



Climate Risk Finance for Sustainable and Climate Resilient Rain-fed Farming and Pastoral Systems

UNDP PIMS: 4591

Atlas Project ID: 00078764

GEF Agency: United Nations Development Programme

Executing Agency: Ministry of Environment, Forests and Physical Development of Sudan

Focal Area: Climate Change

Report of the Mid-term Review Mission

November, 2017

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Mr. Ahmed Hanafi (Independent National Consultant)

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Project Period 2014-2018

Evaluation Team

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Mid-term Review Report

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Acknowledgements

This report is a joint effort of the Mid-term Review Consultant and all the staff and people connected with the Project “Climate Risk Finance for Sustainable and Climate Resilient Rain-fed Farming and Pastoral Systems” who gave freely their time to share ideas to make the evaluation process a success. There are many people to mention by name – and everyone who contributed are included in the lists of names annexed to this report – but special mention must be made of Dr. Hassan Abdelgadir Hilal, Minister of Environment, Natural Resources and Physical Development, and National Project Manager Prof. Mirghani Tbnof of the CRF Project, Mr. Selva Ramachandran-Country Director, Ms Hideko Hadzialic-Deputy Country Director, Dr. Min Htut Yin-Team Leader, environment and Energy Unit, Ms. Hanan Mutwakil-Team Leader, Sustainable Livelihood, Ms Intisar Ali Salih-Program Analyst, Sustainable Livelihood, Mr. Nourallah Ahmed Yassin of UNDP Country Office, Dr. Ahmed Mohamed Abdelkarim, Director General, Dr. Awatif Abdel-Gadir, Deputy Director, Ms. Badira Abdel Rahman, Sudan Meteorological Authority, Dr. Mohamed Yousif Hassan, Director General and Mr. Ismail Elsharif Eldow of Ministry of International Cooperation. I also like to thank Prof. Dr. Faisal M.A. Elhag, Director-Animal Agriculture, Climate Change of Agricultural Research Corporation (ARC) Dryland Research Center (DLRC). I like to thank Dr. Hassan Ahmed Kabbashi, Assistant General Manager of Agriculture and Livestock Insurance and Eng. Hassan Ibrahim El Hassan, Agriculture Consultant of Elnliein Insurance Co. Ltd. and Mr. Yasser Mubarak Abdulla, Finance and Admin Manager of the Agricultural Bank of Sudan. I like to thank Dr. El-Tayeb Ghanawa, Lecturer, Faculty of Geography and Environment and Mr. Mohammed Mahmoud, Geoinformatic Specialist, Fature University for sharing progress of development of Icould and Eng. Rudwan Abdel-Rahman Mohammed, Eng. Ahmed Eltayeb from Ministry of Water Resources and Electricity, Dr. Salafa Babikir Mohammed-Director, Dr. Amna Ahmed Hamid-Former Director and Ms. Sara Khogali-Researcher of Remote Sensing and Seismology Authority of Sudan for taking their valuable time from busy schedule to talk with me on the project issues. All of these personnel answered every question I asked and discussed the points raised.

I am very thankful to all experts and staffs of project management unit and at the project office in project states.

The views expressed in this report are intended to offer an overview of the project. I have tried to balance my thoughts and to offer fair perspectives of what was observed and learned from people far more knowledgeable about the Project and its context than I will ever be.

And finally, one of the delights of this sort of work remains that of visiting new and extremely welcoming country and going home again having made new friends, seen new things, and witnessed with great admiration the dedication and enthusiasm that so many people bring to their work in accomplishing Mid-term level targeted activities of Climate Risk Finance project. I would like to thank them and wish them every success in their continuing endeavours.

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30th November 2017

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Acronyms and Terms

ARC	Agriculture Research Corporation
CO	Country Office
COSS	Country Office Support Service
CPAP	Country Programme Action Plan
CRF	Climate Risk Finance (project)
EA	Executing Agency
EWS	Early Warning System
FEWS NET	Famine Early Warning System Network
GDP	Gross Domestic Product
GEF	Global Environment Facility
GoS	Government of Sudan
GPC	Government Project Coordinator
HCENR	Higher Council for Environment and Natural Resources
IA	Implementing Agency
IC	International Consultant
IFAD	International Fund for Agriculture Development
IPRSP	Interim Poverty Reduction Strategy Paper
LDCF	Least Developed Country Fund
MASAR	Pastoralist NGO
MDG	Millennium Development Goal
MoEFPD	Ministry of Environment, Forestry and Physical Development
MoI	Ministry of Interior
MoWRE	Ministry of Water Resources and Electricity
M&E	Monitoring and Evaluation
MFI	Micro-finance Institution
MoU	Memorandum of Understanding
MTR	Mid-term Review
NAPA	National Adaptation Plan of Action
NGO	Non-Government Organisation
NHMS	National Hydrology Meteorology Service
NIM	National Implementation Modality
NPD	National Project Director
NPM	National Project Manager
PIR	Project Implementation Report
PIW	Project Inception Workshop
PMU	Project Management Unit
Prodoc	Project Document
PSC	Project Steering Committee
PTC	Project Technical Committee
QA	Quality Assurance
QC	Quality Control
ROI	Review of Outcome to Impact
RRF	Result and Resources Framework
RSA	Remote Sensing Agency
SDF	State Social Development Fund
SMA	Sudanese Meteorology Authority
SMART	Specific, Measurable, Achievable, Relevant, Time-bound
SNC	Second National Communication
SP	Strategy Plan

SRFP	Smallholder Rainfed farmers and Pastoralist
ToR	Terms of Reference
UNDAF	UN Development Assistance Framework
UNDP	United Nations Development Programme
UNDP HQ	UNDP Headquarter
UNFCCC	United Nations Framework Convention on Climate Change
US\$	United States Dollar
V&A	Vulnerability and Adaptation
WII	Weather Index based Insurance

Currency of Sudan is the Sudanese Pound. At the time of the Mid-term Review, US\$ 1 = SDG17.68

ii. Executive Summary

This Mid-term Review (MTR) has been conducted as part of the Monitoring and Evaluation plan of the UNDP/GEF Project: “Climate Risk Finance for Sustainable and Climate Resilient Rain-fed Farming and Pastoral Systems”, and will be referred to as the “Project” in the scope of this report. The MTR mission to Sudan was conducted from 28th October to 11th November 2017. Extensive consultations with the project partners were also conducted prior and following the mission to ensure a good understanding of the project’s results; leading to the submission of the MTR report on the date of this report.

Project Summary Table

As per requirements for MTR, the Project Summary Table is provided below:

Project Summary Table				
Project Title:	Climate Risk Finance for Sustainable and Climate Resilient Rain-fed Farming and Pastoral Systems			
Atlas Award ID:	00078764		at endorsement (US\$)	at Mid-term (US\$)
UNDP Project ID:	PIMS 4591	GEF/ LDCF:	5,700,000	5,700,000
Country:	Sudan	UNDP	600,000	600,000
		Govt. of (Kind)	15,000,000	360,000 BBBBBBB
Region:	North Africa	Private	3,200,000	0
Focal Area:	Climate Change	Total co-financing:	24,500,000	
Executing Agency:	Ministry of Environment, Forest and Physical Development	Total Project Cost:	6,300,000+(in kind US\$18,200,000)	
Other Partners involved:	Ministry of Science and Communication (MSC) Ministry of Water Resources and Electricity (MoWRE) Ministry of Interior (MoI both State & National Level) Ministry of Agriculture (MoAg, both State & National level) Central Bank of Sudan Insurance Advisory Authority	ProDoc Signature (date project began):		29 September 2014
		(Operational) Closing Date:	Proposed: December 2018	Actual: December 2018

Brief Description of Project

Approximately 60 percent of Sudan’s rural households are dependent on traditional, rain-fed farming and pastoral practices for crop production (mainly millet, sorghum, groundnut and sesame) and it contributes to 40% of the gross domestic product. Similarly, pastoralism contributes approximately 25% to the GDP and provides over 20% of the country’s foreign exchange earnings. Due to extreme weather and climate variability, production of Sudanese agriculture and livestock sub-sector are declining dramatically each year. Small farmers and pastoralists are extremely affected by this and are forced to live in persistent poverty. They are highly affected by climate variability, as evidence by widespread suffering in rural areas during past droughts, as well as floods. Furthermore, farmers and pastoralists are faced with pest infestations, epidemics and market risks.

All these risks exacerbated by inappropriate agricultural practices, weak support services and an inefficient credit system. On top of these, due to unreliable weather and unstable markets, financial service providers are discouraged from investing to farmers and livestock owners. Such risk made it difficult for government institutions to plan for food security, epidemics and water resource management.

While at operational level, the project is led by the National Project Director (NPD) supported by the Project Management Unit (PMU).

The project is aimed at enabling the Government of Sudan to design public policies and measures for mitigation and adaptation to address climate change by:

- a) Strengthening technical capacity and institutional arrangement at national and sub national levels.
- b) Assessing environment, social and economic impacts of implementing mitigation and adaptation policies, and
- c) Assisting the Government of Sudan to timely forecast and early warnings, as well as complementary micro-finance and weather-based index insurance services for rain-fed farmers and pastoralist to improve their ability to manage and adapt to climate risks.

Because it believes that:

- Effective enforcement of policies will help to address climate change related risks.
- Evidence based planning will help to address problem effectively.
- Enhancing capacity and institutional arrangement at national and sub national levels will strengthen effective mitigation and adaptation practises.
- Supporting livelihood programs through adaptation and mitigation activities will help to reduce vulnerability.
- Early warning system will help farmers' and pastoralist's decision making and help to avoid risk related to weather.
- Transfer of risk (e.g. insurance) will safeguard livelihood of farmers.

The Project Document was approved jointly by Government of Sudan (Ministry of Environment, Forest and Physical Development and Ministry of Finance and National Economy) and UNDP in September 2014 for the duration of five years. The Project is implemented by the Ministry of Environment, Forest and Physical Development with the support of a Project Management Unit (PMU) under a National Implementing Modality (NIM) in close coordination with UNDP Country Office (UNDP CO). As an implementing Agency, UNDP has been responsible for the preparation, implementation and quality assurance of all activities, including procurement, recruitment, monitoring, and financial disbursement. The Project has been executed in accordance with the standard rules and procedures of the UNDP NIM Execution Modality. The Project budget is US\$ 24,500,000 of which US\$ 5,700,000 is the GEF Grant and US\$600,000 is provided by the UNDP CO. The remaining financing is provided in-kind by the Government of Sudan US\$ 15,000,000 and Private sector US\$3,200,000.

Rating Table

As per UNDP and GEF's requirements for TE, the Terminal Evaluation Rating Table is provided below:

1. Monitoring and Evaluation	Rating	2. IA & EA Execution	Rating
M&E design at entry	S	Quality of Execution	MU
M&E Plan Implementation	MU	Quality of Implementation	MU
Overall quality of M&E	MS	Overall quality of Implementation / Execution	MU
3. Assessment of Outcomes	Rating	4. Sustainability	Rating
Relevance	Relevant	Financial resources:	Unlikely
Effectiveness	MU	Socio-political:	Likely
Efficiency	MU	Institutional framework and governance:	Likely
Overall Project Outcome Rating	MU	Environmental:	Likely
		Overall likelihood of sustainability:	Likely

Note: Justification of rating is given in Annex X

KEY SUCCESSES

The CRF project helped to establish automatic weather stations and 162 rain gauges. Farmers were trained to measure rainfall and report to local meteorology station. Project involved University and Research institution to conduct some activities and also worked with various government institutions at national and also state level to execute various responsibilities. It developed insurance policies to safeguard farmers from climate related disasters. It also improved the capacity of meteorology organisation, farmers and also remote sensing organisation. It improved the knowledge and understanding of the use of weather information for farming among farmers and also for insurance program by insurance companies.

It established and strengthened technical working groups to provide technical backup for the project implementation. Some of the achievements of the project are listed below:

- Established automatic weather stations in all six pilot states and also installed 162 rain gauges in pilot farm areas. Farmer were trained to monitor rainfall and report to local meteorology station by phone.
- Validation using climate adaptive farming practices and adaptive seeds involving farmers were conducted to provide knowledge on such technique to farmers.
- Farmers groups and cooperatives were formed and cooperatives were registered in relevant government agency.
- Weather Index Insurance package developed and implemented among more than 1000 farmers.
- Climate monitoring activities expected to cover 45% men and 50% women of the project sites.
- Conducted awareness program for farmers on weather index based insurance and micro-finance.
- Technical and legal approval of WII products from Higher SHRIA committee achieved.

KEY PROBLEM AREAS

To address the climate change related problems main obstructions are:

Insufficient coverage of weather, climate and hydrological monitoring infrastructure: Sudan is a vast country with five different climate zones and amount of rainfall within limited geographic areas varies highly and this makes forecast of Sudanese Agriculture and Pastoralism very complex. Limited government budget prevented procurement of weather stations and the purchase of high resolution satellite data. Insufficient coverage has resulted in limited ability to produce reliable seasonal forecasts and early warnings. It has also decreased the incentive of microfinance institutes and insurance companies to provide financial services for rain-fed farmers and pastoralists.

Challenges with cross-sectoral data sharing and institutional collaboration: There is currently no centralization of hydro-meteorological/agricultural data due to various institutions acting as information produces with limited technical means to transfer data efficiently between institutions. Mist of the existing ? what

Main conclusions and recommendations

Conclusion

The CRF Project is well designed but implementation was not well-managed. Though the Project has been underpinned by good science and a technical approach of the highest calibre due to lack of proper understanding about the different activities, their linkages and proper sequences of implementation affected project implementation. Moreover, communication and cooperation between partners further amplified the

problem and due to that project was not able to accomplish activities of the Mid-term level target and also not able to deliver many of the expected results.

To address the Climate Change problems in rain-fed areas of Sudan, project attempted approaches like establishment of automatic weather stations in project areas to improve meteorological information collection and dissemination, arrangement of early warning to farmers and pastoralist on weather, train farmers and pastoralist on climate adaptive farming technique with adaptive seed variety, establish institution at local levels, awareness generation on climate change, capacity enhancement of local institution and other government and non-government institutions, transfer farmers' risk related to weather through Weather Index based Insurance and provide financial assistance through small grant and micro-finance schemes. But project could not complete several activities related to weather forecasting because some of the monitoring activities were not initiated due to lack of equipment which were not purchased yet. Similarly, project had not provided field site boundary information (geo reference) until now to Remote Sensing Authority which they had to provide to the supplier of high resolution data. Due to this, high resolution data was not available to further analysis on it. Similarly development of ICloud was just initiated which should have been initiated in the beginning of the project implementation so that this could be used by other activities of the project like WII and agriculture and pastoralist activities. Only few piloting of WII initiated recently so it is possible to judge on its impact or success. Similarly, micro-finance program was not initiated yet. Project was also not able to bring contribution from the private sector as per expected in the project document. Some training was conducted to relevant organisation but still many trainings are due. No activities related to pastoralist were initiated yet. Important achievement of this project is establishment of 7 automatic weather stations and 162 rain gauges, awareness generation training and validation of adaptive agriculture practices involving farmers. From the impact and sustainability point of view, the most important action that will have long lasting impact in addressing climate change impacts is improvement in knowledge among farmers regarding weather information use and information on adaptive seeds and farming techniques.

Project planned to involve contribution from different institutions but in practice due to weak management, communication and coordination expected results were not achieved. Experts from all relevant ministries and local government were involved through the technical committee but its decision were not implemented. As per rules of the GEF, major changes in the project activities needs approval from the project board to send to GEF for their approval and only after approval from GEF those changed activities could be implemented but against such provision, agreement was signed with Insurance Company to pay them money for conducting activities related to WII and first instalment was already issued. Similarly, PMU staffs' salary does not follow the salary provision made in the project document and also hiring process didn't follow the procurement process. Procurement of equipment through UNDP could assure quality and also reduce cost but it was done by relevant ministries by themselves and equipment of automatic weather stations were from different companies with different formats of data storing. This could cause data compiling problem as they may not be compatible to each other. Similarly, some of the equipment already started creating problems and were not repaired for several weeks which raise suspect on the quality of the equipment and warranty. If it was warranted product then should have repaired immediately without hampering the data collection for so long time. Computers of some of the weather station that receive data had no battery backup and due to that data gap was created during electricity interruptions. Similarly, battery that supply power to weather station of one station had problem and due to that data was not supplied during night and also in the cloudy day. Those weather stations were providing data only during sunny time as it receives power from solar cell.

Some sites didn't had validation plots while some others had problem. There are many activities still left to be carried out but time is very limited for them. Initiation of project implementation was delayed in the beginning so to compensate that and also provide time to implement remaining activities, it is recommended to extent project end date by six month without increasing cost i.e. no cost extension. In the remaining period of the project, first the project management and implementing partners need to understand each and every activities and their linkages and sequences of implementation and also need to improve

communication and coordination with partner organisations, reduce management cost, procure remaining equipment through standard procedure, bring committed contribution from private sector and government institutions, correct mistakes of the past and implement remaining activities in a very fast pace to achieve all remaining activities.

Recommendations

- HCENR (PMU) should initiate dialogue with all partners and establish good communication.
- Lack of understanding about the project among staffs of PMU and partners was observed. PMU and partners need to understand each and every activities, their linkages, implementation sequences and responsibilities of different institutions. In this project output of one agency/consultant compliment input/activities of another agency. Therefore, sequencing of activities is very important and delay of one activity affect another. One observed case was delay in purchase of high resolution data was due to lack of geo-references of boundaries of project field sites which supposed to be provided by another agency after conducting field survey. When remote sensing agency requested for boundary information they were provided with village names but not the geo references. Delay in purchasing of geo-reference affected further analysis that supposed to be conducted on high resolution data. Another example of lack of understanding of project is signing of agreement with Insurance Company to pay them money for promoting WII and also paying premium of more than 1000 farmers. There is no provision in the project document to pay money to private sectors rather it expect contribution from private sectors and other government and semi-government institutions. The lack of understanding and confusion is created because the inception workshop was of only two hours and it didn't had sufficient time to discuss in detail each and every activities, baseline and target indicators, implementation approaches, budget, risk, assumption and role of different institutions and schedule of implementation. Hence, an interaction workshop should be conducted by the PMU involving all partners to discuss all above mentioned activities so that no confusion remains and there will be good understanding among every partners and PMU staff. UNDP from its global network should help to arrange technical expert for some time to assist the project to clarify everything in the workshop and also latter in planning and implementation process.
- Frequent change in management staffs should be avoided as it will hamper project implementation. Annual review of risks and assumptions should be conducted and mitigation measures should be adopted. Implementing agency should follow standard procedure of staff recruitment and procurement of equipment. UNDP has standard procurement process and conducting procurement through UNDP assures quality and also decrease cost as UNDP gets custom waiver. Only warranted equipment should be purchased and the supplier should have their agency in Sudan so that in case of any damage or technical fault supplier's assistance could be received immediately. Purchase remaining equipment immediately following standard procurement mechanism so that activities will not be further delayed. Also immediately repair damaged weather station equipment/batteries and also arrange battery back up to the computers that receives data from automatic weather station. Lack of batter back up will result affect recording of data during power supply interruption. Activities that are not included in project document should only be initiated after receiving approval from the donor (GEF).
- As planned in the project activities, mobiles should be distributed to head farmer and the person who measure rainfall to facilitate regular rain information updating and also to provide early warning to farmers. Also negotiate with Mobile companies, National Television, National and local radios to transmit/air weather/climate information and early weather warning to the farmers and Pastoralists.
- Project monitoring from UNDP, Project Board and PMU was found weak. Close monitoring of each and every activities of project is needed. Project has limited time left to implement remaining activities so Project board, UNDP and PMU and technical committee should monitor each and every activities regularly and provide feedback immediately so that activities will be implemented and accomplished on time maintaining quality. Monitoring and timely technical advice from the regional technical advisor is also needed to improve project implementation and quality assurance.
- In one site, validation was found conducted in University compound which is not the plan of the project as farmers couldn't see every day activities. Validation should be carried out in farmer's field

involving them so that they learn every details of adaptive farming technique. Validation should be conducted on right time and use right seed. Activities related to pastoralists are left behind so initiate them immediately so that impact could be observed within the project life.

