, target is changed to "at least one national and one state level policy dialogues on mainstreaming EbA into policy frameworks"

215. Prioritise the remaining activities- In prioritizing the activities for the remaining period, it would be important to consider the following:

    - i) identifying activities that are critical for the achievement of all three outcomes;
    - ii) identifying activities that have already started such as stocktaking exercise, and the template protocol, and focus on concluding them to achieve all the three outcomes;
    - iii) develop an exit strategy that outlines how the three outcomes will be achieved, in partnership with other initiatives and programmes.

ANNEX I. PROJECT'S RESULTS FRAMEWORKS

A. Updated Project's Results Framework

Legend:

- Text in Blue are modifications proposed during the baseline study but not integrated in the updated results framework approved by the PSC.
- Highlights: elements where the evaluator has comments

Outcomes/Outputs	Indicators	Targets
Objective: Increase the climate change resilience of livelihoods and integrated productive agricultural systems in the White Nile State through Ecosystem Based Adaptation approaches	Percentage of targeted HHs (head of HH disaggregated by gender) that have adopted EbA measures which improve access to climate change resilient food / water sources for improved agricultural productivity	100% of all targeted 6,800 HHs (head of HH disaggregated by gender) have access to climate change resilient food / water sources for improved agricultural productivity.
Outcome 1. Improved and strengthened technical capacity of local, state and national institutions to plan, implement and upscale EbA	1.1 Number of national and state development frameworks that have integrated EbA planning and budgeting for implementation and upscaling	At least 1 national development framework and 1 state Five Year Sector Plan are updated with a budget of at least USD 30,000 to implement and upscale gender-sensitive EbA measures
	1.2 # of Staff from National and State institution have increased capacity and effectively participated in developing EbA frameworks..	
Output 1.1. A multi-disciplinary White Nile State Technical Committee established and strengthening of HCENR in order to facilitate cross cutting dialogue at the state and national levels of climate change adaptation and EbA and coordination of EbA measure planning in vulnerable sectors	1.1.1 Development of a White Nile State Technical Committee with a clear mandate to promote and coordinate climate change and resilience building projects and activities in the State Rephrased White Nile State Technical Committee established with a clear mandate to promote and coordinate climate change and resilience building projects and activities in the State	Development of a White Nile State Technical Committee with a clear mandate to coordinate actors involved in cross-cutting adaptation activities for the State. The Committee will be responsible for identifying points of entry for promoting Ecosystem based Adaptation (EbA) .
Output 1.2. A stocktaking exercise undertaken and revisions of existing national and White Nile State policies and strategies identifying entry points for EbA and cost-effective up-scaling strategies for climate-risk informed EbA planning and budgeting	1.2.1 Number of policies and strategies revised at State and national level that account for EbA Rephrased	1 National level policy and 1 state level policy revised to account for gender-sensitive EbA .

	Number of policies revised that account for EbA .	
Output 1.3. Policy briefs and technical guidelines developed and distributed for policy – and decision makers on increasing the resilience of local community livelihoods to current and future climate change risks using appropriate ecosystem based adaptation and knowledge gained from demonstration activities	1.3.1 Number of policy briefs and technical guidelines developed for decision-makers on using EbA	2 gender-sensitive policy briefs / technical guidelines developed for decision-makers on using EbA
Output 1.4. Targeted CC adaptation and EbA planning/implementation training programmes for stakeholders completed, including field visits to learn from successful adaptation implementation.	1.4.1 Number of field visits conducted to provide lessons learned on adaptation / EbA implementation with a focus on gender	One site visit by at least 4 government and 4 state ministry members conducted in each of the localities to document lessons learned on adaptation/EbA implementation (numbers to be confirmed by baseline study)
	1.4.2 Number of stakeholders (disaggregated by gender) participated in CC adaptation and EbA planning/ implementation/ training programmes	
Output 1.5. Facilitation of a local policy dialogue (based on vulnerability assessments and practical experiences from pilot	1.4.1 Number of state/locality development plans that have mainstreamed gender-sensitive EbA	At least 4 state/locality development plans have mainstreamed gender-sensitive EbA
Outcome 2. Reduced vulnerability of local communities to climate change impacts in the White Nile State**.**	2.1 Percentage of targeted HHs (head of HH disaggregated by gender) that have adopted EbA measures which improve access to climate change resilient food / water sources and improved ecosystem services (e.g., via reforestation and rangeland regeneration) .	100% of all targeted 6,800[10] HHs (head of HH disaggregated by gender) have access to climate change resilient food / water sources and improved ecosystem services relative to the baseline
Output 2.1. Current and future climate change vulnerability and risks for the selected vulnerable sites are identified to guide EbA interventions in pilot sites in the White Nile State	2.1.1 Number of Risk and vulnerability assessments conducted for selected vulnerable sites in the White Nile State to guide EbA interventions	Detailed gender-sensitive risk and vulnerability assessments conducted for each of the 4 selected vulnerable sites in the White Nile State to guide EbA interventions
	2.1.2 Number and geo-referenced locations for the vulnerable sites were identified	
	2.2.1 Number of hectares of land reforested and rangelands protected and regenerated to restore critical ecosystem services	-1,500 ha reforested with CC resilient species -6,600 ha of rangeland regenerated with CC resilient species