- Baseline should have been established by the first year of the project. But baseline information of three activities were not established yet. Complete all baselines so that it will be easier to evaluate the impact of intervention. Similarly, project has not filled in GEF adaptation tracking tools with baseline information. PMU should immediately fill in GEF adaptation tracking tools so that at the end evaluation this could be used to see the impact.

More Recommendations are given on pages 32.

1. Introduction

1.1 Purpose of the Evaluation

As per UNDP's guidance for initiating and implementing Mid-term project Review of UNDP supported projects that have received grant financing from the GEF, this Mid-term Review (MTR) has the following complementary purposes:

- To promote accountability and transparency, and to assess and disclose the extent of project accomplishments.
- To synthesize lessons that can help to improve the selection, design and implementation of future UNDP activities.
- To provide feedback on issues that are recurrent across the UNDP portfolio and need attention and on improvements regarding previously identified issues.
- To contribute to the overall assessment of results in achieving GEF strategic objectives aimed at global environmental benefits.
- To gauge the extent of project convergence with other UN and UNDP priorities, including harmonization with other UN Development Assistance Framework (UNDAF) and UNDP Country Programme Action Plan (CPAP) outcomes and outputs.

The guidance is designed to enhance compliance with both UNDP and GEF evaluation policies and procedural requirements, which are consistent and mutually reinforcing, and use common standards. The guidance also responds to GEF requirements to ensure that Mid-term Review of GEF-financed projects should include ratings of project's relevance, effectiveness, efficiency, monitoring and evaluation implementation as well as sustainability of results (outputs and outcomes).

By adopting "UNDP's guidance for Conducting Mid-term Review of UNDP-Supported GEF-Financed Projects", this Mid-term Review responds to both UNDP and GEF requirements for Mid-term Reviews.

1.1 Scope & Methodology

This Mid-term Review (MTR), carried out by independent consultant, was initiated by UNDP Sudan as the GEF Implementation Agency for the "Climate Risk Finance for Sustainable and Climate Resilient Rain-fed Farming and Pastoral Systems" Project to measure the effectiveness and efficiency of Project activities in relation to the stated objectives, and to collate lessons learned.

The MTR was conducted over a period of 32 days between 21st September and 25th November 2017 by an International consultant. The approach was determined by the terms of reference ([Annex I](#)) which were closely followed, via the itinerary detailed in [Annex II](#). Full details of the objectives of the MTR can be found in the TOR, but the evaluation has concentrated on assessing the concept and design of the Project; its implementation in terms of quality and timeliness of inputs, financial planning, and monitoring and evaluation; the efficiency and effectiveness of activities carried out and the objectives and outcomes achieved, as well as the likely sustainability of its results, and the involvement of stakeholders. The text has been revised to correct factual inaccuracies in the draft or to include additional information, while other comments have been reproduced in full and audit trail is provided in the annex XIII with comments from reviewers and responses from the consultant.

The evaluation was conducted through the following participatory approach to provide it with sufficient evidence upon which to base conclusions:

- extensive face-to-face interviews with the project management and technical support staff. Throughout the evaluation, particular attention was paid to explaining carefully the importance of listening to stakeholders' views and in reassuring staff and stakeholders that the purpose of the evaluation was not to judge performance in order to apportion credit or blame but to measure the relative success of

implementation and to determine lessons learned for the wider GEF context. Wherever possible, information collected was cross-checked between various sources to ascertain its veracity, but in some cases time limited this. A full list of people interviewed is given in [Annex III](#).

- face-to-face interviews with local stakeholders and project staffs;
- face-to-face interviews with National Project Director (Secretary General, HCENR), Project Manager, Directors of different ministries and organisations involved in this project, senior officers of Insurance companies, farmers, Head and staffs of Environment and livelihood Unit of UNDP and Programme Manager, UNDP CO, Consultants from university and research institutes;
- a thorough review of project documents and other relevant texts, including the Project Document, revised log-frame, and monitoring reports, such as progress and financial reports prepared for UNDP and annual Project Implementation Reviews (PIR), minutes of Project Steering committee meetings, technical reports and other activity reports, relevant correspondence, and other project-related material produced by the project staff or partners; and

Wherever possible the MTR Consultant have tried to evaluate issues according to the criteria listed in the *UNDP Monitoring and Evaluation Policy*, namely:

- Relevance – the extent to which the activity is suited to local and national development priorities and organisational policies, including changes over time, as well as the extent to which the project is in line with the GEF Operational Programmes or the strategic priorities under which the project was funded.
- Effectiveness – the extent to which an objective has been achieved or how likely it is to be achieved.
- Efficiency – the extent to which results have been delivered with the least costly resources possible.
- Results – the positive and negative, and foreseen and unforeseen, changes to and effects produced by a development intervention. In GEF terms, results include direct project outputs, short-to medium term outcomes, and longer-term impact including global environmental benefits, replication effects and other, local effects.
- Sustainability – the likely ability of an intervention to continue to deliver benefits for an extended period of time after completion. Projects need to be environmentally as well as financially and socially sustainable.

In general, the baseline indicators (except 3 indicator which were not set) are very straight forward. This is consistent with the rationale of the project that there is a considerable knowledge gap, lack institutional set up and technically weak to cover the all areas for weather information, which the project intends to fill, or at least tries to contribute to the build-up of a science-based knowledge system. The objective of the project is to assist Government of Sudan to carry out all the necessary activities to cover large area of rain-fed agriculture and pastoral communities for weather monitoring, safeguard farmers and pastoralist from climate related risks by providing weather information, transfer risk through insurance schemes, micro-financing and policy back up. The project seeks to achieve three Component and twelve outputs:

The original logframe in the Project Document was not revised thoroughly during inception workshop of May 2014 so no change was made in logframe and also no change in activities was made. The project logframe, comprising three Components/Outcomes and 12 outputs, has been used throughout as the basis for this evaluation (see [Annex V](#)), and the MTR has evaluated the Project's performance against these according to the current evaluation criteria provided to it by the GEF. This is reproduced in Annex XII for clarity. Project results were measured against achievement indicators guided by evaluation questions (tracking tools, Annex X).

In addition, other scales have been used to cover sustainability (Annex XII-ii), monitoring and evaluation, and to assess impacts. The ratings for “achievement of outcomes” and “progress towards intermediate states” translate into ratings for the “overall likelihood of impact achievement” on a six-point scale.

The results of the evaluation were conveyed UNDP and other stakeholders ([Annex IV](#)).

1.2 Constraints

Project covers six states and within these states sites were distributed in wide areas which demand long time as from one site to another site is very far. But time provided for Mid-term review was very limited and on top of that delay in issuing travel permit further delayed the field visits. Due to this IC couldn't witness piloting of adaptation activities of all areas as the issuing of travel permit took some time and also there was need to conduct thorough analysis of financial activities and other performances of insurance companies in PMU and others in Khartoum. International Consultant (IC) was not provided with project related documents (except Prodoc) and acquired financial figure in advance of the mission which affected preparation for the mission. Despite repeated requests made personally and also through mail, IC was able to receive many documents till the end of the mission. Besides, some of the responsible person from the relevant institutions were either out of Sudan or were unreachable in mobile to fix meetings. Project Inception Report was very brief (4pages) and had very limited information available in it. Detail breakdown of provisioned budget and actual expenses for each component year wise of the government and private sector was not available so detail analysis of financial performance of the project could not be done. Project had piloting of adaptation activities but it neither had impact assessment plan nor it filled in GEF Tracking Tools to assess Climate Change Adaptation impact.

1.3 Structure of the Evaluation Report

The MTR report is structured in line with UNDP's guidance (see Annex 1). It initially presents an Executive Summary of the evaluation, giving a brief background of the project and its design, a summary of the main findings related to the activities, management, and important aspects such as partnership and sustainability. This is followed by an Introduction outlining the main elements of the project and evaluation, such as problems addressed by the project, overall progress and the methodology adopted. Other chapters include the following Sections:

- Project description and development context (this includes project design, its rationale and development context, the problems that project sought to address, the objectives, establishment of baseline, key stakeholders and expected results)
- Findings (Results of implementation and comparison with the targets as set)
 - Project Design / Formulation
 - Project Implementation
 - Project Results
- Conclusions, Recommendations & Lessons
- Annexes.

2 Project Description and Development Context

2.1 Project Start and Duration

The Project Document was signed in September 2014 for the duration of five years. However, few project activities were undertaken in the first year. Project activities were officially launched in April 2014 with the recruitment of a project coordinator. The project will end in December 2018. The Mid-term Evaluation was conducted in October-November 2017. After a thorough analysis of gaps identified from analysis of Initial National Communication and Second National Communication, the project identified activities for this project.

The key timelines which are planned or expected for project implementation are shown in Table below.

Key timelines planned or expected for project implementation.

Key project's milestones	Date
PIF Approval	5 November 2012
CEO Endorsement Date	21 April 2014
Submission to GEF of a Full Project Proposal	01 June 2012
Project Document Signature date	29 September 2014
Inception Workshop Date	20 May 2014
Expected Mid-term Review Date	May 2016
Actual Mid-term Review Date	Oct-Nov 2017
Original Planned Closing Date	30 June 2018

2.2 Problems that the Project sought to Address

Immediate and Development Objectives of the Project

The project “Climate Risk Finance for Sustainable and Climate Resilient Rain-fed Farming and Pastoral Systems” is aimed to enable the GoS to design public policies and measures for mitigation and adaptation to address climate change, through (a) strengthening of technical capacity and institutional arrangement at national and local levels, and (2) promoting insurance and financing support to adopt adaptation measures (3) arrange facilitating institution and policies. The project aims to assist the GoS to carry out all the necessary activities to increase climate resilience of rain-fed farmer and pastoral communities in regions of high rainfall variability through climate risk financing.

2.3 Baseline Indicators Established

To measure the achievement of the project baseline indicators were established and are as follows:

Objective: The overall (or immediate) objective of the project is:

To increase climate resilience of rain-fed farmer and pastoral communities in regions of high rainfall variability through climate risk financing.

Component 1: Institutional framework and capacity for sustainable climate observation and early warning

Outcome 1: Institutional and technical capacity for climate observation, forecasting and early warning strengthened at national and local levels

Output 1.1: Rainfall modelling and simulations for six target states (River Nile, Gedarif, North Kordofan, and South Darfur, Kassala and White Nile States) to enable local flood forecasts and climate projections

Output 1.2: Procurement of 7 automatic climate stations, 6 automatic synoptic stations with telemetry and 162 rain gauges; purchase of high resolution remote sensing data; and capacity reinforcement related to new products/equipment to enhance the availability, quality and transfer of real-time weather/climate data on 130,000 ha of drought-prone land for purposes of drought forecasting and early warning.

Output 1.3: SMA, RSA and MoWRE are trained to provide sustainable services on weather / climate observation, risk analysis, forecasting and early warning including the establishment of a farm information management system and the revitalization of targeted seasonal forecast delivery for rain-fed farmers and pastoralists;

Output 1.4: Improved communication protocols and mechanisms (i.e. partnership with mobile phone operators) to provide timely and accurate weather and climate risk forecasts to rain-fed farmers and pastoralists in 6 target states.

Component 2: Capacities to design and deploy Weather Index Insurance to address residual risk and promote long term adaptation

Outcome 2: Residual climate risk to rural livelihoods in the states of greatest rainfall variability addressed through parametric insurance products

Output 2.1 Comparative analysis and feasibility assessment of different business models for index-based insurance

Output 2.2 At least 6 index based risk transfer products (e.g., Weather Index Insurance) designed and introduced, covering at least 45,000 farmers and pastoralists who depend on rain-fed farming systems, including the creation of a nationally-based WII marketing and development team.

Output 2.3 Insurance literacy programme / awareness campaign designed and delivered to small businesses, community-based organisations, local farmers and pastoral communities

Output 2.4 Legal and regulatory framework for risk transfer in 6 target states assessed, policy recommendations developed and reinsurance secured

Component 3: Financial service provision for farmers and pastoralists to increase adaptive capacity of rural livelihoods

Outcome 3: Improved access of needy farmers and pastoralists to financial services for climate change adaptation and disaster risk reduction

Output 3.1 In each state at least 1 adaptation options/packages developed to inform and enable the provision of MFI credit packages to stimulate smallholder adaptation and disaster risk reduction including the transfer of adaptation technologies to make crop and livestock production more resilient

Output 3.2 Legal and regulatory frameworks reviewed, analysed and improved to increase the co-provision of microcredit and micro-insurance services

Output 3.3 At least three micro-credit, flexible loan products designed and tested to account for pastoral mobility and income cycles of smallholder rain-fed farmers and pastoralists (SRFP).

Output 3.4 Organization and capacity development for smallholder rain-fed farmers and pastoralists (SRFP) on newly developed and targeted financial services including training on a financial services management manual

2.4 Main Stakeholders

In project development process involved many stakeholders including non-environmental agencies that are related to climate change. Consultations were held with the Ministry of Environment, Forest and Physical Development, other relevant government departments, regional governments, Research Institute and University in order to discuss the project concept, identify relevant agencies involved with supporting weather/climate monitoring, microfinance, insurance and adaptation technologies for rain-fed farmers and pastoralists. The private sectors were also involved in the stakeholders' consultations. As per project document following stakeholders were planned to include in implementation process:

National Inception Consultations – Target populations in all 6 states were consulted and informed about EWS and WII during July 2013. Between 20 and 30 locally-based Stakeholders, including women, were present at each meeting. They responded to questions providing evidence on the needs for forecasting, early warning and financial services (See MicroEnsure report Annex 8 Section 5.5 of Prodoc). Meetings were also held with Director Generals of the State Ministries of Agriculture in the 6 states. Subsequently, on the 11th September 2013, a Validation meeting among approximately 60 Stakeholders from state and national levels was held in Khartoum. The Validation meeting served as a venue to agree upon project outputs, risk, partnerships and indicators.

2.5 Expected Results

The project aims to achieve its objective through three components, 3 outcomes which will have a total of 12 outputs. These Components, outcomes and outputs are as follows:

Component 1: Institutional framework and capacity for sustainable climate observation and early warning

Outcome 1: Institutional and technical capacity for climate observation, forecasting and early warning strengthened at national and local levels.

Output 1.1: Rainfall modelling and simulations for six target states (River Nile, Gedarif, North Kordofan, and South Darfur, Kassala and White Nile States) to enable local flood forecasts and climate projections

Output 1.2: Procurement of 7 automatic climate stations, 6 automatic synoptic stations with telemetry and 162 rain gauges; purchase of high resolution remote sensing data; and capacity reinforcement related

to new products/equipment to enhance the availability, quality and transfer of real-time weather/climate data on 130,000 ha of drought-prone land for purposes of drought forecasting and early warning.

Output 1.3: SMA, RSA and MoWRE are trained to provide sustainable services on weather / climate observation, risk analysis, forecasting and early warning including the establishment of a farm information management system and the revitalization of targeted seasonal forecast delivery for rain-fed farmers and pastoralists;

Output 1.4: Improved communication protocols and mechanisms (i.e. partnership with mobile phone operators) to provide timely and accurate weather and climate risk forecasts to rain-fed farmers and pastoralists in 6 target states.

Component 2: Capacities to design and deploy Weather Index Insurance to address residual risk and promote long term adaptation

Outcome 2: Residual climate risk to rural livelihoods in the states of greatest rainfall variability addressed through parametric insurance products.

Output 2.1: Comparative analysis and feasibility assessment of different business models for index-based insurance

Output 2.2: At least 6 index based risk transfer products (e.g., Weather Index Insurance) designed and introduced, covering at least 45,000 farmers and pastoralists who depend on rain-fed farming systems, including the creation of a nationally-based WII marketing and development team.

Output 2.3: Insurance literacy programme / awareness campaign designed and delivered to small businesses, community-based organisations, local farmers and pastoral communities

Output 2.4: Legal and regulatory framework for risk transfer in 6 target states assessed, policy recommendations developed and reinsurance secured

Component 3: Financial service provision for farmers and pastoralists to increase adaptive capacity of rural livelihoods

Outcome 3: Improved access of needy farmers and pastoralists to financial services for climate change adaptation and disaster risk reduction

Output 3.1: In each state at least 1 adaptation options/packages developed to inform and enable the provision of MFI credit packages to stimulate smallholder adaptation and disaster risk reduction including the transfer of adaptation technologies to make crop and livestock production more resilient

Output 3.2: Legal and regulatory frameworks reviewed, analysed and improved to increase the co-provision of microcredit and micro-insurance services

Output 3.3: At least three micro-credit, flexible loan products designed and tested to account for pastoral mobility and income cycles of smallholder rain-fed farmers and pastoralists (SRFP).

Output 3.4: Organization and capacity development for smallholder rain-fed farmers and pastoralists (SRFP) on newly developed and targeted financial services including training on a financial services management manual

Baseline indicators were fully established and the latter given in the Project Document ahead of the Project's commencement.

3 Findings

3.1 Project Design/Formulation

The project was designed to address the problem by improving/establishing institutions to measure, policy arrangement and financial arrangement, enhancing capacity of national and regional government and with updated knowledge for enhancing accuracy and reliability of weather monitoring and early warning. The project aimed to strengthen capacity of government of Sudan in monitoring weather and provide early warning to farmers to avoid risks. The design of the RRF was very clear with clear outputs milestones, activities for each outputs and SMART indicators to monitor implementation and achievements. The project was designed to work at both a macro level (national government scale) and a micro level (local government and pilot sites or local scale). On the national level, it aimed to identify policy gaps and recommend legislative needs, establish institutional set up and enhance capacity of these institutions and promote reliable weather forecast and also make legal basis for financial assistance to farmers to increase their resilient to climate change. Similarly, at the micro level it aimed to work at establishing weather monitoring stations, arrange financial assistance to farmers and pastoralists and arrange early warning to farmers.

The implementing and executing institutions were involved in the project from the project design phase. The project design involved a thorough analysis of capacities of various partners and their interests. Project design has incorporated lessons learned from several relevant projects in the country and also from other countries. Role and responsibilities of implementing partner and other institutions was very clearly defined in the project design. The project in its developed discussed gender issues and development interaction also included female. The indicator of the project does not specify gender wise disaggregated results but within the community women will also benefit from the outcome of the project. Hence to address these problems, the project was designed to apply following approaches:

- (i) Institutionalize Policy framework to address Climate Change risks in Sudan. Develop legal and regulatory framework for risk transfer.
- (ii) Review legal and regulatory frameworks, analyse and improve to increase the co-provision of microcredit and micro-insurance services.
- (iii) Establish rainfall modelling and simulations for six target sites to enable local flood forecasts and climate projections.
- (iv) Establish 7 automatic climate stations.
- (v) Train SMA, RSA and MoWRE to provide sustainable services on weather/climate observation, risk analysis, forecasting and early warning.
- (vi) Improve communication protocols and mechanisms to provide timely and accurate weather and climate risk forecasts to rain-fed farmers and pastoralists in 6 target states.
- (vii) Conduct comparative analysis and feasibility assessment of different business models for index-based insurance.
- (viii) Design index based risk transfer products.
- (ix) Conduct insurance literacy programme/awareness campaign for small business, community based organisations, local farmers and pastoral communities.
- (x) Develop adaptation options/packages to inform and enable the provision of MFI credit packages to stimulate smallholder adaptation and disaster risk reduction.
- (xi) Design and test micro-credit, flexible loan products to account for pastoral mobility and income cycles of smallholder rain-fed farmers and pastoralists.
- (xii) Develop capacity and organise smallholder rain-fed farmers and pastoralist on newly developed and targeted financial services through training on a financial services management manual.
- (xiii) Publish and disseminate the lessons.

3.1.1 Analysis of Logical Framework

The log frame has a single development objective, three outcomes and 12 outputs. The extensive activities are also listed in full, complete with their own indicators. The objectives, components and outputs are clear and appropriate to the issues and also designed considering the timeframe of the project. Project also utilised lessons from the LDCF1 project (see 3.1.3) and also capacity of

executing/implementing agencies considered while developing project activities (see 3.1.5 - 3.1.7). Project design sufficiently analysed potential risks and assumptions (see 3.1.2) related to the project and it is well articulated in the PIF. Role and responsibilities of the partners were made clear from the project design phase (see 3.1.7 & 3.2.2). But the logical framework was not revised in Inception workshop (20May2014) so no change was made in indicators or activities. There has not been any change in number of output or activities from the original logframe.

The indicators of the logframe are all SMART (Specific; Measurable; Achievable and attributable; Relevant and realistic; Time-bound, timely, trackable and targeted) and are relevant and precise. All are based on sound scientific monitoring protocols using the most relevant measures for a given criteria.

3.1.2 Assumptions and Risks

As per the project document, 12 key risks were identified and of them 2 of low level, 4 of high level and 6 of medium level. The high risks identified at project formulation phase are as follows:

- Targeted farmers and pastoralists are skeptical and unwilling to engage into the index-insurance scheme
- Index insurance and the adoption of creative solutions, such as remotely sensed data-based indices, are likely to be challenging for insurance companies. Consequently, they will not have the experience and knowledge to adapt the product to new crops and data
- High upfront costs in developing WII may not be cost-effective and can lead others towards cheaper traditional forms of micro-insurance
- Natural disasters damage infrastructure (particularly floods)

It was assumed that the political, financial and social conditions of the country will not experience a great variability, showing relative stability and that government regulations will not directly affect the contents, quality and outcomes of the project.

Serious communication and coordination problem existed and also some cooperation problem existed. Regarding the political impact, the change in management three time affected project's memory and activities and also occasional change in partner organization seriously affected project. Extension program to familiarize farmers on the index insurance and validation on adaptive agriculture technology helped to address the risk related to engagement. Though limited trainings took place, had provided to financial institutions and relevant implementing institution to enhance their knowledge on index insurance and other related areas to build their confidence on it. Some institutions already had capacity while others capacity was enhanced to some extent so technical capacity related risk was reduced but not completely avoided. The project manager was change twice and during MTR third manager was working who was appointed only 3 months ago and except finance/admin officer all other staffs were also change. The project development process could not visualize the serious risk of transfer or moving of trained manpower at any stage of the project or beyond the project period. The risk of transfer/leaving project by trained technical person will remain beyond the project life and it question sustainability of activities. There was lack of annual review of assumption and risk.

3.1.3 Relevance

Sudan signed United Nations Framework Convention on Climate Change (UNFCCC) in Rio in 1993. As a non-Annex 1 country, it is committed to fully implementing the convention. Sudan's draft Second National Communication (SNC) includes projections which demonstrate that climate change will highly impact water resources and pastoralist livelihoods that are dependent upon water. Government of Sudan submitted NAPA in July 2007 which identified urgent adaptation initiative o reduce the increasing vulnerability of the rural communities to current and future climate risks. The NAPA process also yielded a consensus that the highest priority NAPA follow-up interventions should be a programme of adaptation interventions in five distinct areas, with a major focus on the enhancement of food security by building the adaptive capacities of the rural population, particularly of rain-fed farming and pastoral communities. This project responds directly to the NAPA and addresses several of the highest NAPA priorities. The project is consistent with the Conference of Parties (COP-9) and also satisfies criteria outlined in the UNFCCC Decision 7/CP.7 and GEF/C.28/18. Furthermore, the project is aligned with Sudan's National Adaptation Plan that has been developed as part of a multilateral environmental

agreement (MEA) to combat desertification and preserve biological diversity. It also supports 3 of the 9 Millennium Development Goals (MDGs) namely: i) MDG1: Eradicate Extreme Poverty and Hunger, ii) MDG 3: Promote Gender Equality and Empower Women and iii) MDG7: Ensure Environmental Sustainability.

The Sudanese Government's Five-Year Plan (2012-2016) also makes strong references to achieving the MDGs in Sudan. This also includes a) public investment in infrastructure; b) focusing on small-scale farmers in rain-fed farming area; c) development of crop insurance programs; d) research; e) continued institutional reforms such as land policy; and f) increased involvement of the private sector in developments. Sudan's medium-term strategy also calls for reviving agricultural development, however with significant shift in emphasis and policies in favour of traditional agriculture. The main elements of the strategy relevant to the LDCF2 project include: i) land tenure reform ii) technological package development and outreach (research and extension) iii) rural credit provision and iv) improvement of access to markets. The project is also in line with the interim poverty reduction strategy paper (IPRSP, 2011) which emphasizes the promotion of economic growth and employment creation as the first pillar of the Government of Sudan's development strategy.

3.1.4 Lessons from other Relevant Projects incorporated into Project Design

During the formulation phase of this project, lessons from LDCF1, LDCF2, FISU project, FEWS NET network, IGAD-HYCOS project, North Kordofan Services Project, Great Green Wall Initiative (GGW) and Peace Consolidation Project were analysed and incorporated into the project design. These project also planned to improve the EWS, awareness raising on drought and flood mitigation schemes, develop EWS policy, develop food security policy and food-security inter-sectorial institutional coordination framework. IFAD has been assisting the Agriculture Bank of Sudan Microfinance Initiative to provide nano-finance loans and savings to rural women cooperatives since 2010. Connecting Farmers to Market project is another baseline initiative involving micro-insurance and microfinance development. Similarly, Shiekan Insurance and Reinsurance Co. Ltd. Have implemented insurance products for small holder rain-fed farmers and pastoralist since 2002.

3.1.5 Planned Stakeholder Participation

At the project development phase, the project development team undertook extensive consultations with wide range of stakeholders from National government bodies, Non-government institutions, research institutions, regional government bodies, large industries and university through a series of opinion polls, presentations, interviews, group discussion and workshops. These wide-ranging consultations were undertaken to ensure that stakeholders at all levels are aware of the project and its objectives and that they assist in the implementing, monitoring and reporting. A thorough assessment of relevancy, experience and capacity of implementing partner and other implementing stakeholders was also conducted. This assessment also helped to understand and utilise strength of the implementing partners and also develop capacity enhancement programs. Project design, criteria for potential sites and site selection for piloting was carried out with the stakeholders' participation.

Project was planned to implement following the UNDP National Execution (NIM) modality in close coordination with the Ministry of Environment, Forest and Physical Development.

Stakeholder	Inception Consultations	Involvement in Baseline Assessment	Role Identification	Risk/Barrier Analysis	Policy/ Strategic alignment to priorities	Co-financing Identification	Gender representation	Upscale / Sustainability planning	Document Endorsement
Federal Sector									
Ministry of Environment and Forestry	X	X	X	X	X			X	
Higher Council for Environment and Natural Resources (HCENR)	X	X	X	X	X	X	X	X	X
Humanitarian Aid Commission (HAC)		X		X	X			X	
Office for Coordination of Humanitarian Affairs (OCHA)	X			X	X		X		
Sudan Meteorological Authority (SMA)	X	X	X	X	X	X		X	
Remote Sensing Authority (RSA)	X	X	X	X	X			X	
Agricultural Research Corporation (ARC)	X	X	X	X	X		X	X	
Ministry of Agriculture and Irrigation	X	X	X	X	X			X	
Ministry of the Interior (Civil Defence & HAC)	X	X	X	X	X			X	
Ministry of Animal Resources	X	X	X	X	X			X	
Central Bank of Sudan	X	X	X	X	X		X		
Agricultural Bank of Sudan	X	X	X	X	X	X		X	
Savings and Social Development Bank (SSDB)	X	X	X	X	X			X	
The Farmers Commercial Bank	X			X				X	
The Sudanese Rural Development Company	X			X				X	
Kassala State Social Development Fund	X			X				X	
Sheikan Insurance company	X			X				X	
Cooperative Insurance Company	X			X				X	
The Farmers Commercial Bank	X			X				X	
Technical Research Institutions / Universities									
Sudanese Environmental Conservation Society	X		X						
Sudanese Meteorological Society	X		X						
State universities	X						X		
Private Sector									
Mobile phone company	X	X		X		X		X	
Sudanese Microfinance Development Corp.	X	X	X	X		X		X	
Sheikan Insurance company	X			X		X		X	
Regional/Sector									
Gedarf State Social Development Fund (SDF)	X	X	X	X		X		X	
South Darfur State SDF	X	X	X	X		X		X	
River Nile State SDF	X	X	X	X		X		X	
White Nile SDF	X	X	X	X		X		X	
N. Kordofan SDF	X	X	X	X		X		X	
Kassala SDF	X	X	X	X		X		X	
NGOs/CBOs/CSOs									
Farmer's Trade Union in each State	X	X	X	X				X	
Pastoralist's Trade Union in each State	X	X	X	X				X	
Practical Action	X	X	X	X			X	X	
Youth/Women Society Organizations (Ahfad University, Women's Union of Kassala, Sudanese Youth Union)	X	X	X	X			X	X	
Sudanese Climate Change Network	X	X	X				X	X	
MASAR (pastoralist NGO)	X	X	X				X	X	
Nafeer Initiative	X	X	X	X			X		
OXFAM	X								
Donor Partners									
UNEP	X	X				X	X	X	
World Bank									
CIDC	X							X	
European Commission									
WFP	X	X						X	
IRDC	X							X	
US AID	X								
FAO	X							X	
IFAD	X							X	

3.1.6 UNDP Comparative Advantage

In the inception workshop, UNDP's project assurance role was presented and discussed in detail. The Participants endorsed the assurance role described in the approved project document. Enhancement of capacities at the national and sub-national levels has been considered by UNDP to be essential to its strategy for Climate Change risk reduction. Accordingly, and in line with the government's national priorities, support to enhance capacities and make planning evidence based in the fields of Climate Change and Disaster Risk Management was also a priority area. This Project deemed to congruent with these priorities as elaborated in the Millennium Development Goal 2, 3 and 7 where ensuring eradicate Extreme Poverty and hunger, promote gender equity and empower women and environment sustainability are the priority programme areas for Sudan; second UNDP's Strategic Plan (SP) for Sudan (2014-2017) emphasizes building resilience through reforms that reduce financial risk and improve incentives for adaptation and mitigation responses. The project is in line with the pillars of technical and financial assistance which form the foundation from which risks of Climate Change can be reduced in Sudan. Specifically, the project will help realise four pillars identified by UNDP:

- Development of the capacity of the National and regional government to adapt best practices on climate change threads;
- Establish knowledge base and assure access to the information to encourage evidence based planning;
- Engagement of National and local government and Private sector to reduce risk of climate change;
- Networking with national and region organisations working in the field of environment and climate change.

UNDP has been working in the field of Natural Resources Management (biodiversity conservation, environment protection), Persistent Organic Pollutants/ Mercury/ Hazardous and Toxic Substances management, Renewable Energy and Energy Efficiency, Climate Change (including Climate Change Mitigation, Climate Change Adaptation and Ozone Layer Protection), Disaster Risk Reduction, Poverty Reduction, Conflict Prevention and Democratic Governance. UNDP has a lot experience from these areas. The project was able to benefit from UNDP experience in the project development phase but latter due to coordination problem between UNDP and implementing agencies it could not utilise experience of UNDP.

3.1.7 Management Arrangement

UNDP National Implementation Modality – Country Office Service Support (NIM-COSS) was applied to ensure broad stakeholder participation and to create both a high flexibility and an enabling environment for innovation. Project was implemented by the Higher Council for the Environment and Natural Resources (HCENR) who had project ownership and recruited a National Project Manager (NPM), and a Deputy Project Manager. A Government Project Coordinator (GPC) was appointed by HCENR, to coordinate project operations and support the NPM with overall administration, oversight, coordination of activities and maintaining a liaison with UNDP. The Ministry of Finance and National Economy- the Directorate of International Cooperation, the Ministry of Agriculture and Irrigation, the Ministry of Science and Communication, the Ministry of Water Resources and Electricity, the Ministry of the Interior, the Ministry of Livestock, Bank of Khartoum and the Central Bank of Sudan are the main beneficiaries of this project. The Project Board (PB) was led by HCENR was responsible for approving programs and annual work-plans. It also provide guidance for proper implementation of the project. The PB also includes UNDP, representatives from the Ministry of Finance and National Economy- Directorate of International Cooperation, the Ministry of Science and Communication (MSC), the Ministry of Water Resouce and Electricity (MoWRE), the Ministry of the Interior (MoI), the Federal Ministry of Agriculture (MoAg)/Ministry of Livestock (MoL) and the 6 target State Ministries o Agriculture/Livestock, the Insurance Advisory Authority, Bank of Khartoum and the Central Bank of Sudan. Besides PB also included representative from the Climate Change Network (CCN), National Farmers Production Associations, and National Pastoralists Production Associations. These programs were implemented by Project Management Unit (PMU) ensuring provision of funds to all institutions/organisations for their respective activities. All executing agencies had responsibility for managing tasks related to their institution/organization. A MoU with clear ToR for each executing

agency was developed under the guidance of PMU during project implementation. Earlier capacity assessment of the IP was conducted in October 2013. Regular meetings were conducted to discuss on progress and constraints of the project. UNDP maintained high-quality technical and financial implementation of the project through its local office in Sudan. UNDP CO also assured activities implementation, monitoring and ensuring proper use of GEF funds to assigned activities, timely reporting of implementation progress as well as undertaking of mandatory and non-mandatory evaluations. All services for the procurement of goods and services, and the recruitment of personnel were conducted in accordance with UNDP procedures, rules and regulations.

The project also had Project Technical Committee (PTC) composed of dedicated coordinators from the participating national institutions. The PTC is accountable to the PB and is headed by the Secretary General, Higher Council for Environment and Natural Resources. The Project Management Unit was composed of a National Project Manager (NPM), a Deputy Project Manager, finance and administrative officer, a monitoring and evaluation expert and communication officers. The PMU is responsible for the day to day management of the project activities and is accountable to the PB.

The Project's management and implementation focused on the project log-frame throughout. The project team made effort on raising awareness and developing capacity amongst stakeholders to provide a solid baseline of understanding prior to, and continuing through, development of the Project's main activities. Similarly, agreement on co-funding was made before signing the project document. Similarly, staffs, equipment and logistics were in place by the time of initiation of project.

3.2 Project Implementation

The project was implemented under the National Implementation Modality – Country Office Service Support (NIM-COSS), where Ministry of Environment, Forest and physical Development was implementing agency. The implementing partner was expected to be responsible and accountable for managing the project. UNDP had responsibility on the quality assurance and other relevant project implementation support (identification and recruitment of project and programme personnel, procurement of goods and services, administration of GEF financial contributions and provision of other technical and administrative supports). But due to communication and coordination problem these expected roles were not observed. The PMU managed day to day activities of the project. The pilot sites were selected with the help of the experts by the project to conduct vulnerability and adaptation impact assessment.

3.2.1 Adaptive Management

The Project's adaptive management was weak, because the inception workshop was very brief i.e. of only two hours which limited through revision and analysis of each and every activities, indicators, means of verification, first annual work plan, roles and responsibilities, decision making structures, reporting, communication, conflict resolution mechanism, ToR of all staffs, risks and assumptions. This workshop also supposed to provide detail overview of reporting, monitoring and evaluation, agree on M&E budget and schedule, discuss financial reporting procedures, obligation and arrangements of annual audit, plan steering committee meetings and clarify roles and responsibilities of all stakeholders.

Project was designed to pilot in 6 states based on the suggestion from the experts.

3.2.2 Partnership Arrangement

Without contribution of various ministries, local government, research institutes and private sectors, project couldn't succeed. Hence this project was designed to involve wide range of partners to accomplish various activities related to climate change adaptation. Stakeholders' involvement plan was clearly designed in the project document.

Ministry of Agriculture established partnership with Hydro-Meteorological Service (NHMS) to implement early warning system (EWS) but due to weak coordination and communication activities were affected. To enhance communication of weather/climate and agriculture information, partnership was to be developed with Mobile Phone Company but was not done. Gender focused NGOs/CSOs were identified to conduct gender disaggregated surveys indicating their receipt of alerts and the adoption of

financial services by women as per the project Results Framework. Project also had plan to utilise experience of the Women Groups established MFIs and women agricultures associations but was not observed till MTR. Some of the stakeholders identified to involve in different activities of the projects are: Farmer's Trade Union of each State, Pastoralist's Trade Union of each state, Practical Action, Youth/Women Society Organisations (Women's Union of Kassala, Sudanese Yough Union), Sudanese Climate Change Network and MASAR (pastoralist NGO) but not utilised their support.

The Project worked closely with many stakeholders during project development but during implementation communication and coordination gap was observed which obstructed active engagement of some stakeholders which resulted in delay in project implementation and not able to accomplish targeted activities within the schedule timeframe, hence stakeholder participation is evaluated as **Moderately Satisfactory**.

3.2.3 Gender

Women and children are the one who are most vulnerable to disasters related to climate change. Project conducted gender disaggregated rapid surveys of targeted users of climate information conducted to understand the social and economic costs and benefits of using advisories and warnings to mitigate risks associated with agriculture and water management. Project conducted training to inform rain-fed farmers and pastoralists on MF/WII and climate change adaptation technologies. In some Sudanese States, women are decision-making at the village level (in South Darfur and North Kordofan states) and large number of households are headed by women. Due to these, the technical committee created to manage the project at state levels had female representative to promote gender awareness and gender assessments. To conduct gender disaggregated surveys, project preferred gender focused NGOs/CSOs. The project integrated gender perspective into relevant outputs, particularly Vulnerability and Adaptation (V&A) component in Agriculture sector. The Agriculture sector is seriously influenced by Climate Change and women engage in this sector the most but they are the one who are often neglected in benefit distribution and other opportunities. Since the project implementation was delayed, it was not possible to see impact of adaptive agricultural practices including drought adaptive seed variety and technologies in the livelihood and specifically women and children.

3.2.4 Feedback from M&E Activities used for Adaptive Management

The Project's adaptive management was weak as it could not receive much feedback from the inception workshop. Similarly, very limited feedback from the project steering committee.

3.2.5 Project Finance

The total project cost is US\$24,500,000 which includes US\$6,300,000 in cash and US\$18,200,000 in kind. Of these the GEF contribution is US\$5,700,000 in cash, UNDP contribution US\$600,000 in cash, and kind support from Government of Sudan US\$15,000,000 and private sector contribution US\$3,200,000 (Table 1 and 4). If Project spending is used as a basis of measure of the progress of implementation, then the Project has not achieved the progress originally envisaged for the MTR period. Co-financing was well planned and clearly mentioned in the project document but contribution as per commitment was not seen. The executing and implementing agencies were not able to monitor financial transactions and program implementation and not able to materialise the fund for activities by re-allocation of fund timely and this resulted delay in accomplishment of activities.

- As informed by the project staff, Project management costs were primarily funded by GEF (\$250,000) and in kind by GoS (360,000).
- Project management cost already increased by 19% and born from the GEF fund.
- Project management costs were proposed US\$18,450,000 and primarily funded by GEF (1.4%) and GoS (98.6%, in kind), but the actual management cost by the end of October 2017 was US\$656,957

of which US\$296,957 (35%) was from the GEF money and this amount is 19% more than budgeted amount of GEF money for management.

- The project was co-financed by the GEF, UNDP, GoS and Private sector. The GEF contribution is 23.3% and of the rest (UNDP, Private sector and GoS) is 76.7%, a very good result but contribution from GoS was less than committed and no committed contribution was seen from private sectors;
- GEF funding was allocated for all components while UNDP funding in mainly component 3. GoS support was for Components 4 (management). Similarly, private sector contribution is expected for component 2 and 3.

Table 1: Total disbursement of funds by output (end of October 2016) (US\$) against full project budget as per Project Document.

Component	GEF			UNDP			GoS (in-kind)			Private (parallel activity)			Total		
	Budget	Actual	%	Budget	Actual	%	Budget	Actual	%	Budget	Actual	%	Budget	Actual	%
Component 1	1,550,000	419006	27%	-	0	0		0			0		1,550,000	419006	27%
Component 2	1,900,000	564425	30%	-	0	0		0			0		1,900,000	564425	30%
Component 3	2,000,000	738390	37%	600,000	0	0		0			0		2,600,000	738390	28%
Component 4	250,000	296957	119%	-	0	0	18200000	360,000		10200000	0		18,450,000	656,957	4%
Total	5,700,000	2018778	35%	600,000	0	0	18,200,000	360,000	2%	10200000	0		24,500,000	2378778	10%

Analysis of budgeted and actual expenditure shows that the expenses had exceeded the budgeted amount in component 4 (management). Government contribution (in kind) could not be analysed as information on exact expenses was not available. The planned management cost from GEF money was US\$250,000 and US\$18,200,000 (GoS kind contribution) while actual management cost was US\$296,957 (GEF) and US\$360,000 (GoS). The cost increase from GEF budget was US\$46,957 (19% more) which is comparatively big because more than three quarter of the project life is completed and achievement is very limited. Since more than one year is left for the project and many activities yet to be completed, the management cost will increase further more. The reason for exceeding management costs from the provisioned management budget is because the salary provisioned for PMU office is very high than proposed in the project document.