Output 2.2. Regeneration of critical ecosystem services to restore degraded rangelands, increase water infiltration and improve resilience of rain fed agriculture and pastoralism under increasing drought conditions and dry seasons	2.2.2 Area (hectares) of forest land rehabilitated to restore ecosystem services .	Shelterbelts established on 10% of cultivated areas11
	2,2,3 Area (hectares) of rangeland rehabilitated/protected and regenerated to restore critical ecosystem services	
Output 2.3. A number of EBA support measures are piloted and integrated into existing local community livelihood activities, including *in situ* rainwater harvesting and drought/flood resilient eco-agriculture	2.3.1 Number and type of sustainable water management and farming practices introduced to increase access to irrigation and water supply and improved food supplies under existing and predicted climate change	-Design and rehabilitation/construction of approximately 10 water reservoirs and wells with the support of WUAs - 200 rainwater harvesting pits installed on 2,000 community farms (4 ha each) with support of WUAs - 2 successful harvests with improved seeds for 90% of targeted farmers (gender disaggregated, men vs. women farmers)
Output 2.4. Pilot implementation of alternative livelihood activities based on indigenous practices, including, *inter alia,* poultry breeding, home garden farming, and small ruminant strategic feeding as well as alternative energy use strategies to enhance community resilience to current and predicted climate change impacts	2.4.1 Number of women practicing backyard gardening and/or post-harvesting in each locality	At least 1600 women (160 backyard gardens) practicing backyard gardening and/or post-harvesting
	2.4.2 Number of women using improved cookstoves	At least 320 women (20 women per village) using improved cook stoves
	2.4.3 Number of men/women with new access to solar powered hand pumps for wells	At least 3200 men/women (at least four villages) with new access to solar powered hand pumps for wells
	2.4.4 Number of men/women supported with feed supplements for small ruminants	At least 160 men/women (10 from each of the 16 villages) supported with feed supplements for small ruminants
	2.4.5 Number of men/women using revolving funds established by the project	At least 480 men/women using revolving funds established by the project
	2.4.6 % of men/women revolving fund recipients who have successfully repaid loans	At least 90% of revolving fund recipients have successfully repaid loans
	2.4.7 Number of men/women who have diversified cropping system	???
Output 2.5. Local authorities, communities, committees and user groups trained on adapting community livelihoods to climate change through the use of EbA and on monitoring of EbA measures	2.5.1 Percentage of targeted local authorities, community members, VDCs and WUAs trained on implementing, maintaining and monitoring EbA interventions	- 50% of local authorities, community members, VDCs and WUAs trained on implementing, maintaining and monitoring EbA interventions (50% of those trained must be women) - Establishment of an extension farm in each of the 4 target localities with access to improved seeds
	2.5.2 Number of training workshops organized by the staff or the project partners on CC and EbA measures.	

Outcome 3. Strengthened information base and knowledge on EbA and climate change are readily available for various uses	3.1 Number of lessons learned, demonstrations of intervention cost-effectiveness and upscaling strategies on EbA integrated into the existing Cloud database	At least 10 lessons learned, 10 demonstrations of intervention cost-effectiveness and 1 upscaling strategy on EbA integrated into the existing Cloud database
	3.2 Number of websites mentioning EbA Sudan activities, news and interviews.	At least 10 websites mentioning EbA Sudan activities
	3.3 Number of citations and online visits that linked to EbA Sudan and CC reviews	At least 10 citations
Output 3.1. Information, lessons learnt from project interventions and knowledge on climate change adaptation and resilient livelihoods using EbA are captured, stored and widely disseminated among stakeholders at all levels.	3.1.1 Number of workshops held in local communities to disseminate lessons learned on using EbA	2 workshops held to disseminate gender-sensitive lessons learned on using EbA
	3.1.2 Number of publications (books booklets, manuals, or articles, online posts) on EbA and CC adaptation developed by the project or partners	
Output 3.2. A central information base of data on EbA lessons learned and cost-effectiveness of interventions established within the existing Cloud operated jointly by HCENR and the ARC	3.2.1 Number of links between the Cloud database and regional adaptation databases such as the African Adaptation Knowledge Network in order to disseminate lessons learned on EbA from Sudan experiences	At least one link between the Cloud database and a regional adaptation database in order to disseminate gender-sensitive lessons learned on EbA from Sudan experiences
	3.2.2 Number of citations	
Output 3.3. An upscaling strategy for EbA across Sudan by both the public and private sectors is developed based on an economic cost-benefits assessment	~~3.3.1 Upscaling strategy developed for EbA based on a cost-benefit assessment~~ 3.3.1 the existence of upscaling strategy for EbA based on a cost benefit analysis"	~~Development of an upscaling strategy for EbA based on a cost-benefit assessment~~ An upscaling strategy for EbA is developed based on a cost-benefit assessment