Tables 1 show the disbursement of GEF and UNDP, GoS and private sector funds by component. Detail expenses that the kind contribution from GoS cover is not known. UNDP contribution covers cost of vehicles, fee of international consultant, M&E expenses, board meetings and grants. GoS contribution covers Project Management Unit office rent at Headquarters and in the states, furniture for the office at the states and seeds for agriculture activities. Private sector's contribution was supposed to be for awareness generation among farmers and pastoralists on WII and information dissemination on weather, temperature.

Personnel from Ministry of Environment and Physical Development, State government, University, research institute and UNDP CO, were not much impressed from the project as they were complaining about the management and also indicated serious communication gaps. Ministry officials, UNDP CO and other line ministries expressed that the project is very important for Sudan and expressed their concern and willingness to support the project activities.

Table 2: Total Disbursement of GEF funds (US\$) by Component by Year against budgeted as per Project document.

Component	2015			2016			2017			Total		
	Budget	Actual	%	Budget	Actual	%	Budget	Actual	%	Budget	Actual	%
Component 1	426950	320698	75%	309600	51415	17%	259605	46893	18%	996155	419006	42%
Component 2	623600	265065	43%	365575	75486	21%	357430	223874	63%	1346605	564425	42%
Component 3	592500	87107	15%	354600	242063	68%	345750	409220	118%	1292850	738390	57%
Component 4	62138	100853	162%	130000	149104	115%	45784	47000	103%	237922	296957	125%
TOTAL	1,705,188.00	773,723.00	0.45	1,159,775.00	518,068.00	0.45	1,008,569.00	726,987.00	72%	3,873,532.00	2,018,778.00	52%

Table 3: Total Disbursement of UNDP funds (US\$) by Component by Year against Budgeted as per Project document.

	2015			2016			2017			Total		
	Budget	Actual	%	Budget	Actual	%	Budget	Actual	%	Budget	Actual	%
Component 1 (Early warning System)	0	0	0	0	0	0	0	0	0	0	0	0
Component 2 (Weather Index Insurance)	0	0	0	0	0	0	0	0	0	0	0	0
Component 3 (Improve access Microfinance)	120000	0	0%	120000	0	0%	120000	0	0%	360000	0	0%
Component 4 (Project Management)	0	0	0	0	0	0	0	0	0	0	0	0
Total	120000	0	0	120000	0	0	120000	0	0	360000	0	0

Source: UNDP CO

Table 2 shows the actual funds spent for each component by year from GEF budget. GEF budget was allocated for all four components with highest spending on Component 3 in 2017. In overall spending on program is less while the management budge exceeded allocated budget in all years. UNDP budget was only allocated for component 3. No spending was made from UNDP track fund as project was not able to spend disbursed GEF money and some expenses were out of the track i.e. in activities which were not provisioned in the project document and some expenses were more than provisioned in project documents. GEF budget for program i.e. component 1, 2, and 3 was always less than budgeted but component 4 always exceeded the budgeted amount. Overall GEF expenses is less than budgeted and it coincide with progress of activities and this also makes implementation expensive. No contribution from private sector was observed rather some payment was made to an insurance company to pilot the WII activities which is against the project document provision. An agreement was signed with Elnllein Insurance Company for the amount of SDG3,136,848 and part of this agreement was already paid to this company. This agreement and also payment is illegal as this is against the provision in the project document and also no prior decision was made on this regards by the project board and also approval from GEF. Project management costs (Component 4) peaked in 2015 and from GEF budget.

Project faced communication and cooperation problem from the beginning of the project and this has affected activities implementation and due to this project is left behind in achieving its targeted outputs within the allocated timeframe. Due to communication and also problem in the management, fund disbursement was also delayed and management could not follow fund management provisions and that has affected fund disbursement and ultimately that affected project activities.

Table 4: Total disbursement of Government of Sudan Co-funding (US\$)

	2015			2016			2017			Total		
	Budget	Actual	%	Budget	Actual	%	Budget	Actual	%	Budget	Actual	%
Component 1	0	0	0	0	0	0	0	0	0	0	0	0
Component 2	0	0	0	0	0	0	0	0	0	0	0	0
Component 3	0	0	0	0	0	0	0	0	0	0	0	0
Component 4	3640000	120000	3%	3640000	120000	3%	3640000	120000	3%	10920000	360000	3%
Total	3640000	120000	3%	3640000	120000	3%	3640000	120000	3%	10920000	360000	3%

Table no 5: Co-financing of the project.

Co-financing (type/source)	UNDP own financing (mill. US\$)		GEF (mill. US\$)		Private Sector (mill.US\$)		Govt. of Sudan (mill. US\$)		Total (mill. US\$)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants	600,000	0	5,700,000	2,018,777	0	0	0	0	6,300,000	2018777
Loans/Concessions	0	0	0	0	0	0	0	0	-	0

• In-kind support	0	0	0	0	3,200,000	0	15,000,000	0	18,200,000	0
• Other	0	0	0	0	0	0	0	0	-	0
Totals	600,000	-	5,700,000	2,018,777	3,200,000	-	15,000,000	-	24,500,000	2,018,777

Source: Project Management Unit

3.2.6 Monitoring and Evaluation: Design at Entry and Implementation

M&E Design

The Project design contained a good monitoring and evaluation (M&E) plan which is comprehensive in its depth and scope. The project had logframe to monitor achievement and logframe had clear objectives, components and outputs and appropriate to the issues and also designed considering the timeframe of the project. A detailed survey was conducted with the help of research institutes following the standard scientific methods to identify the most vulnerable site which will help to judge impact of intervention. Role and responsibilities of the partners were made clear from the project design phase. The indicators of the logframe were all SMART (Specific; Measurable; Achievable and attributable; Relevant and realistic; Time-bound, timely, trackable and targeted) and are relevant and precise. But the Inception workshop was very brief i.e. only of two hours and the two-page Inception report indicates that Inception workshop didn't involve through revision and analysis of each and every activities, indicators, means of verification, first annual work plan, roles and responsibilities, decision making structures, reporting, communication, conflict resolution mechanism, ToR of all staffs, risks and assumptions. This workshop also supposed to provide detail overview of reporting, monitoring and evaluation, agree on M&E budget and schedule, discuss financial reporting procedures, obligation and arrangements of annual audit, plan steering committee meetings and clarify roles and responsibilities of all stakeholders. All activities were listed and explained, and a table was included determining responsibilities, budgets and timeframe for each. Budgets were set realistically for all components. A total of USD 122,000 (One Hundred Twenty Two Thousand) being set aside for M&E activities seems realistic. Log-frame indicators were quantitative, SMART (Specific; Measurable; Achievable and attributable; Relevant and realistic; Time-bound, timely, trackable and targeted) and results-oriented. Baselines were already set (except three) in the Project Document. The inclusion of indicators for each activities were not only very appropriate and useful for evaluation but also very good for management purposes.

The design of M&E was of a standard over that normal for the design period, with a fully itemised and costed Plan included in the Project Document covering all the various M&E steps including the allocation of responsibilities; hence monitoring and evaluation design has been evaluated as Satisfactory.

M&E Implementation

Monitoring and evaluation of Project activities have been undertaken in varying detail at three levels:

- i. Progress monitoring
- ii. Internal activity monitoring
- iii. Impact monitoring

Progress monitoring at the field and national level was poor but quarterly and annual reports were developed with some information and sent to the UNDP-CO. The annual work plans were developed at the end of each year with inputs from Project staffs. The annual work plans were then submitted for endorsement by the Project Board, and subsequently sent to UNDP for formal approval. The implementing team was not in regular communication with the UNDP-CO regarding progress, the work plan, and its implementation. The indicators from the logframe were effective in measuring progress and performances but remaining three baselines were not established and further discussion on each and every activities and indicators was not conducted in the project inception workshop. The UNDP-CO generated its own quarterly financial reports from Atlas. These expenditure records, together with Atlas disbursement records of any direct payments, served as a basis for expenditure monitoring and budget revisions, the latter taking place bi-annually following the disbursement progress and changes in the operational work plan, and also on an *ad hoc* basis depending upon the rate of delivery.

From the quarterly reports, the UNDP-CO has prepared Quarterly Operational Reports which have been forwarded to UNDP/GEF Regional Coordination Unit, and also upload all the information on ATLAS. The major findings and observations of all these reports have been given in an annual report covering the period July to June, the Project Implementation Review (PIR), which is also submitted by the Project Team to the UNDP-CO, UNDP Regional Coordination Unit, and UNDP HQ for review and official comments, followed by final submission to the GEF. All key reports were presented to steering committee members ahead of their half-yearly meetings and through this means, the key national ministries and national government has been kept abreast of the Project's implementation progress.

The Project Management Unit (PMU) and the UNDP-CO were not able to maintain a close working relationship, with Project staff members meeting, or talking with, CO staffs to discuss implementation issues and problems.

The Project's risk assessment has been updated quarterly together by the UNDP-CO with the main risks identified along with adequate management responses and person responsible (termed the risk "owner"), who in most cases differs from the person who identified the risk.

Internal activity monitoring undertaken by UNDP CO, Ministry of Environment, Forestry and Physical Development and the National Project Director and Project Manager appears was poor and not able to provide immediate feedback to correct the problem. Some of the activities were out of the project document or annual work plans and were also not approved by the project board and due to this disbursement of fund was affected which ultimately affected activities. Project need to develop communication plan as serious communication problem between PMU and UNDP and also between PMU and partners.

Although impact monitoring was well-developed, with formal protocols in place to measure function of early warning system and index based insurance and assessment of adaptation policies in implementation it was poor. Due to lack of thorough analysis of activities, indicators, role and responsibilities, monitoring, assumptions and risks and also poor monitoring and evaluation of activities by PMU, project board, technical committee and UNDP, the adaptive management of the Project was negatively influenced to a much greater extent and could not help to overcome the problems. At the same time internal monitoring also poor. Annual practice of reviewing risk and assumption was also lacking and that had affected project implementation.

M&E implementation was weak, limited to progress monitoring. Project could not benefit from the Inception workshop and the risk assessments, and the MTR consultants considers it to be "moderate practice", hence the implementation of monitoring and evaluation has been evaluated as **Moderately Satisfactory**.

3.2.7 UNDP and Implementing Partners Implementation / Execution, Coordination and Operational Issues

Project Oversight

Project was implemented following National Implementation Modality (NIM) to ensure broad stakeholder participation and to create both a high flexibility and an enabling environment for innovation. Project was not executed under the execution of UNDP CO in close coordination with the Ministry of Environment, Forestry and Physical Development. There was poor communication and coordination between Implementing and executing agencies. No regular meetings were conducted to discuss on progress and constraints of the project. UNDP was not able to ensured high-quality technical and financial implementation of the project through its local office in Sudan due to communication and coordination problem. UNDP CO was responsible for implementing activities, monitoring and ensuring proper use of GEF funds to assigned activities, timely reporting of implementation progress as well as undertaking of mandatory and non-mandatory evaluations but it was often found ignored. All services for the procurement of goods and services, and the recruitment of personnel supposed to conducted in accordance with UNDP procedures, rules and regulations so that project could benefit from its custom waiver facilities with assured quality. Project Management Unit was formed to coordinate and manage project activities and to assure achieving targeted result on time, adequate and appropriate management practices, program planning and properly implementing and timely reporting but it was not able to fulfil these responsibilities properly. PMU had one National Project Director, Project Manager, Deputy

Project Manager, M&E Expert, Communication Specialist and Finance/Admin Officer, office assistant and driver. Risk management strategy was developed involving all partners and expert through detail analysis of issues but was not reviewed during inception workshop and also annual review of risks and assumptions didn't take place. Secretary General from the Ministry of Environment, Forestry and Physical Development (Chair of Project Board) and Project Manager also had communication problem.

The technical management was arranged but project could not benefit to the expected level from it.

Though the project was officially initiated in November 2014 very negligible activities were carried out in the first year. Project activities were officially launched in November 2014 with the recruitment of the project Manager. Project manager was changed three times. Recent staff hiring didn't follow standard procedure but nominated by the Minister. Similarly, procurement of equipment (other than car) didn't follow standard project procedure.

The Project was poorly organised and managed throughout providing products of the lowest technical quality and not on time and within budget, while responding effectively to a range of internal and external challenges through poor adaptive management, hence the implementation approach has been evaluated as **Unsatisfactory**.

UNDP Supervision and Backstopping

UNDP supervision was not accomplished by standard procedures and undertaken competently due to communication problem with the project management. Mid-term Review received many complaints from interviewees about excessive UNDP bureaucracy and delays in fund disbursement, and UNDP's heavy requirements for reporting.

Very few aspects of supervision were made through UNDP's involvement in communication with the Ministry of Environment, Forestry and Physical Development and other stakeholders. Members of the Energy and Environment Cluster were involved in regular issues such as the review and approval of work plans and budgets, review of progress and performance against such work plans, and completion of the tracking tools. It appears that the CO was unable to help and support throughout the implementation period, respond adequately to provide good guidance, honest and constructive criticism, and help to overcome particular problems. UNDP support was not utilised towards achieving targeted results though the support was appropriate and the project staffs were found not satisfied from the UNDP support. The annual planning was done on time with the participation of stakeholders. Similarly, risk management options were not reviewed annually in close consultation of partners and experts and due to this the project was not able to manage risk efficiently.

UNDP have provided some level of supervision and backstopping to the Project because coordination problem limited them, and its performance had direct impact, hence UNDP's supervision and backstopping role is evaluated as **Moderately Satisfactory**.

Reporting and Communication

The implementing team was not in good communication with the UNDP-CO regarding progress, the work plan. Communication was maintained during initial phase but latter there was problem with all stakeholders. From such communication gap project was affected and not able to receive suggestions and supports. UNDP-CO received quarterly progress reports providing updates on the status of planned activities, the status of the overall project schedule, the products completed, and an outline of the activities planned for the following quarter. The major findings and observations of all these reports have been given in annual report covering the project period July to June, the Project Implementation Review (PIR), which is also submitted by the Project Team to the UNDP-CO, UNDP Regional Coordination Unit, and UNDP HQ for review and official comments. All key reports were presented to project board members ahead of their half-yearly meetings and through this means, the key national ministries and national government has been kept abreast of the project's implementation progress. But no initiation was taken to address the communication problems.

The Project management Unit and UNDP-CO were not able to maintain a close working relationship with project staff members and partners and discussed issues and problems. Project was not updating information, progress reports, achievement, technical reports etc. to wide audience through websites. National Project Director was not making regular check on project implementation.

Occasionally expert consultations was conducted with few institutions involved in the implementation of the project, including the local government and other related stakeholders. This also affected the involvement of line ministries and local governments in implementation of the project activities. Project Management was not able to ensure wider representation and transparency by involving key stakeholders, including, among others, experts from different line ministries, academic institutions, CSOs, and private sector.

For consistency, please what the overall rating of this section on the Reporting and Communications.

3.3 Project Results

3.3.1 Overall Results

Attainment of Objectives:

Project initiated activities improve resilient to climate change among the rain-fed farmers and pastoralists by establishing and strengthening early warning system on weather, insurance and financial provisions and policy arrangements. Project improved accuracy of weather forecast through improved equipment and enhancing capacity of staffs for weather analysis. The following arrangements were made for Climate Risk Finance (CRF) project accomplishment and address climate change risk management:

1. Increased coverage for climate/weather monitoring in each of the 6 target states.
2. Developed access (to some extent) to improved weather/climate information for rain-fed farmers (but not yet for pastoralist). Early warning system will be developed in the future.
3. Improved frequency of forecast bulletins.
4. Developed WII products for rain-fed farmers and pastoralists (but yet to be implemented).
5. Planned to Increase the insurance agents in the rural areas to disseminate WII products in the future.
6. Developed a number of loan products for adaptation farming and livestock production with flexible re-payment mechanism for farmers and pastoralists dependent on rain and is planned to implement in the future.
7. Designed micro –finance policy and agreed with one micro-finance providers.
8. Validated adaptive farming technique and seeds in farmers land in many pilot sites.
9. Established farmers groups and also registered farmers’ cooperatives.
10. Local communities trained and involved in measuring rainfall.
11. Some trainings to farmers, insurance agencies and meteorology staffs were conducted.

Summary of the Project’s achievements is given directly below, followed by an outline of the attainment of objectives. A summary evaluation of Project Outputs is given in Table 5 followed by a more detailed description. A detailed evaluation of the level of achievements made against the indicators of success contained in the log frame is given in Annex IV.

Summary of Achievements

Project results were measured against achievement indicators guided by evaluation questions (tracking tools, Annex X). The CRF Project has been well designed, but weak in management and implementation. The project team managed to deliver few of the interventions that could not contribute to the expected level. It helped to enhance weather monitoring capacity of the government of Sudan. A National and state levels. Project helped to establish automatic weather stations in six pilot states and also established 162 rain gauges in pilot villages. This project also helped to establish central data base on weather and climate with provision of regular updating. It also generated awareness among stakeholders involved in CRF activities directly or indirectly. The most important achievement of this project is that it brought different ministries, local government and research institutions to one platform to work together but expected level of communication was lacking. Further intuitional arrangement, capacity enhancement, establishment of central database and development of communication and working modality are the things which will contribute to achieve targeted objectives of this project in the future.

Overall, the Project achievement was very limited and couldn’t yield desired global environmental benefits, due to many shortcomings. The project can be presented as “poor practice”, and hence its attainment of objectives and results is evaluated as **Moderately Unsatisfactory**.

The main problem areas identified by the MTR consultant are:

- The change of Secretary General at the HCENR three times and also turnover of staff in the PMU

- The transfer of trained staff in partner organisation will affect the continuation of the outcome of this project;
- At the time of MTR, no guaranteed commitment from any non-governmental/development partners was available to the future farmer and pastoralist support program and to continue upgrading technical capacity to adopt new methodologies or technology.
- Serious communication and coordination between implementing institution and partner organisation was observed.
- Still many equipment are not purchased yet (CB Radios, 200mobile phone, 6automatic synoptic stations with telemetry, 8water level meters, 3 current meters). Similarly, several training and capacity enhancement activities not carried out. Money paid to supplier for high resolution data but data is not received yet because project was not able to provide boundary information (geo reference).
- Project management need to follow standard procedure of procurement and staff recruitment to maintain quality and also for cost effectiveness. Similarly, project management need to understand project properly and different activities, roles and responsibility need to be clear to all partners. Similarly, salary scale didn't follow provisioned amount in the project document. Salary of PM was slightly more and salary of Finance and Admin Officer was more than double then provisioned in the project document. While salary of recently recruited M&E expert was less and Communication expert was far less than provisioned in project document. This is one of the reason of increase in management cost.

Objective Indicators

A single "Project Goal" and single "Project Objective" was articulated in the log frame with the development objective. The overall project goal is to enable GoS to design public policies and measures for mitigation and adaptation to address climate change, through strengthening technical capacity and institutional arrangement at national and local level and by assessing environmental, social and economic impacts of implementing these mitigation and adaptation policies. The objective is to increase climate resilience of rain-fed farmer and pastoral communities in regions of high rainfall variability through climate risk financing. The project aims to achieve its stated objective through 3component and 3 outcomes. For the 3 outcomes, series of 12 outputs were defined. Full details and an evaluation of achievements against targets are provided in Annex IV. By the Mid-term review period, Project was able to accomplish only few of its activities and progress was going on a very slow pace. Project was able to train less than targeted number of personnel of the government and private institutions.

Effectiveness and Efficiency

Cost-effectiveness

The UNDP Guidance for Conducting Review/Evaluation of UNDP-supported Projects defines the criteria of "efficiency" as:

"The extent to which results have been delivered with the least costly resources possible; also called cost effectiveness or efficacy."

The Project did not appear cost-effective since it has produced only limited of its planned deliverables exceeding its original GEF budget. All levels of the Project have not taken cost-effectiveness very seriously to get the best results for the money spent. The activities of all 3 components that are accomplished has exceeded the budgeted amount and achievement indicates lack of quality. The management cost exceeded the budgeted amount and in overall, project was not cost effective.

Project was not able to generate support from the different ministries and local government which also increase cost of the project. Committed contribution from government and private partners was not observed in action.

Project was able to achieve only limited outputs, and cost-effectiveness was not a priority of the implementing agency throughout, amongst their priorities. This, combined with limited levels of additional co-financing leveraged by the Project's activities, means the overall cost-effectiveness of the Project has been poor, and hence it is evaluated as **Unsatisfactory**.

Project is able to achieve only few of its targeted level of expected outcomes or objectives and remaining ones are also in a slow process. Stakeholders were also found not very satisfied from the accomplishment of the project. They view that the project achievements could not make significant impacts and not able to meet the objective.

Though the project could not make changes in development planning processes and practices but increased some level of awareness among farmers which could have long term positive impact in Climate Change of global concern.

Project followed standard scientific methods and used qualified and experienced technical manpower which made implementation of few activities efficient and helped to achieve few target outcomes.

Project could not maintain good relation with all stakeholders and worked in isolation and this affected execution of activities efficiently with their cooperation to made effective impact.

3.3.3. Achievement of Project Output & Outcome

This section provides an overview of the main achievements of the Project. Considering the results achieved under each of the outcomes, and the progress toward the overall objective, the project effectiveness is rated **moderately unsatisfactory**. The CRF project generated few results, meeting only few of the planned accomplishments. The project objective was stated as *“to increase climate resilience of rain-fed farmer and pastoralist communities in region of high rainfall variability through climate risk financing”*

Based on the respective indicators and overall level of progress toward the four outcomes, the outcomes rating are as follows:

TABLE 5: Evaluation of the project situation as per the logframe up to mid-November 2016

Component	Evaluation*					
	HS	S	MS	MU	U	HU
Outcome 1: Institutional and technical capacity for climate observation, forecasting and early warning strengthened at national and local levels.						
Output 1.1: Rainfall modelling and simulations for six target states (River Nile, Gedarif, North Kordofan, and South Darfur, Kassala and White Nile States) to enable local flood forecasts and climate projections						
Output 1.2: Procurement of 7 automatic climate stations, 6 automatic synoptic stations with telemetry and 162 rain gauges; purchase of high resolution remote sensing data; and capacity reinforcement related to new products/equipment to enhance the availability, quality and transfer of real-time weather/climate data on 130,000 ha of drought-prone land for purposes of drought forecasting and early warning.						
Output 1.3: SMA, RSA and MoWRE are trained to provide sustainable services on weather / climate observation, risk analysis, forecasting and early warning including the establishment of a farm information management system and the revitalization of targeted seasonal forecast delivery for rain-fed farmers and pastoralists;						
Output 1.4: Improved communication protocols and mechanisms (i.e. partnership with mobile phone operators) to provide timely and accurate weather and climate risk forecasts to rain-fed farmers and pastoralists in 6 target states.						
Outcome 2: Residual climate risk to rural livelihoods in the states of greatest rainfall variability addressed through parametric insurance products.						
Output 2.1: Comparative analysis and feasibility assessment of different business models for index-based insurance						

Component	Evaluation*					
	HS	S	MS	MU	U	HU
Output 2.2: At least 6 index based risk transfer products (e.g., Weather Index Insurance) designed and introduced, covering at least 45,000 farmers and pastoralists who depend on rain-fed farming systems, including the creation of a nationally-based WII marketing and development team.						
Output 2.3: Insurance literacy programme / awareness campaign designed and delivered to small businesses, community-based organisations, local farmers and pastoral communities						
Output 2.4: Legal and regulatory framework for risk transfer in 6 target states assessed, policy recommendations developed and reinsurance secured						
Outcome 3: Improved access of needy farmers and pastoralists to financial services for climate change adaptation and disaster risk reduction						
Output 3.1 In each state at least 1 adaptation options/packages developed to inform and enable the provision of MFI credit packages to stimulate smallholder adaptation and disaster risk reduction including the transfer of adaptation technologies to make crop and livestock production more resilient						
Output 3.2 Legal and regulatory frameworks reviewed, analysed and improved to increase the co-provision of microcredit and micro-insurance services						
Output 3.3 At least three micro-credit, flexible loan products designed and tested to account for pastoral mobility and income cycles of smallholder rain-fed farmers and pastoralists (SRFP).						
Output 3.4 Organization and capacity development for smallholder rain-fed farmers and pastoralists (SRFP) on newly developed and targeted financial services including training on a financial services management manual						
Overall Project Rating						

* Note: HS = Highly satisfactory; S = Satisfactory; MS = Marginally satisfactory; MU= Marginally unsatisfactory; U = Unsatisfactory; HU = Highly unsatisfactory. Components are hyperlinked to relevant section.

The Project established six automatic weather stations with enhanced capacity for weather monitoring and reporting, initiated few river monitoring activities (many not initiated yet), validated adaptive farming technology using improved seeds (with few drawback), piloted WII in the project sites among farmers from rain-fed farming areas, formed farmers groups and cooperatives, involved farmers in rain monitoring and reporting and developed financial and insurance packages for pastoralists (yet to be implemented). Project outputs are ranked individually as **moderately satisfactory and unsatisfactory**; hence overall the achievement of outputs and activities is evaluated as **Moderately Unsatisfactory**.

Outputs and Progress status

Outcome 1: Institutional and technical capacity for climate observation, forecasting and early warning strengthened at national and local levels.

Output 1.1: *Rainfall modelling and simulations for six target states (River Nile, Gedarif, North Kordofan, and South Darfur, Kassala and White Nile States) to enable local flood forecasts and climate projections*

Renewal and purchase of hydrological modelling licences of hydromet software including training for nine (9) engineers with modelling software. Coverage of weather/climate monitoring is increased by about 30% in each of the 6 pilot states. 7 Automatic weather stations and 162 rain gauges were installed in the project communities in these states to conduct climate and rainfall monitoring but 8 water level meters, 3 current meters and 6 automatic synoptic with telemetry were not purchased yet. Price paid to EFTAS Co. for the high resolution data but boundary information (geo reference) is not provided so high resolution data was not received so rainfall modelling and simulations for six target states was not completed. Daily and seasonal bulletin and forecasts disseminated through state offices. But Early Warning were not initiated yet. Four institutions (RSA, SMA, MoWRE and ARC) met and discussed the issue among themselves but no action was taken to digitization of written hydrological/meteorological/climate/agricultural data for data rescue purposes and to facilitate the generation of climate predictions, weather forecasts and agricultural advisories.

Output 1.2: *Procurement of 7 automatic climate stations, 6 automatic synoptic stations with telemetry and 162 rain gauges; purchase of high resolution remote sensing data; and capacity reinforcement related to new products/equipment to enhance the availability, quality and transfer of real-time weather/climate data on 130,000 ha of drought-prone land for purposes of drought forecasting and early warning.*

Procurement and installation of 7 automatic climate stations and 162 rain gauges completed. Procurement of 6 automatic synoptic stations with telemetry is not done yet. Early warning system is not initiated yet.

Output 1.3: *SMA, RSA and MoWRE are trained to provide sustainable services on weather / climate observation, risk analysis, forecasting and early warning including the establishment of a farm information management system and the revitalization of targeted seasonal forecast delivery for rain-fed farmers and pastoralists;*

Daily and seasonal localised bulletin aired in radio. Some Automatic weather stations have problems due to either problem with the battery connected to automatic station (so no information supplied when cloudy or in the night) or lack of battery backup for the computer which stop recording when electricity goes off.

Weather Bulletin developed by the national and state SMA.

Mobile distribution and messaging EW on weather is not initiated yet.

Training to SMA, RSA and MoWRE to provide sustainable services on weather/climate observation, risk analysis, forecasting and early warning including information management system and the revitalization of targeted seasonal forecast delivery is not completed yet.

Output 1.4: *Improved communication protocols and mechanisms (i.e. partnership with mobile phone operators) to provide timely and accurate weather and climate risk forecasts to rain-fed farmers and pastoralists in 6 target states.*

No communication protocol and mechanism developed. Serious communication problem between PMU and partners. Purchase of CB radios and 200 mobile phones is not done yet. No negotiation made with mobile service providers to disseminate weather information and Early Warning to farmers and pastoralist.

The outputs has not achieved all its major targets, and yielded limited global environmental benefits, with many major shortcomings. These outputs can be presented as “poor practice” and is rated as **Moderately Satisfactory**. Project has not accomplished all activities of outcome 1 that were required to establish weather stations, improved communication protocols and mechanism, train SMA, RSA, and MoWRE, rain monitoring arrangement, flood forecast and climate projections, hence the outcome achievement is rated as **Moderately Satisfactory**.

Outcome 2: Residual climate risk to rural livelihoods in the states of greatest rainfall variability addressed through parametric insurance products.

Output 2.1: Comparative analysis and feasibility assessment of different business models for index-based insurance

Twenty WII products developed for project states. The approval from Supervisory is awaited. MoU and Agreement signed with Alnalain Insurance Company to conduct awareness on WII and pilot WII in selected four states (Gedarid, White Nile, South Darfur and Kassala). The target communities identified jointly with CRFP based on their willingness, availability of weather/climate devices, formation of farmers’ committee and Cooperatives and availability of local branch of the Insurance Company. The Insurance Company claimed piloting of WII among more than 1000 farmers as part of CRF project activities but the date of signing of MoU and agreement is behind the date of signing of insurance document with the farmers i.e. the insurance agreement certificate signed with farmer is dated before the agreement and MoU signed with the CRF project so those could not be considered activity of the project.

Output 2.2: At least 6 index based risk transfer products (e.g., Weather Index Insurance) designed and introduced, covering at least 45,000 farmers and pastoralists who depend on rain-fed farming systems, including the creation of a nationally-based WII marketing and development team.

Index based risk transfer product designed but not introduced yet. Weather modelling and other projects that are needed to initiate WII are not completed yet. Similarly, creation of marketing and development team yet to develop at the site level. Yet to wait to see market outlets and insurance agents in the rural areas to disseminate MF/WII products. I-Cloud secure data service for RSA, SMA, MOWRE, ARC, Ministry of Agriculture, Ministry of livestock, HAC and MFIs/Insurance Companies to access flow, meteorological, climate and satellite image data was not completed but process was initiated by hiring a consultant.

Output 2.3: Insurance literacy programme / awareness campaign designed and delivered to small businesses, community-based organisations, local farmers and pastoral communities

Some awareness programs conducted but not sufficiently. No literacy programme/awareness campaign designed and delivered to pastoralists.

Output 2.4: Legal and regulatory framework for risk transfer in 6 target states assessed, policy recommendations developed and reinsurance secured

Not completed yet.

The outputs has not achieved its major targets, and not able to yield substantial global environmental benefits, due to many major shortcomings. These outputs can be presented as “poor practice” and is rated as **Unsatisfactory**. Project has not accomplished most of the activities of outcome 2 that were required to legal and regulatory framework for risk transfer, Insurance literacy campaign delivered to farmers and pastoralists, develop risk transfer products and creation of marketing team, comparative

feasibility study of different business models, hence the outcome achievement is rated as Unsatisfactory.

Outcome 3: Improved access of needy farmers and pastoralists to financial services for climate change adaptation and disaster risk reduction

Output 3.1: *In each state at least 1 adaptation options/packages developed to inform and enable the provision of MFI credit packages to stimulate smallholder adaptation and disaster risk reduction including the transfer of adaptation technologies to make crop and livestock production more resilient*

Study for designing flexible loan products for pilot states conducted. Loan testing, delivery to farmers and pastoralists was not initiated yet.

Output 3.2: *Legal and regulatory frameworks reviewed, analysed and improved to increase the co-provision of microcredit and micro-insurance services*

Micro-financing policies were not developed yet.

Output 3.3: *At least three micro-credit, flexible loan products designed and tested to account for pastoral mobility and income cycles of smallholder rain-fed farmers and pastoralists (SRFP).*

Since Micro-finance policies are not developed, linking adaptation technologies is far to be initiated.

Output 3.4: *Organization and capacity development for smallholder rain-fed farmers and pastoralists (SRFP) on newly developed and targeted financial services including training on a financial services management manual*

Not initiated yet.

The outputs has not achieved all its major targets, and not able to yield substantial results, had major shortcomings. These outputs can be presented as “poor practice” and is rated as **Unsatisfactory**. Project was not able to accomplish all activities of outcome 3 that were required to develop resilience by developing adaptation packages with provision of MF, revise regulatory framework to improve provision of microcredits and micro-insurance, hence the outcome achievement is rated as Unsatisfactory.

3.3.4 Country Ownership

The project is developed to address the problems faced by the farmers and pastoralists from the Sudan’s rain-fed areas. It is in-line with Sudan’s Agricultural Revival Programme, which aims to achieve the development of the Agricultural sector by enabling small farmers in all farming subsectors to access micro-credit services to finance the adoption of appropriate technology packages and inputs. It also supports the “Strategy for the Development and Expansion of the Microfinance Sector in Sudan”, launched by the Central Bank of Sudan in 2007. The components of the project agree with the Strategic Plan (SP) for Sudan (2014-2017) which emphasizes building resilience through reforms that reduce financial risk and improve incentives for adaptation and mitigation responses that can work over the medium to long term. The project is also aligned with Sudan’s Country Program Action Plan (CPAP, 2013-2016) by cutting across Focus Area 1 (Poverty Reduction and Inclusive Growth) and Focus Area 2 (Environment, Energy and Natural Resource Management). This project also compliment Sudan’s priority needs and challenges identified in Sudan’s Five-Year National Development Plan (2012-2016) by focusing on cross-cutting issues of gender, environment and climate change, emergency preparedness and Disaster Risk Management. The project is furthermore fully aligned with the UNDAF (2013-2016) outcomes, which incorporate aspects of Sudan’s Three-Year Salvation Economic Programme 2011-

2013, the Interim Poverty Reduction Strategy Paper (I-PRSP), and the Twenty-five Years National Strategy (2007-2031). The project is also in-line with UNDP's Country Programme Document (CPD, 2013-2016), which builds on the UNDAF 2013-2016 and supports the implementation of key development priorities in the government's National Strategic Development Plan o 2012-2016.

3.3.5 Sustainability

The evaluation of the sustainability of this Project is most likely to be sustainable beyond the project life. As will be seen below, the sustainability at the Project level is actually very strong and it is difficult to see what more those involved could have done.

Financial: The outlook for the long-term financial sustainability of the project is uncertain as it is connected to the interest of the local and national government, and the financial institution. Ministry of Environment, Forestry and Physical Planning and partner institutions mentioned that they are committed to continue their support to these projects' activities. Similarly, the state government mentioned that they will continue their support and will utilise information in planning exercise which help to mitigate risk from climate change and different disasters. To support project activities, project included private sector for various activities but their support was not available as expected. Hence, it is difficult to expect their contribution for future. If the project management increase communication with the private sector to convince them to contribute what they committed during project development then financial sustainability will be likely. Hence at this, financial sustainability is **Unlikely**.

Socio-economic: The social sustainability of the project appears good. The increased awareness at the farmers' level have certainly been beneficial and undoubtedly changed people's minds at the National to local level government and other institutions involved in it in regards to management of Climate Risk. The empowerment of institutions through technical trainings and providing equipment has been one of the lynchpins upon which all change in performance occurs. It has contributed to the safety environment creation by increasing resilience. As a result, the socio-economic sustainability is adjudged to be **Likely**.

Institutional and Governance: The institutional sustainability of the Project is good at grassroots level but at national and local government level it is uncertain. Those agencies directly involved appear not committed towards its aims. Project involved all relevant ministries, university, research institution, local government and private sector in the various activities related to CRF project. Institutional set up was established and their capacity was not enhanced to the level desired i.e. not all capacity enhancement activities accomplished yet. Communication and coordination was very poor which affected project management and if not improved then could affect negatively in the future also. Frequent change of officials at higher position and turnover of staffs has affected project implementation. This could remain in the future also. Therefore, the institutional sustainability is believed to be **Unlikely**.

Environmental: Environment sustainability is one of the important elements of the project strategy. The project achievement will directly reduce vulnerability of life and property and also ecological resources of Sudan. At mid-term review stage expected level of establishment institution, capacity development, policy formulation and providing early warning to farmers and pastoralist on climate/weather forecast and securing farmers' and pastoralist through WII scheme were not achieved. Only achievement of these targets are met then only project outcomes becomes environmentally sustainable. It will be too early to judge environment sustainability of the project.

The overall sustainability of the regional component is ranked as **Unlikely**.

3.3.6 Ratings

104. As per UNDP guidelines, the MTR ratings are consolidated in Table 6 below.

Table 6: MTR Rating for Project Performance

Criterion	Comments	Rating
Monitoring and Evaluation		

Overall quality of M&E	Though M&E design was satisfactory, its implementation was weak and not able to support management or improve management weaknesses to the level expected.	Moderately Satisfactory
M&E design at project start up	The design of M&E was up to standard with a fully itemised and cost Plan included in the Project Document covering all the various M&E steps including the allocation of responsibilities.	Satisfactory
M&E Plan Implementation	M&E implementation was not to the standard expected in the plan, with weak progress monitoring and weak internal activity monitoring. The implementation/achievement/impact monitoring was weak part project's M&E which affected effectiveness and was not able to influence management decisions.	Moderately Satisfactory
IA & EA Execution:		
Overall Quality of Project Implementation/Execution	The Project was not well-organised and well-managed throughout and not able to provide products of the highest technical quality on time and within budget, not able to respond effectively to a range of internal and external challenges due to weak adaptive management.	Moderately Satisfactory
Implementing Agency Execution	Management was changed three times which affected project implementation. Lack of coordination and communication and lack of clear understanding among management body and partners affected integrated team approach.	Moderately Unsatisfactory
Executing Agency Execution	UNDP was not able to receive all information of project decisions and also not able to provide an adequate level of supervision and backstopping to the Project, and its performance has affected the result.	Moderately Satisfactory
Outcomes		
Overall Quality of Project Outcomes	Overall quality is of the moderate order.	Moderately Unsatisfactory
Relevance	The Project intervenes to monitor weather, implement insurance and finance related legislation, establish institution and enhance capacity and encourage adaptive farming and pastoralism, is congruent with GEF and national priorities, and remains pertinent in the light of the current levels of threat	Relevant
Effectiveness	A review of outcomes to impacts (ROtI) shows the overall likelihood of impacts being achieved is moderately Likely.	Moderately Unsatisfactory
Cost-effectiveness (Efficiency)	Project management costs has increased than budgeted and cost-effectiveness has not been a priority of the implementing partner throughout, amongst their priorities. This, combined with lack of committed co-financing by partners, means the overall cost-effectiveness of the Project has been very poor.	Unsatisfactory
Sustainability:		
Overall likelihood of risks to Sustainability	There are some risks and stakeholders didn't show reliable commitment so these risks may take place.	Unlikely
Financial resources	Government and partner organisations have not fulfilled committed co-financing and could not rely on such in the future as long-term commitment to the area.	Unlikely

Socio-economic	Local communities are made aware on the climate change adaption and adaptive farming. Similarly, they are aware of using weather information for safeguarding their crops. Hence socio-economic sustainability is likely.	Likely
Institutional framework and governance	Project assigned responsible institution and are technically and legally strengthened Institutionally but their commitment is unreliable.	Unlikely
Environmental	The project itself is designed to address Climate Change risk and there are evident risks.	Unlikely
Impact:		
Environmental Status Improvement	Improved to some extent Climate Change risk management among farmers; Generation of information on weather, and required legislation arrangement related to insurance and micro-finance with limited commitment of the government at all level was moderately satisfactory.	Minimum
Environmental Stress Reduction	Establishment of institution responsible for conducting regular monitoring of weather, capacity enhancement of farmers in use of weather information and adaptive farming practices will help reduce environmental stress to some extent. But limited commitment from government and private sector limits environment for proper management of Climate Change risk.	Minimum
Progress towards stress/status change	Generally limited – establishment of institutional set up at grassroots level for farmers (but not of pastoralist), arrangement of legislation but limitation of implementation, enhanced capacity of institutions to some level, and limitation of commitment from all sector.	Minimum
Overall Project Results		Moderately Unsatisfactory

4. Conclusion and Recommendation

4.1 Conclusion

The CRF Project is well designed but implementation was not well-managed. Though the Project has been underpinned by good science and a technical approach of the highest calibre due to lack of proper understanding about the different activities, their linkages and proper sequences of implementation affected project implementation. Moreover, communication and cooperation between partners further amplified the problem and due to that project was not able to accomplish activities of the Mid-term level target and also not able to deliver many of the expected results.