B. Evaluator's comment on project's outcome, output, indicator and targets

Current formulation	Evaluator's comment
Indicator 1.2. A nation-wide EbA upscaling strategy document endorsed by key government officials. Target 1.2: At least 10 government officials at Director level or above endorse the nation-wide EbA upscaling strategy	It would seem more accurate to reformulate the indicator as "Evidence of a nation-wide EbA upscaling strategy document endorsed by key government officials", with the following target "A nation-wide strategy is developed and endorsed by at least 10 government officials at Director level or above"
Indicator 1.3.1. Technical working group on climate change and EbA established and operational under the inter-ministerial working group on climate change.	As per the minutes of PSC meeting of June 29th, 2018: "Because of changes in government structures, the Inter-ministerial Working Group on Environment and Climate Change (IWGECC) is currently not functioning. […] Therefore, it is recommended that the project proceeds with the establishment of a technical working group on EbA that will function independently of the IWGECC for the time being". Given this evolution, the indicator could be reformulated as "Technical working group on climate change and EbA established and operational". This change could be reflected in the target as well.
Indicator 1.3.3. A plan to mobilize funds for the large-scale implementation of EbA developed.	A more appropriate SMART formulation could be: "Existence of a plan to mobilize funds for the large-scale implementation of EbA"
Indicator 2.3 target: "50% increase of the community members who have increased their income through additional livelihood initiatives are women"	This formulation is unclear. A more appropriate formulation could be: "50% ~~increase~~ of the community members who have increased their income through additional livelihood initiatives are women"
Output 2.2. Long term strategy for: i) monitoring EbA interventions developed; and ii) technical reports produced.	The separation of the elements is confusing. An alternative formulation could be "Long term strategy for monitoring EbA interventions developed and implemented"
Indicator 2.2.1 A long-term strategy developed for monitoring EbA interventions in the Kune-Vain lagoon system.	A more appropriate SMART formulation could be: "Existence of a long-term strategy for monitoring EbA interventions in the Kune-Vain lagoon system"
Target 2.2.1: A long-term strategy for monitoring EbA interventions in the Kune-Vain lagoon system is developed by the end of the first year of the project	As per the latest Project Implementation Review (PIR 1 July 2017 to 30 June 2018), the long-term monitoring strategy had not yet been developed. The target to have the strategy by the end of the first year was too optimistic and could be revised.

Indicator 2.3.1 Number of local community members trained on EbA and additional livelihoods including ecotourism by the end of the project. Indicator 2.3.3 Number of local community members having attended training on establishing, financing and operating the potential ecosystem ventures.	These two indicators appear somewhat similar and could be merged into one: "Number of local community members trained on EbA and additional livelihoods - including establishment, financing and operating the potential ecotourism ventures, by the end of the project
Outcome 3. Increased awareness of local and national stakeholders to climate change risks and the potential of EbA to increase the resilience of local communities to climate change.	The formulation of this outcome is unclear. An alternative formulation could be: "Increased awareness of local and national stakeholders ~~to~~ regarding climate change risks and the potential of EbA to enhance the resilience of local communities to climate change"
Indicator 3.1.1 Development of a knowledge management plan and communication strategy.	A more appropriate SMART formulation could be: "Existence of a knowledge management plan and communication strategy"
Indicator 3.3.2 Number of MSc and PhD students undertaking research on the environmental and socio-economic impacts of the implemented EbA interventions.	As explained and proposed by the baseline study (which was not reflected in the results framework approved by the PSC), the evaluator suggests to remove "and PhD".
Indicator 3.4.1 A web-based platform to share information on EbA established and operational.	A more appropriate SMART formulation could be: "Existence of an operational web-based platform to share information on EbA"

ANNEX II. REVIEW MATRIX

Key strategic questions are reflected in highlighted elements.

Evaluation questions	Indicators	Information source	Data collection method
A. Strategic Relevance			
1. To what extent is the project aligned to the UNEP Medium Term Strategy (MTS) and Programme of Work (POW) and the GEF Strategic Priorities?	• Level of alignment between the project and the MTS, the POW and the GEF strategic priorities	• ProDoc and project planning documents • UNEP MTS, POW and GEF Strategic Priorities • UNEP staff	• Desk review • Interviews
2. To what extent is the project responding to the national and sub-national environmental needs and priorities?	• Level of alignment between the project and national or sub-national development plans, poverty reduction strategies, climate change strategies and other environmental agreements. • Level of alignment between the project and local needs and priorities • Level of complementarity between the project and other existing initiatives • Evidence of establishment of the PCC to ensure coordination between relevant ongoing initiatives • Number and type of co-financing partners and amount of co-financing provided	• ProDoc and project planning documents • National and sub-national development plans, poverty reduction strategies, climate change strategies, other environmental agreements • Government partners, regional authorities • UNEPt staff • CTA • PMU • Communities	• Desk review • Interviews
3. To what extent does the project go beyond the business as usual development approach to embrace a strong adaptation rationale?	• Level of adequation of the project response to current and future climate threats and impacts • Level of adequation of the project response to root causes of vulnerability? • Level of integration of climate change adaptation into project activities?	• ProDoc and project planning documents • UNEP staff • CTA • PMU • PSC	• Desk review • Interviews