To address the Climate Change problems in rain-fed areas of Sudan, project attempted approaches like establishment of automatic weather stations in project areas to improve meteorological information collection and dissemination, arrangement of early warning to farmers and pastoralist on weather, train farmers and pastoralist on climate adaptive farming technique with adaptive seed variety, establish institution at local levels, awareness generation on climate change, capacity enhancement of local institution and other government and non-government institutions, transfer farmers' risk related to weather through Weather Index based Insurance and provide financial assistance through small grant and micro-finance schemes. But project could not complete several activities related to weather forecasting because some of the monitoring activities were not initiated due to lack of equipment which were not purchased yet. Similarly, project had not provided field site boundary information (geo reference) until now to Remote Sensing Authority which they had to provide to the supplier of high resolution data. Due to this, high resolution data was not available to further analysis on it. Similarly development of ICloud was just initiated which should have been initiated in the beginning of the project

implementation so that this could be used by other activities of the project like WII and agriculture and pastoralist activities. Only few piloting of WII initiated recently so it is possible to judge on its impact or success. Similarly, micro-finance program was not initiated yet. Project was also not able to bring contribution from the private sector as per expected in the project document. Some training was conducted to relevant organisation but still many trainings are due. No activities related to pastoralist were initiated yet. Important achievement of this project is establishment of 7 automatic weather stations and 162 rain gauges, awareness generation training and validation of adaptive agriculture practices involving farmers. From the impact and sustainability point of view, the most important action that will have long lasting impact in addressing climate change impacts is improvement in knowledge among farmers regarding weather information use and information on adaptive seeds and farming techniques.

Project planned to involve contribution from different institutions but in practice due to weak management, communication and coordination expected results were not achieved. Experts from all relevant ministries and local government were involved through the technical committee but its decision were not implemented. As per rules of the GEF, major changes in the project activities needs approval from the project board to send to GEF for their approval and only after approval from GEF those changed activities could be implemented but against such provision, agreement was signed with Insurance Company to pay them money for conducting activities related to WII and first instalment was already issued. Similarly, PMU staffs' salary does not follow the salary provision made in the project document and also hiring process didn't follow the procurement process. Procurement of equipment through UNDP could assure quality and also reduce cost but it was done by relevant ministries by themselves and equipment of automatic weather stations were from different companies with different formats of data storing. This could cause data compiling problem as they may not be compatible to each other. Similarly, some of the equipment already started creating problems and were not repaired for several weeks which raise suspect on the quality of the equipment and warranty. If it was warranted product then should have repaired immediately without hampering the data collection for so long time. Computers of some of the weather station that receive data had no battery backup and due to that data gap was created during electricity interruptions. Similarly, battery that supply power to weather station of one station had problem and due to that data was not supplied during night and also in the cloudy day. Those weather stations were providing data only during sunny time as it receives power from solar cell.

Some sites didn't had validation plots while some others had problem. There are many activities still left to be carried out but time is very limited for them. Initiation of project implementation was delayed in the beginning so to compensate that and also provide time to implement remaining activities, it is recommended to extent project end date by six month without increasing cost i.e. no cost extension. In the remaining period of the project, first the project management and implementing partners need to understand each and every activities and their linkages and sequences of implementation and also need to improve communication and coordination with partner organisations, reduce management cost, procure remaining equipment through standard procedure, bring committed contribution from private sector and government institutions, correct mistakes of the past and implement remaining activities in a very fast pace to achieve all remaining activities.

4.2 Recommendations

Corrective Actions for the Design, Implementation, Monitoring and Evaluation of the Project

- HCENR (PMU) should initiate dialogue with all partners and establish good communication.
- Lack of understanding about the project among staffs of PMU and partners was observed. PMU and partners need to understand each and every activities, their linkages, implementation sequences and responsibilities of different institutions. In this project output of one agency/consultant compliment input/activities of another agency. Therefore, sequencing of activities is very important and delay of one activity affect another. One observed case was delay in purchase of high resolution data was due to lack of geo-references of boundaries of project field sites which supposed to be provided

by another agency after conducting field survey. When remote sensing agency requested for boundary information they were provided with village names but not the geo references. Delay in purchasing of geo-reference affected further analysis that supposed to be conducted on high resolution data. Another example of lack of understanding of project is signing of agreement with Insurance Company to pay them money for promoting WII and also paying premium of more than 1000 farmers. There is no provision in the project document to pay money to private sectors rather it expect contribution from private sectors and other government and semi-government institutions. The lack of understanding and confusion is created because the inception workshop was of only two hours and it didn't had sufficient time to discuss in detail each and every activities, baseline and target indicators, implementation approaches, budget, risk, assumption and role of different institutions and schedule of implementation. Hence, an interaction workshop should be conducted by the PMU involving all partners to discuss all above mentioned activities so that no confusion remains and there will be good understanding among every partners and PMU staff. UNDP from its global network should help to arrange technical expert for some time to assist the project to clarify everything in the workshop and also latter in planning and implementation process.

- Frequent change in management staffs should be avoided as it will hamper project implementation. Annual review of risks and assumptions should be conducted and mitigation measures should be adopted. Implementing agency should follow standard procedure of staff recruitment and procurement of equipment. UNDP has standard procurement process and conducting procurement through UNDP assures quality and also decrease cost as UNDP gets custom waiver. Only warranted equipment should be purchased and the supplier should have their agency in Sudan so that in case of any damage or technical fault supplier's assistance could be received immediately. Purchase remaining equipment immediately following standard procurement mechanism so that activities will not be further delayed. Also immediately repair damaged weather station equipment/batteries and also arrange battery back up to the computers that receives data from automatic weather station. Lack of batter back up will result affect recording of data during power supply interruption. Activities that are not included in project document should only be initiated after receiving approval from the donor (GEF).
- As planned in the project activities, mobiles should be distributed to head farmer and the person who measure rainfall to facilitate regular rain information updating and also to provide early warning to farmers. Also negotiate with Mobile companies, National Television, National and local radios to transmit/air weather/climate information and early weather warning to the farmers and Pastoralists.
- Project monitoring from UNDP, Project Board and PMU was found weak. Close monitoring of each and every activities of project is needed. Project has limited time left to implement remaining activities so Project board, UNDP and PMU and technical committee should monitor each and every activities regularly and provide feedback immediately so that activities will be implemented and accomplished on time maintaining quality. Monitoring and timely technical advice from the regional technical advisor is also needed to improve project implementation and quality assurance.
- In one site, validation was found conducted in University compound which is not the plan of the project as farmers couldn't see every day activities. Validation should be carried out in farmer's field involving them so that they learn every details of adaptive farming technique. Validation should be conducted on right time and use right seed. Activities related to pastoralists are left behind so initiate them immediately so that impact could be observed within the project life.
- Baseline should have been established by the first year of the project. But baseline information of three activities were not established yet. Complete all baselines so that it

will be easier to evaluate the impact of intervention. Similarly, project has not filled in GEF adaptation tracking tools with baseline information. PMU should immediately fill in GEF adaptation tracking tools so that at the end evaluation this could be used to see the impact.

Actions to follow up or reinforce Initial Benefits from the Project

- Focal Ministry i.e. Ministry of Environment, Natural Resources and Physical Development need to put more effort to strengthen communication and coordination between relevant ministries, research institutes and Private sectors to speed up delayed activities and also to bring contributions from them to the project.
- As already mentioned above, Project Board, Project Manager, technical committee and UNDP needs to Monitor activities of the project more closely and provide feedback immediately because many of the activities are delayed and some are not initiated yet.

Proposal for Future Directions underlying Main Objectives

- Communication and coordination plan should be developed clearly in the beginning of the project. Identify person/agency for coordinating with all partners so that lack of coordination could affect the program implementation. Procurements should be done through the standard procurement system of UNDP which not only reduce cost (as UNDP could get custom waiver) but also assure quality and warranty.
- More detail homework is needed regarding private sectors involvement. Every steps of their involvement, required policy or other legal arrangements and institutional arrangements should be clearly outlines at the project development phase. If private sectors identified during project development phase don't show interest to fulfil their commitment then explore other institutions who will be interested to join the project and contribute.
- Lack of coordination and communication is observed between different government agencies, research institutions and private sectors. Activities were carried out in isolation and partners were not informed progress of implementation of various component which also indicates management didn't understand linkage of each and every activities and institutions. Due to this many activities were left behind. Hence, arrangement is needed to make all partners aware on progress of project implementation so that every partner prepare themselves for their part on right time.

Annex I: Terms of Reference for Terminal Evaluation

Background

This is the Terms of Reference (ToR) for the UNDP-GEF Midterm Review (MTR) of the full-sized project titled Climate Risk Finance for Sustainable and Climate Resilient Rain-fed Farming and Pastoral Systems (PIMS 4591) implemented through the Higher Council for Environment and Natural Resources (HCENR). The project started on the 29th of September 2014 and is in its third year of implementation. In line with the UNDP-GEF Guidance on MTRs, this MTR process was initiated before the submission of the second Project Implementation Report (PIR). This ToR sets out the expectations for this MTR. The MTR process must follow the guidance outlined in the document Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects.

Duties and Responsibilities

The MTR will assess progress towards the achievement of the project objectives and outcomes as specified in the Project Document, and assess early signs of project success or failure with the goal of identifying the necessary changes to be made in order to set the project on-track to achieve its intended results. The MTR will also review the project's strategy, its risks to sustainability.

Competencies

- Corporate Competencies
- Demonstrates integrity by modelling the UN's values and ethical standards;
- Promotes the vision, mission, and strategic goals of UNDP;
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability;
- Treats all people fairly without favouritism;
- Ability to work with a multi-cultural and diverse team.
- Functional Competencies:
- Experience working in the Arab Region;
- Project evaluation/review experiences;
- Excellent communication skills;
- Demonstrable analytical skills.

Required Skills and Experience

Qualifications

A Master's degree in energy, environment, climate or other closely related field.

Experience

- Work experience in relevant technical areas for at least 10 years;
- Demonstrated understanding of issues related to gender and Climate Change Adaptation and Sustainable Development); experience in gender sensitive evaluation and analysis;
- Experience applying SMART indicators and reconstructing or validating baseline scenarios;
- Experience in adaptive management, as applied to Climate Change Adaptation and Sustainable Development;
- Experience working with the GEF or GEF-evaluations;
- Recent experience with result-based management evaluation methodologies;
- Project evaluation/review experiences within United Nations system will be considered an asset.

Language

English

Annex II: Itinerary of Activities of the Mid-term Review Mission

Date/Time	Agenda/Activity	Venue
Sunday October 29, 2017		
	International Consultant arrive Khartoum	
Monday, October 30, 2017		
9:00 – 10:00 AM	Meeting with UNDP	UNDP Offices
10:30 – 11:30 AM	Meeting with project staff	HCENR premises
11:30 – 12:00	Meeting with Secretary General, HCENR	HCENR SG Office
12:00 – 12:30	Lunch break	HCENR premises
13:00 – 14:00	Meeting with staff of En-Neelain Insurance company	En-Neelain Insurance company office
14:00 – 15:00	Meeting with Sudan Meteorological Authority (SME)	SME Office
15:00 – 16:00	Meeting with Sudan GEF Focal Point, Ministry of Environment Natural Resources and Physical Development	MENRPD, GEF Focal Point Office
Tuesday, October 31, 2017		
07:00 – 09:00	Drive to White Nile State, Ed Duiem	Stop at the farms at Um Gadad, Goz Kinaina and Habeela
09:30 – 12:30 13:30 – 16:30	Proceed to Kosti, field visits and meet the Technical Committee and stay overnight	Director General Office of Ministry of Agriculture, White Nile State
Wednesday November 1, 2017		
07:00-08:00	Stop at farms at Saleema, Allah Kareem and Um Na'am proceed to El-Obeid	Tendalti Locality
08:30 – 12:30 13:00 – 15:00 15:30 – 17:30	Field visits Meeting with the Technical Committee members of North Kordofan State	Foga and El Ihaimrat, Bara Locality Director General Office of Ministry of Agriculture, North Kordofan State, El-Oeid
Thursday, November 2, 2017		
08:30 – 09:30	Field visits (to be arranged with the State Coordinator)	
10:00 – 17:00	Drive back to Khartoum	
Friday, November 3, 2017		
Saturday, November 4, 2017		
	Fly to Nyala, South Darfur	
10:00 – 12:00	Meeting with Technical Committee members of South Darfur State	Director General Office of Ministry of Agriculture, South Darfur State
12:30 – 15:30	Field visits	
Sunday November 5, 2017		
08:30 – 13:00	Field visits	
Monday November 6, 2017		
	Fly back to Khartoum	
Tuesday November 7, 2017		
	Meetings with other stakeholders and report writing	

Annex III: Persons Interviewed

Attendance of UNDP Meeting, Date: 30 October 2017

#	Name	Affiliation
1	Ms. Hanan Mutwakil	Team Leader, Sustainable Livelihood
2	Nourallah Ahmed Yassin	Programme Analyst, Sustainable Livelihood
3	Ahmed Ali	Project Associate, Sustainable Livelihood
4	Ga'afar El-Sheikh	Project Associate, Energy Projects
5	Ms. Shama Mekki El-Khalifa	Project Associate, Sustainable Livelihood

Attendance of Minister of Environment, Natural Resources and Urban Development (MoENRPD)

Meeting, Date: 30 October 2017

#	Name	Affiliation
1	Dr. Hassan Abdel-Gadir Hilal	Minister of ENRPD
2	Prof. Mirghani Ibnoaf	National Project Manager, CRFP
3	Abdelrahman El Hadi Omer	Admin and Finance Officer, CRFP
4	Nourallah Ahmed Yassin	Project Associate, Sustainable Livelihood

Attendance of CRFP Staff Meeting, Date: 30 October 2017

#	Name	Affiliation
1	Prof. Mirghani Ibnoaf	National Project Manager, CRFP
2	Dr. Awatif Abdel-Gadir	Deputy Director, CRFP
3	Abdelrahman El Hadi Omer	Admin and Finance Officer, CRFP
4	Eiman Suliman	Secretary, CRFP

Attendance of El Nilein Insurance Company Meeting, Date: 30 October 2017

#	Name	Affiliation
1	Dr. Hassan Ahmed Kabashi	Assistant General Manager of Agriculture and Livestock Insurance
2	Eng. Hassan Ibahim El Hassan	Agriculture Consultant
3	Ms. Hiba Abdel-Raheem	Weather Index-based Insurance Officer
4	Ms. Marwa Ahmed Dafaallah	Weather Index-based Insurance Officer
5	Ms. Amel Mohamed Alamin Elbassir	Livestock Insurance Officer
6	Yassir Ali Ahmed	Weather Index-based Insurance Officer

Attendance of Sudan Meteorological Authority (SMA) Meeting, Date: 30 October 2017

#	Name	Affiliation
1	Dr. Ahmed Mohammed Abdel-Kareem	Director General, SMA
2	Ms. Badira Abdel-Rahman	CRFP Focal point within SMA
3	Dr. Awatif Abdel-Gadir	Deputy Director, CRFP

Attendance of UNDP Meeting, Date: 30 October 2017

#	Name	Affiliation
1	Dr. Min Htut Yin	Team Leader, Environment and Energy Unit
2	Ms. Hanan Mutwakil	Team Leader, Sustainable Livelihood

3	Ms. Intisar Ali Salih	Programme Analyst, Sustainable Livelihood
4	Nourallah Ahmed Yassin	Programme Analyst, Sustainable Livelihood

Attendance of Meeting with Ministry of Water Resources and Electricity

Date: 31 October 2017

#	Name	Affiliation
1	Eng. Babikir	General Directorate for Nile Water and Dams Affairs (GDNWDA)
2	Eng. Rudwan Abdel-Rahman Mohammed	GDNWDA
3	Eng. Ahmed Eltayeb	Dams Administration

Attendance of Meeting with ICloud Consultant, University of Khartoum

Date: 01 November 2017

#	Name	Affiliation
1	Dr. El-Tayeb Ghanawa	Lecturer, Faculty of Geography and Environment
2	Mr. Mohammed Mahmoud	Geoinformatic Specialist, Future University

Attendance of Meeting with the Agricultural Research Corporation Scientists,

Date: 01 November 2017

	Name	Affiliation
1	Prof. Faisal El Hag Ahmed	Dry Land Research Center, Agricultural Research Corporation
2	Dr. El-Waleed Mohammed El-Amin	Scientist, Dry Land Research Center

Attendance of Meeting with White Nile State Agricultural Research Station Staff,

Date: 02 November 2017

#	Name	Affiliation
1	Dr. Amna Ahmed Abdallah El-Tahir	Scientist in charge of validation trials and CRFP state Coordinator
2	Manahil Abdallah Ali	Extensionist
3	Mahdi Ali	Extensionist
4	Mubarak Ali Mohammed	Extensionist

Attendance of Meeting with Allah Kareem Community, Tendelti Locality, White Nile State

Date: 02

November 2017

#	Name	Affiliation
1	Awad Mohammed Eisa	Chief of the village
2	Ramada Saeed Mohammed	Member
3	Ahmed Mohammed Abdallah	Member
4	Osman Suliman Ali	Member
5	Suliman Adam Haroun	Member
6	Dr. Amna El-Tahir	CRFP White Nile State Coordinator

Attendance of Meeting with Saleema El-Mahata Community, Tendelti Locality, White Nile State

Date: 02 November 2017

#	Name	Affiliation
1	Ms. Fatima El Saig Eisa	Leader of the group of farmers
2	Ms. Dar el Naeem Ismaiel	Member

3	Ahmed El Khidir Dawood	Chief of the village
4	Ad Dai Bakhiet	Member
5	Ibrahim Ahmed	Member
6	Dr. Amna El-Tahir	CRFP White Nile State Coordinator
7	Mahdi Ali	Extensionist, TTEA
8	Abdelrahman El Hadi Omer	Admin and Finance Officer, CRFP

Attendance of Meeting with Um Gadad Community, Ed Duaim Locality, White Nile State

Date: 03 November 2017

#	Name	Affiliation
1	Mohammed Ahmed El-Nour	Farmer
2	Fath-Alrahman Ahmed	Farmer
3	Al Haseen El-Tayeb	Farmer
4	Anas Mohammed	Farmer
5	Ahmed Mohammed	Farmer
6	Mahdi Ali	Extensionist, TTEA, White Nile State
7	Hamid Ed Doma Abdel-Rahman	El Nilein Insurance Company – White Nile State

Attendance of Meeting with Ed Duaim Automatic Weather Station Technicians,

Ed Duaim, White Nile State Date: 03 November 2017

#	Name	Affiliation
1	El-Daw Ali Khair Allah	Senior Technician of the Automatic Weather Station
2	Guma'a Nasir	Technician, Automatic Weather Station
5	Ahmed Siddig Ahmed Mohammed	CRFP, South Darfur State Coordinator
6	Hamid Ed Doma Abdel-Rahman	El Nilein Insurance Company – White Nile State

Attendance of Meeting with the Technical Committee, South Darfur State

Date: 04 November 2017

#	Name	Affiliation
1	Ahmed Abdel-Rahman Mekki	Director General, Ministry of Agriculture, Forestry and Irrigation and Head of the Technical Committee
2	Dr. Imam Malik Ali	Director, Nyala Agricultural Research Station and Coordinator of the validation trials
3	Rahama Ahmed Suliman	Ground Water and Wadis Department
4	Ahmed Abdel-Hameed Mohammed	Head of Nyala Meteorological Station, SMA
5	Dr. Abdel-Rahman Mohammed Tahir	HCERN, Climate Change Focal point and NAPA Project representative
6	Ismail Mohammed Ismail	Director, Technology Transfer and Extension Administration (TTEA)
7	Mukhtar Bashir Adam	Agricultural Bank of Sudan, Nyala Branch
8	Ahmed Siddig Ahmed Mohammed	CRFP, South Darfur State Coordinator
9	Yassir Ahmed Sayed	Economic Security

Attendance of Meeting with Amakasara village Community, El Marshing Locality

Date: 04 November 2017

#	Name	Affiliation
1	Adam Musa Abbakar	Head of Kaira Agricultural Society
2	Yagoub Abdel-Rahman Adam	
3	Yagoub Abdel-Raheem Ibrahim	
4	Mohammed Eisa Suliman	
5	Aisha Adam Ibrahim	Member of the Society
6	Fatima Eisa Saleh	Member of the Society
7	Ahmed Siddig Ahmed Mohammed	CRFP, South Darfur State Coordinator
8	Hamid Ed Doma Abdel-Rahman	El Nilein Insurance Company – White Nile State

Attendance of Meeting with Aro Gamaily village Community, South Nyala Locality

Date: 05 November 2017

#	Name	Affiliation
1	Mohammed Mohamadain Mohammed	Head of Aro Gamaily Agricultural Committee
2	Ahmed Abdel-Raheem Abdel-Rasoul	
3	Osman Abbakar Osman	Member of the committee
4	Adam Mohammed Nour Osman	Member of the committee
5	Abdel-Rahman Abdel-Gadir Abdel-Mageed	Member of the committee
6	Ismail Suliman Ismail	Member of the committee
7	Ahmed Siddig Ahmed Mohammed	CRFP, South Darfur State Coordinator
8	Hamid Ed Doma Abdel-Rahman	El Nilein Insurance Company – White Nile State

Attendance of Meeting with Kombola village Community, Belail Locality

Date: 05 November 2017

#	Name	Affiliation
1	Noureldin Ishag Mohammed	Head of Agricultural Society for Kombola area
2	Ms. Safia Ishag Mahmoud	Treasurer
3	Abdel-Mageed Abdallah Adoum	Member of the Society
4	Ahmed Idrees Ayoub	Member of the Society
5	Adam Ishag Mahmoud	Member of the Society
6	Ahmed Siddig Ahmed Mohammed	CRFP, South Darfur State Coordinator
7	Hamid Ed Doma Abdel-Rahman	El Nilein Insurance Company – White Nile State

Attendance of Meeting with the Operator of Nyala Automatic Weather Station

Date: 05 November 2017

#	Name	Affiliation
1	Mohammed Abdel-Rahman El-Amin	Scientist, ARC, Nyala Research Station and automatic weather station operator
2	Ahmed Siddig Ahmed Mohammed	CRFP, South Darfur State Coordinator

Attendance of Meeting with Remote Sensing and Seismology Authority (RSSA) Staff

Date: 07 November 2017

#	Name	Affiliation
1	Dr. Solafa Babikir Mohammed	Director, RSSA
2	Dr. Amna Ahmed Hamid	Former Director of RSSA
3	Sara Khogali	Researcher, RSSA

Attendance of Meeting with the Agricultural Bank of Sudan (ABS) Staff
Date: 07 November 2017

#	Name	Affiliation
1	Abdel-Mutalab Abdel-Rahman Ahmed	ABSUMI Central Coordinator
2	Yasser Mubarak Abdulla	Financial and Admin Manager and CRFP Focal point
3	Ms. Mahasin El-Sadig Giha	

Attendance of Debriefing Meeting with Minister of Environment, Natural Resources and Urban Development and the Staff Date: 08 November 2017

#	Name	Affiliation
1	Dr. Hassan Abdel-Gadir Hilal	Minister of ENRPD
2	Dr. Omer	First Under Secretary, Ministry of ENRPD
4	Dr. Awatif	CRFP Deputy Director
5	Ismail	M and E Officer

Attendance of Debriefing Meeting with UNDP Staff Date: 08 November 2017

#	Name	Affiliation
1	Selva Ramachandran	Country Director
2	Hideko Hadzialic	Deputy Country Director
3	Dr. Min Htut Yin	Team Leader, Environment and Energy Unit
4	Ms. Hanan Mutwakil	Team Leader, Sustainable Livelihood
5	Ms. Intisar Ali Salih	Programme Analyst, Sustainable Livelihood
6	Nourallah Ahmed Yassin	Programme Analyst, Sustainable Livelihood

Attendance of Meeting with the former CRFP Communication Officer Date: 09 November 2017

#	Name	Affiliation
1	Mahmoud Awad Mekki	Ex CRFP Communication Officer

Attendance of Meeting with Ministry of International Cooperation Date: 09 November 2017

#	Name	Affiliation
1	Ambassador Mohamed Yousif Hassan (PhD)	Director General, General Directorate of International Organizations and Economic Blocs
2	Ismail Elsharif Eldaw	Deputy Director of UN Organizations

Attendance of Debriefing Meeting with Stakeholders Date: 09 November 2017

#	Name	Affiliation
1	Prof Faisal El-Hag Ahmed	Dry Land Research Center, Agricultural Research Corporation

2	Dr. Solafa Babikir Mohammed	Director, Remote Sensing and Seismology Authority (RSSA)
3	Ms. Shahinda Abdel-Rahman	Researcher, RSSA
4	Ms. Badria Abdel-Rahman	Sudan Meteorological Authority
5	Eng. Hassan Ibrahim El-Hassan	Agriculture Consultant
6	Prof. Mirghani Ibnoaf	National Project Manager, CRFP
7	Dr. Awatif Abdel-Gadir	Deputy Director, CRFP
8	Abdelrahman El Hadi Omer	Admin and Finance Officer, CRFP
9	Eiman Suliman	Secretary, CRFP

Annex IV: Summary Evaluation of Project Achievements by Objectives and Outcomes

The Project logframe in the Project Document was revised in the Inception Report. The present evaluation matrix uses the version contained in the Inception Report.

KEY:

GREEN = Indicators show achievement successful at the end of the Project.

YELLOW = Indicators show achievement nearly successful at the end of the Project.

RED = Indicators not achieved at the end of Project.

HATCHED COLOUR = estimate; situation either unclear or indicator inadequate to make a firm assessment against.

Project Title: Climate Risk Finance for Sustainable and Climate Resilient Rain-fed Farming and Pastoral Systems.

	Indicator	Baseline	Targets End of Project	Mid-term Level Achievement	Rating
Project Objective (equivalent to output in ATLAS) To increase climate resilience of rain-fed farmer and pastoral communities in regions of high rainfall variability through	1.1. Number of small-holder rain-fed farmers and pastoralist households with access to MF or MF/WII products disaggregated by gender, youth, regions and sector	1.1. 93,500 with access to MF, zero access to MF/WII;	1.1. 138,500 small-holder rain-fed farmers and pastoralists (SRFP) with access to MF and 45,000 SRFP with access to MF/WII (Disaggregation TBC)	Only some about 1000 farmers are piloted in WII scheme with the financial support from the project to pay premium. MF activities not initiated yet for both farmers and Pastoralist. WII activities not initiated for pastoralists. I-clouds were not developed yet to share with insurance companies. Some awareness on WII for farmers were conducted.	MS
		1.2 Annual O&M budgets for weather and climate monitoring institutions are	1.2. 30% (186,900 USD) increase in domestic financing for equipment/product operation and maintenance across all	Project partners (SMS, RSA, ARC and MoWRIE) provided office space and support staff at national and state levels. Monitoring of automatic weather station and collection of other weather information, river measurement etc. are also carried by partners. It is	MS

	information and early warnings (disaggregated by gender and producer type).		% Men who receive EWS alerts/CI in target states: <u>15%; disaggregation by producer will be confirmed.</u>		
	1.3.Frequency of forecast bulletins provided	1.3Seasonal; daily bulletins	1.3.1 Localized daily and seasonal bulletins for each state 1.3.2 Development of at least 2 tailored bulletins 1.3.3 Mobile Advisory Messages (SMS) ²	1.3.1 Daily and seasonal localised bulletin aired in radio. 1.3.2 Bulleting developed by the national and state SMA. 1.3.3 Mobile distribution and messaging EW on weather is not initiated yet.	MS MS U
Outcome 2 (equivalent to activity in ATLAS) Residual climate risk to rural livelihoods in the states of greatest rainfall variability addressed through parametric insurance products	2.1 WII product/s created for rain-fed farmers / pastoralists 2.2. % increase in the number of market outlets and insurance agents in the rural areas to disseminate MF / WII products	WII products have never existed in Sudan 2.2.TBC 2.3. Average speed of claim resettlement in all 6 target states over the past 10	2. 1. At least one WII product piloted in 1 state 2.3 <u>TBC</u> 2.3. Average speed of claim resettlement in all 6 targeted states by the end of the project is 15 days	2.1 Twenty WII products developed for project states. The approval from Supervisory is awaited. MoU and Agreement signed with Alnalain Insurance company to conduct awareness on WII and also pilot WII in selected four states (Gedarid, White Nile, South Darfur and Kassala). The target communities identified jointly with CRFP based on their willingness, availability of weather/climate devices, formation of farmers' committee and Cooperatives and availability of local branch of the Insurance Company. 2.2 Yet to wait to see market outlets and insurance agents in the rural areas to disseminate MF/WII products. 2.3 Not yet seen. Have to wait to see speed of claim resettlement in all the targeted states. Expected to see after at least completion of one year of piloting of these products.	MS U U

² As part of the targets a presentation of market research plan on how to implement mobile phone based agricultural advisories, both supporting targeted weather/climate service delivery

	<p>2.3. Average speed of claim resettlement in all 6 States over the past 10 years</p> <p>2.4. Claims ratio in all 6 States over the past 10 years</p>	<p>years was 35 days</p> <p>2.4. Average claims ratio over the past 10 years in all 6 States was 0.62</p>	<p>2.4. Average claims ratio in all 6 target states by the end of the project is 0.8</p>	<p>2.4 Not yet seen. This may be seen only after piloting the WII/MF for at least one year.</p>	U
<p>Outcome 3 (equivalent to activity in ATLAS)</p> <p>Improved access of vulnerable farmers and pastoralists to financial services for climate change adaptation and disaster risk reduction</p>	<p>3.1. Number of loan products for adaptation farming and livestock production which provide flexible Re-payment schedules for farmers and pastoralists dependent on rain-fed practices</p> <p>3.2. Number of micro – finance policy</p>	<p>3.1 <u>There</u> are currently no MF products geared specifically towards SFFP in terms of flexible payment schedules and reasonable collateral requirements.</p> <p>3.2 <u>There</u> are no policies which mandate a link between MF and adaptation technologies and</p>	<p>3.1. At least 3 flexible MF products developed which are geared towards the needs of rain-fed farmers and pastoralists</p> <p>3.2. One micro-finance policy developed mandating the adoption of adaptation technologies for microfinance products tailored to rain-fed farmers and pastoralists</p>	<p>3.1 Study for designing flexible loan products for pilot states initiated. Loan testing, delivery to farmers and pastoralists was not initiated yet.</p> <p>3.2 Micro-financing policies were not developed yet.</p>	<p>U</p> <p>U</p>

	<p>designed and agreed upon by all micro-finance providers</p> <p>3.3. Number and type of adaptation technologies linked with microfinance services adopted by rain-fed farmers/pastoralists (disaggregated by gender to study women separately)</p> <p>3.4. % of the productivity and income of rain-fed farmers and pastoralists who use adaptation options/packages linked</p>	<p>therefore no formalized means to build the climate resilience of farmers and pastoralists so that they can be more productive and capable of paying back loans.</p> <p>3.3 other than in regions covered by the LDCF1 (first NAPA project), SRFPs do not have access to any adaptation technologies or packages.</p> <p>3.4 TBC</p>	<p>3.3. At least 3 adaptation technologies adopted by rain-fed farmers and pastoralists in the target states with 1 of these technologies targeting women or youth</p> <p>3.4. 10% increase in yield and/or income for rain-fed farmers and pastoralists who have access to improved financial services linked with adaptation technologies</p>	<p>3.3 Since Micro-finance policies are not developed, linking adaptation technologies is far to be initiated.</p> <p>3.4 Some farmers mentioned that their yield increased after adopting adaptive farming techniques and also improved seeds but these are not adaptation options/packages linked with MF/WII. Study to assess quantity increase had to be conducted to understand change in yield quantity.</p> <p>(Some validation of adaptive farming technique were practiced but not linked to WII and such validation was missing in some villages. In few areas validation didn't work and resulted in crop damage.)</p>	<p>U</p> <p>U</p>
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	with MF/MI (as compared with non- participating farmers/pasto ralists)				
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Annex V: Revised Table of Project Indicators

<p>This project will contribute to achieving the following:</p> <p>OUTCOME 1: Growth and development are inclusive and sustainable, incorporating productive capacities that create employment and livelihoods for the poor and excluded;</p> <p>SP OUTPUT 1.3: Solutions developed at national and subnational levels for sustainable management of natural resources ecosystem services chemicals and waste.</p> <p>UNDAF/CPAP OUTCOME 1: People in Sudan, with special attention to youth, women and populations in need, have improved opportunities for decent work and sustainable livelihoods and are better protected from external shocks, thereby reducing poverty</p> <p>CPAP FOCUS AREA 1 OUTPUT 2: Equitable livelihoods initiatives for rural and urban communities are supported for recovery and development</p> <p>UNDAF/CPAP OUTCOME 2: Populations vulnerable to environmental risks and climate change become more resilient and relevant institutions are more effective in the management of natural resources</p> <p>CPAP FOCUS AREA 4 OUTPUT 1: Vulnerable communities to climate change and climatic risks adapted comprehensive sets of adaptation measures</p> <p>CPAP Focus AREA 4 OUTPUT 3: Environmental governance policies and regulatory frameworks for enabling better natural resources and risk management developed</p>
<p>Country Programme Outcome Indicators:</p> <p>UNDAF OUTCOME 1 INDICATOR 2: Number of private sector companies and microfinance institutions providing microfinance services</p> <p>UNDAF OUTCOME 2 INDICATOR 2: Number of vulnerable, especially female headed, households adopting climate change adaptation measures</p> <p>UNDAF OUTCOME 2 INDICATOR 4: Number of states with functioning early warning systems, including flood and drought preparedness systems</p>
<p>Primary Applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one): <u>Promote climate change adaptation</u></p>
<p>Applicable GEF Strategic Objective and Program:</p> <p>OBJECTIVE 2: Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional and global level</p>
<p>Applicable GEF Expected Outcomes:</p> <p>Outcome 2.1: Increased knowledge and understanding of climate variability and change-induced risks at country level and in targeted vulnerable areas</p> <p>Outcome 2.2: Strengthened adaptive capacity to reduce risks to climate-induced economic losses</p>

Applicable GEF Outcome Indicators:

- Relevant risk information disseminated to stakeholders
- Type and no. monitoring systems in place
- % of population covered by climate change risk measures

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
Project Objective³ (equivalent to output in ATLAS) To increase climate resilience of rain-fed farmer and pastoral communities in regions of high rainfall variability through climate risk financing	1.1. Number of small-holder rain-fed farmers and pastoralist households with access to MF or MF/WII products disaggregated by gender, youth, regions and sector (farmers and pastoralist) 1. 2.Domestic finance committed to the relevant institutions to monitor extreme weather and climate change	1.1. 93,500 with access to MF, zero access to MF/WII; 1.2 Annual O&M budgets for weather and climate monitoring institutions are approximately, MoWRE: USD 223,000, RSA: USD 100,000 and SMA: 300,000.	1.1. 138,500 small-holder rain-fed farmers and pastoralists (SRFP) with access to MF and 45,000 SRFP with access to MF/WII (Disaggregation TBC) 1.2. 30% (186,900 USD) increase in domestic financing for equipment/product operation and maintenance across all institutions (SMA, RSA, MoWRE, ARC)	1. CBoS reports and partners reports including commercial and specialized banks 2. MoWRE budget lines for recurring costs	RISK 1 Sudan does not have enough government financing to continue monitoring/research and will not be able to consider recurring O&M/training costs in government budget lines ASSUMPTION 1 Capacity for long-term planning and costing will be built in all information production agencies ASSUMPTION 2 There is sufficient political support and will within the relevant institutions to reinforce existing capacities for successful execution and implementation of the project.

³Objective (Atlas output) monitored quarterly ERBM and annually in APR/PIR

Outcome 1⁴ (equivalent to activity in ATLAS) Institutional and technical capacity for climate observation, forecasting and early warning strengthened at national and local levels	1.1. % increase in coverage for climate/weather monitoring in each of the 6 targeted states	1.1 To be confirmed (TBC)	1.1 TBC% increase in coverage for climate/weather monitoring in each of the 6 target states	1.1 Review of budget spent on equipment procurement and rehabilitation and data held on servers to show that new equipment is operational; review relevant institution records; mapping climate monitoring assets by state	RISK 3 Limited comprehension of weather/climate information and agricultural advisories ASSUMPTION 3 SMA has experience in providing forecasts to the farmers. Extension Services will be used to simplify and translate all messages into simplified and local languages for each target state
	1.2. % of rain-fed farmers and pastoralists with access to improved weather/climate information and early warnings (disaggregated by gender and producer type). 1.3.Frequency of forecast bulletins provided	1.2. % Women who receive EWS alerts/CI in target states: <u>5%</u> ; % Men who receive EWS alerts/CI in target states: <u>10%</u> 1.3Seasonal; daily bulletins	1.2. 50 % increase in population who have access to improved EWS/CI (% Women who received EWS alerts/CI in target states: <u>8%</u> % Men who receive EWS alerts/CI in target states: <u>15%</u> ; <u>disaggregation by producer will be confirmed.</u> 1.3.1 Localized daily and seasonal bulletins for each state	1.2.1 Gender disaggregated survey on receipt of alerts 1.2.2 Record of debriefings by HAC post extreme weather events 1.2.3 HAC/SMA record of end-user feedback 1.3. SMA forecast and bulletin archives	RISK 4 Data sharing is hindered by lack of coordination / willingness of agencies to share data or by technical constraints (e.g., bandwidth issues or local mobile telecommunication networks) ASSUMPTION 4 A cloud data portal for all relevant Stakeholders will be created to facilitate cross-sectorial knowledge sharing cross RISK 5

⁴All outcomes monitored annually in the APR/PIR. It is highly recommended not to have more than 4 outcomes.