Evaluation questions	Indicators	Information source	Data collection method
B. Effectiveness			
1. *Achievement of outputs:* Is the project successfully delivering its outputs and achieving targets as per the ProDoc?	• Number and type of outputs delivered against the logframe' s midterm and/or final targets • Timeliness of output delivery against the work plan • Quality of outputs delivered • Perceived level of success of on the ground intervention so far and potential gaps • Type and extend of assets strengthened or better managed to withstand climate change: o ha of riparian forest o m rangeland rehabilitated • Number of people (including females) trained by the project • Existence and quality of studies and strategy (i.e. baseline assessment, vulnerability assessments) conducted through the project and type of audience and way of dissemination • Number and type of awareness-raising activities conducted and type of audience	• Project planning documents (quarterly and annual work plans) • Progress reports and monitoring reports • UNEP staff • PMU • CTA • Local stakeholders • Direct observation	• Desk review • Interviews • Field visit
2. *Achievement of direct outcomes:* Are the outputs contributing to the achievement of project's outcomes?	• Number and extent of achievement of milestones toward meeting direct outcome indicators • Evidence of contribution of the project to direct outcomes • Strengthened technical capacity of local, state and national institutions to plan, implement and upscale EbA (Outcome 1) o Number of national and state development frameworks that have integrated EbA planning and budgeting for implementation and upscaling o White Nile State Technical Committee established with a clear mandate to promote and coordinate climate change and resilience building projects and activities in the State o Number of policy briefs and technical guidelines developed for decision-makers on using EbA • Percentage of targeted HHs (head of HH disaggregated by gender) that have adopted EbA measures which improve access to climate	• Monitoring and reporting documents (quarterly and annual work plans) • PMU, UNEP manager, and/or CTA • Local stakeholders • Government stakeholders, technical staff • Direct observation • PSC minutes	• Desk review • Interviews • Field visit

Evaluation questions	Indicators	Information source	Data collection method
	change resilient food / water sources and improved ecosystem services (Outcome 2) • Number of lessons learned, demonstrations of intervention cost-effectiveness and upscaling strategies on EbA integrated into the existing Cloud database (*Outcome 3)*		
3. *Likelihood of impact (where appropriate and feasible):* • Is the project progressing toward achievement of intended impacts? • Is the project likely to generate adverse environmental, social and economic effects? • KSQ1: Extent to which the project is likely to generate evidence of ecosystem-based adaptation benefits to local livelihoods, State and national economy whilst considering medium and long-term climate change projections. What are the emerging lessons learned and best practice? • KSQ 2: Extent to which the project implementation approach is effectively demonstrating ecosystem-based adaptation, and is more	• Number and extent of achievement of milestones towards meeting impact indicators • Evidence and extent of barriers or enabling conditions toward achievement of impact indicators • Nature and likelihood of adverse environmental, social and economic effects from the project • Extent of project to effectively demonstrate EbA	• Monitoring and reporting documents (quarterly and annual work plans) • PMU, UN Environment manager, and/or CTA • Local stakeholders • Government stakeholders • Technical staff • Direct observation • PSC minutes	• Desk review • Interviews • Field visit

Evaluation questions	Indicators	Information source	Data collection method
than a community-based natural resource management project?			
C. Financial Management			
1. Is the rate of disbursement consistent with the work plan, the length of implementation to date and the outputs delivered?	• Budget execution per year, component and output, against total budget	• Monitoring and reporting documents (quarterly, annual reports) • UN Task manager, PMU Financial Officer and CTA • GEF/UNEP reporting requirements	• Interviews • Desk review
2. Does the project comply with financial reporting and/or auditing requirements/ schedule, including quality and timeliness of reports?	• Proportion and types of financial reporting and/or auditing materials submitted a) correctly and b) on time • Quality of financial reporting/auditing materials	• Financial reporting/ auditing documents (quarterly, annual reports) • UNEP manager, Financial Officer and CTA • GEF/UNEP reporting requirements	• Interviews • Desk review
D. Efficiency			
1. To what extent are the outputs being achieved in a cost-effective manner?	• Level of alignment between planned and incurred implementation costs and nature of divergences • Evidence of use of financially sound practices for project execution and management… • Quality and timeliness of procurement processes	• Financial reporting/ auditing documents (quarterly, annual reports) • UNEP manager and CTA	• Desk review • Interviews
2. Are the timing and sequence of activities contributing to or hindering efficiency?	• Timing and sequence of outputs against work plan • Nature and total delays (in months) generated by implementation bottlenecks	• Project planning and reporting documents • Financial reporting/ auditing documents (quarterly, annual reports) for this project and for other similar projects • UNEP manager and CTA	• Desk review • Interviews
3. How is the project enhancing its cost- and time-effectiveness?	• Number and nature of measures implemented to enhance cost- and time- effectiveness	• Project planning and reporting documents	• Desk review • Interviews

Evaluation questions	Indicators	Information source	Data collection method
• Is efficiency likely to change before the end of the project?	• Likelihood and effect of factors likely to enhance or hinder efficiency	• UNEP manager and CTA	
E. Monitoring and Reporting			
1. *Monitoring design and implementation:* Is the monitoring plan well-conceived, and sufficient to monitor results and track progress toward achieving project outputs and direct outcomes?	• Use of SMART indicators • Existence and quality of: o Baseline assessment; o Performance measurement framework/ logframe; o Methodology; o Roles and responsibilities; o Budget o Timeframe / work plan • Existence, quality and use of an ecological, social and economic monitoring of EbA interventions in the KVLS	• Planning documents • Baseline assessment report • Monitoring and reporting documents • PMU, UNEP manager and CTA	• Desk review • Interviews
2. *Monitoring design and implementation:* Is the monitoring plan operational and effective to track results and progress towards objectives?	• Proportion of executed monitoring budget against planned monitoring budget • Degree of alignment with timeline and work plan, and (if any) evidence of external factors affecting them • Evidence of collection of monitoring data • Coherence between types of reported results (activities, outputs) and actual activities and outputs on the ground • Collection of lessons learned and good practices on project activities and dissemination to relevant stakeholders • Difference between types of progress and activities reported by local stakeholders and the indicators used to assess results • Presence of a M&E staff within the project team or M&E expert hired to track and analyses progresses	• Planning documents • Planning meeting minutes/review procedures • Monitoring and reporting documents (quarterly, annual reports) • PMU, UNEP manager, and/or CTA • Direct observation • Technical staff	• Interviews • Desk review • Field Visit
3. *Project reporting:* Does the project comply with the progress documentation and monitoring reporting requirements/ schedule, including quality and timeliness of reports?	• Types, number and quality of reporting materials submitted a) correctly and b) on time Numbers of project meetings addressing M&E issues	• Monitoring and reporting documents (quarterly, PIRs, Tracking Tool, relevant CEO Endorsement sections) • UNEP manager and CTA • GEF/UNEP reporting requirements	• Interviews • Desk review

Evaluation questions	Indicators	Information source	Data collection method
4. *Project reporting:* What (if any) corrective actions were taken in response to monitoring reports (such as PIRs)?	• Evidence of management response/changes in project strategy/approach as a direct result of information in PIRs	• PIRs • Workshops/Meeting minutes from technical group, steering committee, staff, stakeholders, including PSC • PMU, UNEP manager, CTA	• Interviews • Desk review
F. Sustainability			
1. Has the project designed and implemented an appropriate exit strategy and measures to mitigate risks to sustainability?	• Existence and quality of a plan to manage financial, socio-economic, institutional, governance and environmental risks • Existence and quality of exit strategy	• Project planning documents • PMU, UNEP manager, and/or CTA • Project monitoring and reporting docs/data (quarterly and annual reports) • Government stakeholders, technical staff	• Interviews • Desk review • Field visit
2. What factors are in place to enable or hinder the persistence of achieved direct outcomes?	• Number and type of organizational arrangements that support or hinder the continuation of project activities or results (private or public sector) • Types and intensity of bio-physical conditions affecting the sustainability of direct outcomes • Type of political and social conditions affecting the sustainability of direct outcomes • Level of declared willingness among stakeholders to take the project achievements forward • Level of dependence of achievements on future funding for their sustainability and likely availability of such resources • Existence and amount of funding opportunities to pursue/ support project results in the long term	• Project planning documents • PMU, UNEP manager, and/or CTA • Local stakeholders (workshop participants, community members, etc.) • Project monitoring and reporting docs/data (quarterly and annual reports) • Government stakeholders, technical staff	• Interviews • Desk review • Field visit
3. Has the project set up the enabling/conducive environment for replication and scale up of project good practices? • KSQ3: Extent to which the project approach on	• Examples of new technologies and approaches promoted and used during project implementation • Number and type of dissemination activities implemented and type and size of audience • Number of demonstration sites • Examples of activities/approaches/techniques used in the project and replicated or likely to be replicated in other	• PMU, UNEP manager, and/or CTA • Local implementing partners • Government stakeholders • Baseline initiatives/ other donors • Project monitoring and reporting docs/data (quarterly and annual reports)	• Interviews • Desk review • PIRs • ProDoc • Field visits