			<p>1.3.2 Development of at least 2 tailored bulletins</p> <p>1.3.3 Mobile Advisory Messages (SMS)⁵</p>		<p>Trained, qualified engineers/technicians leave for more lucrative positions (“brain drain”). Unavailability and limited sustainability of requisite human resources and technical/operational capacities</p> <p>ASSUMPTIONS 5</p> <p>Personnel will be supported through international, regional and south-south cooperation knowledge sharing opportunities</p> <p>The Government will assist with recruitment and will mandate that trained personnel must remain working within their respective institution for 2 years in order to transfer knowledge. Sufficient qualified personnel within the NHMS will be available to handle the new equipment/models, data transmission/storage/treatment to prevent continuity breaks in monitoring.</p> <p>RISK 6</p> <p>Natural disasters (e.g., floods, strong winds) may damage infrastructure.</p>
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⁵ As part of the targets a presentation of market research plan on how to implement mobile phone based agricultural advisories, both supporting targeted weather/climate service delivery

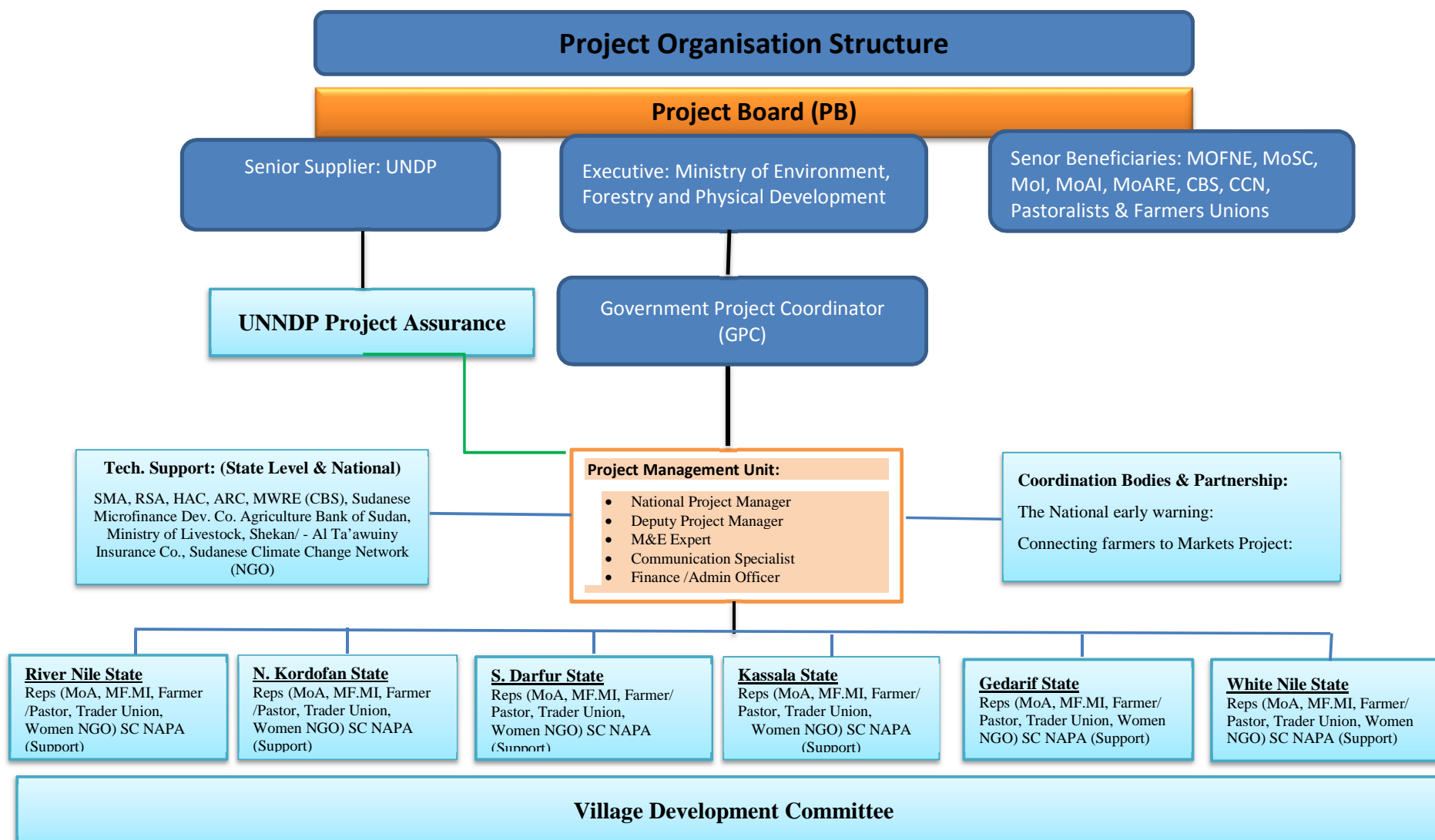
					<p>ASSUMPTION 6</p> <p>Robust infrastructure will be procured and training will be provided for repair and maintenance with the provision of spare parts in each technical, information production agency.</p>
<p>Outcome 2 (equivalent to activity in ATLAS)</p> <p>Residual climate risk to rural livelihoods in the states of greatest rainfall variability addressed through parametric insurance products</p>	<p>2.1 WII product/s created for rain-fed farmers / pastoralists</p> <p>2.2. % increase in the number of market outlets and insurance agents in the rural areas to disseminate MF / WII products</p> <p>2.3. Average speed of claim resettlement in all 6 States over the past 10 years</p>	<p>1.1 WII products have never existed in Sudan</p> <p>2.2.TBC</p> <p>2.3. Average speed of claim resettlement in all 6 target states over the past 10 years was 35 days</p>	<p>2. 1. At least one WII product piloted in 1 state</p> <p>2.2 <u>TBC</u></p> <p>2.3. Average speed of claim resettlement in all 6 targeted states by the end of the project is 15 days</p>	<p>2.1. Insurance company product log</p> <p>2.1.1 Training logs for insurance companies</p> <p>2.1.2 Study on presence of insurance companies in rural areas</p> <p>2.1.3 CBoS reports</p> <p>2.3. Insurance companies reports/records, Insurance statistics disaggregated according to the following categories: number of rain-fed farmers covered, number of rain-fed</p>	<p>ASSUMPTION 7</p> <p>Insurance companies will have the experience and knowledge to adopt and adapt the WII to new crops and data because they will be implicated in the design. Also, there is ample budget and time to train insurance agents on the WII product and to obtain feedback from rain-fed farmers and pastoralists. Legal and regulatory frameworks will also be adapted to facilitate the development and delivery of WII.</p> <p>RISK 8</p> <p>Targeted farmers and pastoralists are sceptical and unwilling to engage into the index-insurance scheme and unable to pay for the product.</p> <p>ASSUMPTION 8</p> <p>The project will familiarize the target communities on index-insurance that will be designed</p>

	2.4.Claims ratio in all 6 States over the past 10 years	2.4. Average claims ratio over the past 10 years in all 6 States was 0.62	2.4. Average claims ratio in all 6 target states by the end of the project is 0.8	<p>pastoralists covered and number of women practicing rain-fed farming/pastoralism covered; clients satisfaction survey</p> <p>2.4. Insurance companies reports/records Claim documentation specific to rain-fed farmers and pastoralists disaggregated by risk category and gender; clients satisfaction survey</p>	<p>in a way that is affordable to the target community. Index insurance has lower administrative costs because there are no on-site inspections or individual loss assessments to perform. Costs will be minimized over time through planning of optimal (adaptation oriented) inputs and as yields rise. In addition to lower costs, rain-fed farmers and pastoralists will be more willing to accept the insurance products because the regulatory framework for compensation criteria will be updated so that compensation can become clear and streamlined.</p> <p>ASSUMPTION 9:</p> <p>There will be no delays for insurance compensation which could hinder next year harvests.</p> <p>ASSUMPTION 10:</p> <p>Reinsurance companies will be willing to back high-risk small holder rain-fed farmers and pastoralists as experience has shown through the Connect to Farmers to Market project and the dissemination of micro-</p>
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					insurance with reinsurance support
Outcome 3 (equivalent to activity in ATLAS) Improved access of vulnerable farmers and pastoralists to financial services for climate change adaptation and disaster risk reduction	3.1.Number of loan products for adaptation farming and livestock production which provide flexible Re-payment schedules for farmers and pastoralists dependent on rain-fed practices 3.2.Number of micro –finance policy designed and agreed upon by all micro-finance providers 3.3.Number and type of adaptation technologies linked with microfinance services adopted by rain-fed farmers/pastoralis	3.1 <u>There</u> are currently no MF products geared specifically towards SFFP in terms of flexible payment schedules and reasonable collateral requirements. <u>3.2</u> There are no policies which mandate a link between MF and adaptation technologies and therefore no formalized means to build the climate resilience of farmers and pastoralists so that they can be more productive and capable of paying back loans. 3.3 other than in regions covered by the LDCF1 (first NAPA project), SRFPs do not have access to any adaptation technologies or packages.	3.1. At least 3 flexible MF products developed which are geared towards the needs of rain-fed farmers and pastoralists 3.2. One micro-finance policy developed mandating the adoption of adaptation technologies for microfinance products tailored to rain-fed farmers and pastoralists 3.3. At least 3 adaptation technologies adopted by rain-fed farmers and pastoralists in the target states with 1	3.1.Log of MF products offered and adapted by rain-fed farmers and pastoralists (CBoS, SMDC) 3.2. Review of MF policies (CBoS) 3.3.Log of MF products (CBoS, SMDC) and adaptation technologies offered and adapted by rain-	RISK 11 The existence of other informal rural credit programmes which provide more flexibility but which are not linked to adaptation ASSUMPTION 11 Informal microfinance is practiced by local merchants and community members. Informal loans are small in quantity and scale because lenders generally receive personal guarantees rather than real collaterals. As such, informal loans are not geared to assist large populations nor to assist in cases of dispute or non-repayment due to the absence of a legal framework. This project will provide the legal and regulatory frameworks to have flexible and tailored loan products and will be able to serve larger populations. Most importantly, the new loans are likely to get better returns because the loans

	<p>ts (disaggregated by gender to study women separately)</p> <p>3.4.% of the productivity and income of rain-fed farmers and pastoralists who use adaptation options/packages linked with MF/MI (as compared with non-participating farmers/pastoralists)</p>	3.4 TBC	<p>of these technologies targeting women or youth</p> <p>3.4. 10% increase in yield and/or income for rain-fed farmers and pastoralists who have access to improved financial services linked with adaptation technologies</p>	<p>fed farmers and pastoralists (RSA)</p> <p>3.4. Baseline survey and end of project survey noting the yield/productivity/income of rain-fed farmers and pastoralists in the target regions comparing those who have adopted MF/WII/Adaptation Technologies/Products/Packages with those who have not.</p>	will be linked with adaptation technologies.
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Annex VI: Organizational Structure of Project



Annex VII: Field Visit Summary

Field study mission started from 28th of October 2017 after departure of International consultant from home country to Sudan and arrival on 29th October to Sudan. On 30th October, International consultants (IC) had a brief meeting with the UNDP team (Ms. Hanan Mutwakil, Mr Nourallah Ahmed Yassin, Ahmed Ali, Ga'afar El-Sheikh, Ms. Shama Mekki El-Khalifa) and then went to have meeting with Dr. Hassan Abdel-Gadir Hilal, Minister of Ministry of Environment and Physical Planning and after that had meeting with Project team (Prof. Mirghani Ibnoaf, Dr. Awatif Abdel-Gadir, Abdelrahman El Hadi Omer and Eiman Suliman) at the HCENR office. In the afternoon, team had meeting with Dr. Hassan Ahmed Kabashi-Assistant General Manager, Eng. Hassan Ibrahim El Hassan, Ms. Hiba Abdel-Raheem, Ms. Marwa Ahmed Dafaallah, Ms. Amel Mohamed Alamin Elbassir and Yassir Ali Ahmed of El Nilein Insurance Company. Same afternoon, team also had meeting with Dr. Ahmed Mohammed Abdel-Kareem-Director General and Ms. Badira Abdel-Rahman of Sudan Meteorological Authority (SMA). After this team had again meeting with Dr. Min Htut Yin, Ms. Hanan Mutwakil, Ms. Intisar Ali Salih and Nourallah Ahmed Yassin at UNDP. On the 31st October, team had meeting meeting with Eng. Babikir-General Directorate for Nile Water and Dam Affairs, Eng. Rudwan Abde-Rahman Mohammed-GDNWDA, Eng. Ahmed Etayeb-Dams Administration in Ministry of Water Resources and Electricity. On the 1st November, team had meeting with Dr. El-Tayeb Ghanawa and Mr. Mohammed Mahmoud and witnessed progress on Icloud development. Same day in the afternoon, team had meeting with Prof. Faisal El Hag Ahmed of ARC and Dr. El-Waleed Mohammed El-Amin – Scientist in Dry land research Center of ARC. On 2nd November, team travelled to White Nile State for field observation and interaction with project staffs and staffs from other institutions. In the morning team had meeting with Dr. Amna Ahmed Abdallah El-Tahir-Scientist incharge of validation trails, Manahil Abdallah Ali, Mahdi Ali, Mubarak Ali Mohammed in White Nile State Agricultural Research Station. Same day in the afternoon, team had meeting with Awad Mohammed Eisa-Chief of the village, Ramada Saeed Mohammed, Ahmed Mohammed Abdallah, Osman Suliman Ali, Suliman Adam Haroun of Allah Kareem Community of Tendelti locality. In the same afternoon, team visited Tendelti village and had meeting with Ms. Fatima El Saig Eisa-Leader of the group of farmers, Ms. Dar el Naeem Ismaiel-member, Ahmed El Khidir Dawood-Chief of the village, Ad Dai Bakhiet and Ibrahim Ahmed both member from Saleema El-Mahata Community. These meetings were also followed by field visit and observation of activities on the ground. On 3rd November, team visited Ed Duaim village and had meeting with farmers named Mohammed Ahmed El-Nour, Fath-Alrahman Ahmed, Al Haseen El-Tayeb, Anas Mohammed, Ahmed Mohammed and Hamid Ed Doma Abdel-Rahman of Insurance Company in Um Gadad Community. Same afternoon team visited automatic weather station of Ed Duaim and had interaction with El-Daw Ali Khair Allah-Senior Technician and Guma'a Nasir technician of the weather station. On 4th November, team had meeting with Technical Committee of South Darfur State and in the afternoon visited Amakasara village community in El Marshing village and had interaction with farmers and also observed activities on the ground. On 5th November, team had meeting with Aro Gamaily Village Community of South Nyala. Same day in the afternoon team visited Kombola village Community in Belail village and had interaction with Head of Agricultural Society for Kombola, Treasurer, Members, CRFP coordinator. Team also visited automatic weather station and had first-hand knowledge on the equipment and data recording and reporting process. On the 7th November team had meeting at Remote Sensing and Seismology Authority with Dr. Solafa Babikir Mohammed-Director, Dr. Amna Ahmed Hamid-Former Director and Sara Khogai-Researcher. Same day team had meeting with Mr. Abdel-Mutalab Abdel-Rahman Ahmed, Yasser Mubarak Abdulla and Ms. Mahasin El-Sadig Giha of Agricultural Bank of Sudan. On the 8th team briefed initial findings with Minister of Environment, Natural Resources and Urban Development Dr. Hassan Abdel-Gadir Hilal and Dr. Omer-First Under Secretary. Same day team briefed on initial finding with Mr. Selva Ramachandran-County Director, Hideko Hadzialic-Deputy Country Director, Dr. Min Htut Yin- Team Leader, Environment and Energy Unit, Mr. Hanan Mutwakil-Team Leader, Sustainable Livelihood, Ms. Intisar Ali Salih, Program Analyst, Sustainable Livelihood and Nourallah Ahmed Yassin, Programme Analyst, Sustainable Livelihood of UNDP. On the morning of 9th November, team had meeting with Mr. Mahmoud Awad Mekki- former Communication Officer of CRFP. In the afternoon

of the same day team had meeting with Dr. Mohamed Yousif Hassan-Director General and Ismail Elsharif Eldaw, Deputy Director of Ministry of International Cooperation. In the afternoon of same day, team had final briefing on the initial findings with all stakeholders.

Though there was plan to visit one more state due to delay in receiving travel permit it was dropped. Some of the stakeholders were out of the country so were not available for meeting.

Annex VIII: Project Deliverables

1. Diary
2. Pen
3. Key ring
4. Documentary CD
5. Poster
6. Crop calendar
7. Crop guide book

Annex IX: List of References

- Project Document
- Project Inception workshop report
- Annual Progress Report 2015
- Annual Progress Report 2016
- Annual Progress Report 2017
- PIR 2015
- PIR 2016
- PIR 2017
- Annual Workplan 2015
- Annual Work plan 2016
- Annual Work plan 2017
- Minutes of the 1st, 2nd and 3rd Board Meeting

Annex X: Evaluation Questions

Evaluation Criteria/Questions	Indicators	Sources	Methodology
Relevance: How does the project related to the main objective of the GEF focal area, and to the environment and development priorities at the local, regional and national level?	<ul style="list-style-type: none"> Project objectives and activities related to objective of GEF focal area and priorities at national, local and regional level Consistency and contribution to GEF focal area objectives and to national development strategies Stakeholder views of project significance and potential impact related to the project objective 	<ul style="list-style-type: none"> Project documents, report vs GEF document Interview with authorities at different level 	<ul style="list-style-type: none"> Project report review in the light of GEF document Interviews with relevant personnel
Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved?	<ul style="list-style-type: none"> Level of achievement of expected outcomes or objectives to date Long term changes in management processes, practices and awareness that can be attributable to the project Enhanced capacity of relevant institutions Favourable policies and effective implementation of mitigation/adaptation activities 	<ul style="list-style-type: none"> Change in the ground situation observed. Policies reviewed to address issues Policies effectively implemented Institutions strengthened 	<ul style="list-style-type: none"> Report with information on effective implementation of mitigation/adaptation Report on intuition setup Interaction with the policy level people to ground level communities and field staffs. Polity document review report. Field verification of activities
Efficiency: Was the project implemented efficiently in-line with international and national norms and standards?	<ul style="list-style-type: none"> Reasonableness of the costs relative to scale of outputs generated Efficiencies in project delivery modalities Consistency and contribution to GEF focal area objectives and to national development strategies Changes in project circumstances that may have affected the project relevance and effectiveness 	<ul style="list-style-type: none"> Financial statements Project structure and function Project document and annual reports Experience of project staffs and other relevant stakeholders 	<ul style="list-style-type: none"> Analysis of financial statements. Analysis of project structure and functionalities Analysis of project circumstances in project document (past and present) Interaction with relevant stakeholders
Sustainability: To what extent are there financial, institutional, socio-economic, and/or environmental risks to sustaining long-term project results?	<ul style="list-style-type: none"> Degree to which outputs and outcomes are embedded within the institutional framework (policy, laws, organizations, procedures) Implementation of measures to assist financial sustainability of project results Observable changes in attitudes, beliefs and behaviours as a result of the project Measurable improvements from baseline levels in knowledge and skills of targeted staffs. 	<ul style="list-style-type: none"> Project report Observation in the field Interview with stakeholders 	<ul style="list-style-type: none"> Review of project reports. Observation in the field to see impact on the ground Interaction with stakeholders
Impacts: Are there indications that the project has contributed to, or enabled progress towards reduced	<ul style="list-style-type: none"> Favourable policies formulated/amended Improved monitoring mechanism Technically capacity of relevant institution strengthened. 	<ul style="list-style-type: none"> Project Reports Interview with stakeholders. 	<ul style="list-style-type: none"> Review of project reports/documents. Interaction with local to national level stakeholders.

environmental stress and/or improved ecological status?	<ul style="list-style-type: none"> • Regular monitoring helped to generate updated information which helped National Communication and also evidence based planning exercise. • Financial arrangement made activities sustainable. • Measurable improvements from baseline levels in knowledge and skills of targeted staff/other stakeholders. • Measurable improvements from baseline levels in the management functions of the responsible organizations that were targeted by the project. 	• Observation in the field.	• Field observation.
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Annex XI: Evaluation Consultant Agreement Document

ANNEX E: EVALUATION CONSULTANT CODE OF CONDUCT AND AGREEMENT FORM

Evaluators:

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

Evaluation Consultant Agreement Form¹

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

Name of Consultant: Arun Rijal

Name of Consultancy Organization (where relevant): _____

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

Signed at pluseonline



Kathmandu, 21.09.2017

Signature: _____

Annex XII: Evaluation Criteria

i) Criteria used to evaluate the Project by the Final Evaluation Team

Highly Satisfactory (HS)	Project is expected to achieve or exceed all its major global environmental objectives, and yield substantial global environmental benefits, without major shortcomings. The project can be presented as “good practice”.
Satisfactory (S)	Project is expected to achieve most of its major global environmental objectives, and yield satisfactory global environmental benefits, with only minor shortcomings.
Marginally Satisfactory (MS)	Project is expected to achieve most of its major relevant objectives but with either significant shortcomings or modest overall relevance. Project is expected not to achieve some of its major global environmental objectives or yield some of the expected global environment benefits.
Marginally Unsatisfactory (MU)	Project is expected to achieve some of its major global environmental objectives with major shortcomings or is expected to achieve only some of its major global environmental objectives.
Unsatisfactory (U)	Project is expected not to achieve most of its major global environment objectives or to yield any satisfactory global environmental benefits.
Highly Unsatisfactory (U)	The project has failed to achieve, and is not expected to achieve, any of its major global environment objectives with no worthwhile benefits.

ii) Scale used to evaluate the sustainability of the Project

Likely (L)	There are no risks affecting this dimension of sustainability.
Moderately Likely (ML)	There are moderate risks that affect this dimension of sustainability.
Moderately Unlikely (MU)	There are significant risks that affect this dimension of sustainability.
Unlikely (U)	There are severe risks that affect this dimension of sustainability.

iii) Rating scale for outcomes and progress towards “intermediate states”

Indicator Assessment Key: Green= Achieved Yellow= On target to be achieved Red= Not on target to be achieved

Annex XIII: UNDP-GEF MTR Report Audit Trail

To the comments received on February 2017 from the Mid-Term Review of the project titled, Climate Risk Finance for Sustainable and Climate Resilient Rain-fed Farming and Pastoral Systems (UNDP-GEF Project ID-PIMS #4591)

The following comments were provided in track changes to the draft Mid-term Review report; they are referenced by institution ("Author" column) and track change comment number ("#" column):

Author	#/Date	Para No./ comment location	Comment/Feedback on the draft TE report	MTR Consultant's response and actions taken

Annex XIII: Project Pictures

Automatic Weather Station Equipment in two sites were of different company and model.

Late plantation and use of wrong seed in Validation plot resulted drying of crop and also infested by disease.