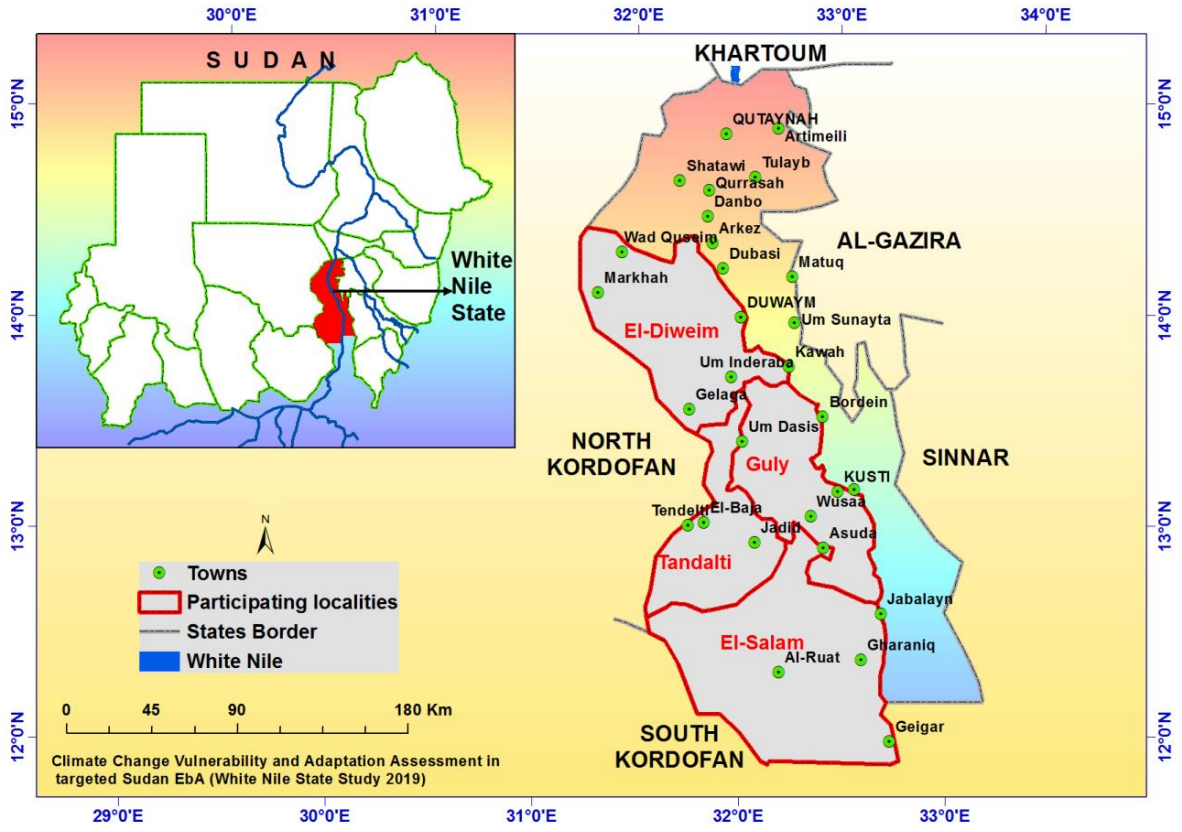
Evaluation questions	Indicators	Information source	Data collection method
integrated watershed management and ecosystem-based adaptation can also contribute to evidence on scaling-up of ecosystem restoration work to support the forthcoming UN Decade on Ecosystem Restauration (2021-2030) address the severe degradation of landscapes, including wetlands and aquatic ecosystems	projects/initiatives (other geographical areas and/or funded by other funding partners) • Example of national strategies inspired by the project results • Examples of existing or future large-scale initiatives building on project outcomes or methods		
G. Factors Affecting Project Performance			
1. *Preparation and readiness*: Did the project appropriately address any weaknesses in project design or any changes in the context or needs identified during the inception/ mobilization stage of the project?	• Nature and extent of weaknesses, change or needs identified during the inception/ mobilization, with regards to: o Institutional, socio-economic, environmental or political context o Nature and quality of engagement with stakeholders o Capacity of partners o Development of partnership arrangements o Staffing and financing arrangements • Number, quality and timeliness of adjustments made • Extent of beneficiary needs integrated into project design (appropriateness of strategies chosen, site selection, degree of vulnerability of targeted HHs, etc.)	• Local implementing partners • Government stakeholders • PMU, UNEP manager, and/or CTA • Workshop/planning meeting minutes and action items, including PSC	• Desk review • Interviews • Field visit
2. *Quality of project implementation and execution:* Have the IA and EA, respectively, placed sufficient focus on: a. Achieving project outcomes?	• Use of RBM tools, evidence of regular reporting by EA • Perceptions of quality of supervision of IA, EA, PMU, PSC • Difference in actual and planned timetable for project execution of activities	• Local implementing partners • Government stakeholders • Project team members • PMU, UNEP manager, and CTA • Reporting documents • PSC and minutes	• Desk review • Interviews • Field Visit

Evaluation questions	Indicators	Information source	Data collection method
b. Supervision?			
3. *Quality of project implementation and execution:* Have the IA management team and EA project team respectively provided quality and timely project management and backstopping?	• Perceived leadership of IA and EA towards achieving project outcomes • Perceived effectiveness of IA and EA in managing team structures and maintaining productive partner relationships, communication and collaboration • Extent of use of risk management tools by IA and EA, respectively • Perceived effectiveness of problem-solving methods • Perceived timeliness and quality of IA management response to EA project team members' inquiries, needs • PSC and other stakeholder perceptions of quality of PMU and oversight by IA • EA and other stakeholder perceptions of technical inputs and feedback from IA and CTA • Evidence of re-adjustment of project strategy in response to internal reviews or management findings	• Local implementing partners • Government stakeholders • Project team members • PMU, UNEP manager, and CTA • Reporting documents • PSC and minutes	• Desk Review • Interviews • Field Visit
4. *Stakeholder participation and cooperation*: Are the stakeholder communication and consultation mechanisms effective and inclusive of differentiated groups?	• Number and type of stakeholder engagement activities at each stage of the project • Evidence of participation from a representative range of stakeholder groups, including differentiated groups (with a focus on communities, beneficiaries and most vulnerable groups) • Proportion of male/female implementing partners, and participants of workshops, trainings or knowledge exchange • Evidence that issues and feedback provided by stakeholders were taken into consideration in project implementation	• Workshop/planning meeting minutes and action items, including PSC • Local implementing partners • Community members, groups • Government stakeholders, technical staff • Other local stakeholder groups (non-government) • PMU, UNEP manager, and/or CTA	Desk review Interviews Field visit
5. *Stakeholder participation and cooperation*: To what extent were effective partnerships arrangements established for implementation of the project with relevant stakeholders involved in the country/region?	• Number and types of partnerships developed between project and local bodies/organizations • Extent and quality of interaction/ exchange between project implementers and local partners	• Meetings/workshop minutes (steering committee) • Government partners and technical staff • Local implementing partners • Communities/ potential beneficiaries • PMU, UNEP manager, and/or CTA	• Desk review • Interviews • Field Visit

Evaluation questions	Indicators	Information source	Data collection method
		• PSC and minutes	
6. *Responsiveness to human rights and gender equity*: To what extent has the project applied the UN Human rights based approach, the UN Declaration on the rights of Indigenous People and UNEP's Policy and Strategy for gender Equality and the Environment?	• Level of alignment between project design and implementation and the UN HRBA, the UN DRIP and UNEP Policy and Strategy for gender Equality and the Environment	• Planning documents • Monitoring and reporting documents	• Desk review
7. *Responsiveness to human rights and gender equity*: To what extent have the project design, implementation and monitoring taken into account gender inequalities and differentiation?	• Number and quality of measures in project design, implementation and monitoring, respectively, that address: o Existing and potential gender inequalities in access to and control over natural resources; o The role of women in mitigating or adapting to environmental changes, and engaging in environmental protection and rehabilitation • Level of perceived consideration of gender inequalities in the project design, implementation and monitoring • Number of the policies, plans, frameworks and processes supported by the project that incorporate gender dimensions	• Planning documents • Monitoring and reporting documents • PMU, UNEP manager and/or CTA • Local communities • Local implementing partners	• Desk review • Interviews • Field Visit
8. *Country ownership and driven-ness*: Is the level of involvement of government/ public sector officials sufficient to ensure ownership over project outputs and outcomes and representation of all gender and marginalized groups?	• Number and types of representatives from government and public sector agencies present at workshops and involved in implementation (including PSC) • Number and types of regulations, policies or other government initiatives (existing, newly enacted, or changed) that support project outputs and outcomes • Declared willingness, and or initiatives from national stakeholders to take forward and capitalize on project results while taking into account the needs and interests of gender and marginalized groups. • Perceived level of climate change adaptation and EbA mainstreaming into policy, strategies and frameworks and potential gaps	• Government partners • Local implementing partners • Project monitoring and reporting information (workshop summaries, attendance lists, action items etc.) • PMU and PSC	• Desk review • Interviews • Field visit

Evaluation questions	Indicators	Information source	Data collection method
	• Perceived level of relevance of a TWGCC and suggestions for effective establishment and/or alternatives		
9. *Communication and public awareness*: Does the project effectively communicate lessons and experience with project partners and interested groups?	• Number and quality of knowledge sharing mechanisms with project partners and interested groups • Perceived climate change awareness by partners and interested groups about project lessons, including by gender and marginalized groups • Perception on the project approach on integrated watershed management and ecosystem-based adaptation and how it can also contribute to evidence on scaling-up of ecosystem restoration work to support the forthcoming UN Decade on Ecosystem Restoration (2021-2030) • Evidence of existence and use of feedback channels by partners and interested groups	• Government partners • Local implementing partners • Project monitoring and reporting information (workshop summaries, attendance lists, action items etc.) • PMU and PSC	• Desk review • Interviews • Field visit
10. *Communication and public awareness*: Has the project implemented appropriate outreach and public awareness campaigns?	• Number and quality of public awareness activities undertaken • Number and type of public reached • Changes in public awareness as a result of outreach/ communication by project	• Local implementing partners • Community members, groups • Government stakeholders, technical staff • Other local stakeholder groups (non-government) • PMU, UNEP manager, and/or CTA • Workshop/planning meeting minutes and action items, including PSC	• Desk review • Interviews • Field visit
11. *Communication and public awareness:* (If appropriate,) Is the knowledge sharing platform likely to be sustained beyond the project implementation?	• Level of dependence of platform on project's institutional and financial arrangements • Level of socio-political support for the platform	• Government partners • Local implementing partners • Project monitoring and reporting information (workshop summaries, attendance lists, action items etc.) • PMU and PSC	• Desk review • Interviews • Field visit

ANNEX III. PROJECT INTERVENTION MAP



ANNEX IV. PEOPLE CONSULTED DURING THE MTR

		Name	**Organisation**	**Position**
1	01.03.22	Mr Suleiman Suleiman	HCENR	Acting dG
2	01.03.22	Hana Hamad Alla Mohammed	HCENR	Government Project coordinator
3	01.03.22	Dr Rehab Abdalmajid	HCENR	Director Climate Change
4	01.03.22	Dr Sawsan Moustafa	MoA Dept of Natural Resources	DG Natural Resources
5	01.03.22	Ms. Wisal El-faki	MoA Dept of Natural Resources	Bioengineer
6	01.03.22	Prof Abrahmani Taha	ARC	Director General
7	02.03.22	Sawsan Abdallah	NFC	Technical admin
8	02.03.22	Iman Adwi	NFC	Director gen admin
9	02.03.22	Sumaya Abdul	NFC	Director Sustainabilit
10	02.03.22	Rehab musa El-Amin	Range & pasture	Head Tech office
11	02.03.22	Hind Saeed	Range & pasture	Technical Officer
12	02.03.22	Saida Babiker	Range & pasture	HoD Genetic resources
13	02.03.22	Hushabi A. El-Maboud	Range & pasture	HoD Natural Range
14	02.03.22	Saeed Mahmoud	Range & pasture	Ass Director Genetic R
15	02.03.22	Hatim Ali El Badri	Regional Center Water harvesting	General Director
16	02.03.22	Ammari Osman	Regional Center Water harvesting	Directorate of Water Harvesting
17	03.03.22	Al Samahah Ahmed Abdul Kareem,	WNS MInistry of Planning etc	Director general
18	03.03.22	Asma S. El Dean	Animal Resources	Director
19	03.03.22	Ekram Haroun	Range & Pasture	Director
20	03.03.22	Sara E. Ali	Tech Transfer & Ext	Technical Officer
21	03.03.22	Yasir Muritar	Horticulture Dept	Director

22	03.03.22	Eyman A. Nasir	Horticulture Dept	Ass Director
23	03.03.22	Elnour Abdalla	Rainfed Traditional	Office Elsalam
24	03.03.22	Fakhar E. Alhady	Rainfed Traditional	Officerr Gully
25	03.03.22	Muntas A. Hassan	Rainfed Traditional	Officer
26	03.03.22	Dr. Rasha Ahmed Ali	Department of animal wealth, MoA	Member of state technical committee
27	03.03.22	Mhmoud Abass Rahamat alla	Department of forestry, MoA	Member of state technical committee
28	03.03.22	Dr. Khalid Abdalla	Department of forestry, Agricultural Research Corporation and	Head of station- Kosti Member of state technical committee
29	03.03.22	Ekram Badreldeen	Range and pasture, MoA	Head of department
30	03.03.22	Nagla Hussein Al Shareef	Development of rural woman, MoA	Head of department member of state technical committee
31	04.03.22	Mohammed Yahya Mohammed	WNS Water Authority	Director General
32	04.03.22	Osma Ali Omar	WNS Water Authority	Administrator
33	04.03.22	Mohammed Haran Aseel	WNS Water Authority	Water Engineer
34	04.03.22	Al Sadig Ishag Ali	WNS Water Authority	Water Engineer
35	04.03.22	Al Zain Yousif Mohammed	WNS Water Authority	Financial Controller
36	04.03.22	Omar Mhgoub	WNS Water Authority	Water Engineer
37	04.03.22	Sitana Akashar	WNS Water Authority	Administrator
38	04.03.22	Zeinab Salih Omar	HCENR	Higher Council for Environment
39	04.03.22	Hana Hamad Alla Mohammed	HCENR	Higher Council for Environment
40	04.03.22	Mahasin El Amin Fadul Alla	EbA	EbA
41	07.03.22	Wahab	EbA	
42	07.03.22	Balila	EbA	
43	07.03.22	Amina	EbA	
44	07.03.22	Adam Abdallah	Consultant	

	05.03.22	Kosti and localities		Communities

ANNEX V. KEY DOCUMENTS CONSULTED

Project design documents

- Project Document
- Inception Report

Financial documents

- Audit reports
- Financial Reports
- Co-financing reports

Project implementation planning documents

- Annual and quarterly Work Plans

Reporting

- Annual Progress Reports- PIRs (2018, 2019, 2020 and 2021)
- Six month progress reports
- Mission reports
- Meeting/training reports

Contractual Documents

- Contractual agreement

Project Steering Committee

- PSC meeting minutes

Project Outputs

- Baseline Survey
- Vulnerability Assessment
- ALL Deliverables by International Consultants
- Results Verification Report

ANNEX VI. GEF RESULTS FRAMEWORK MATRIX.

ANNEX VII. EVALUATION TORS (WITHOUT ANNEXES)

TOR Mid Term Review Sudan EbA

ANNEX VIII. QUALITY ASSESSMENT OF THE MEDIUM TERM REVIEW REPORT

Evaluation office to coordinate