



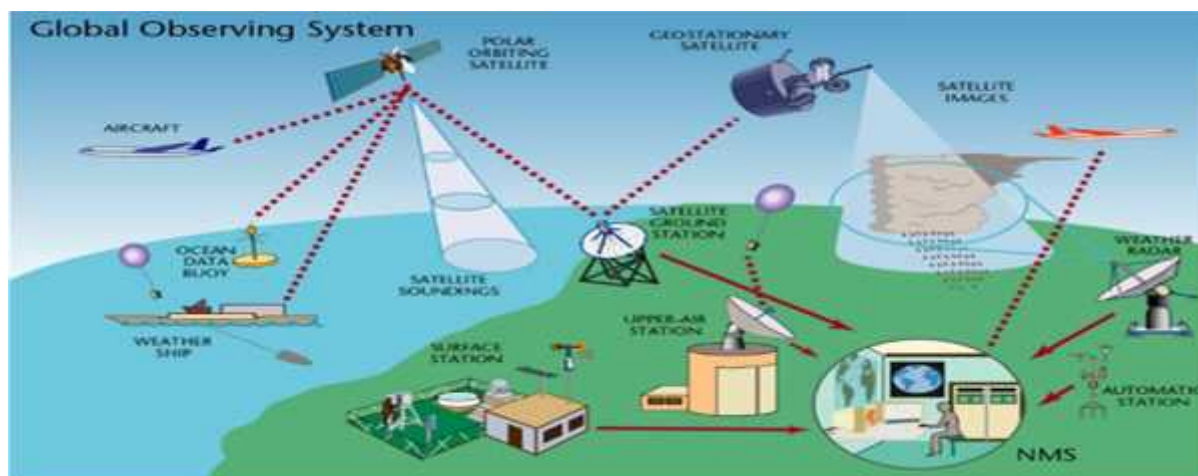
STRENGTHENING CLIMATE INFORMATION AND EARLY WARNING SYSTEMS (SCIEWS) PROJECT - UGANDA

**GEFSEC PROJECT ID: 00088073; GEF AGENCY ID: PIMS 5094;
AWARD ID: 00076999**

DURATION: SEPTEMBER 2013 TO SEPTEMBER 2017
MEDIUM TERM REVIEW TIMEFRAME: SEPTEMBER TO NOVEMBER 2016
COUNTRY: UGANDA

Evaluators: Veronica Nyawira Muthui; nyawira.muthui@gmail.com
John Wasige; johnwasige@gmail.com

Draft I – NOVEMBER 2016



KEY DATA

Name of Project: Strengthening Climate Information and Early Warning Systems (SCIEWS) Project - Uganda

Project Numbers - GEFSEC PROJECT ID: 00088073; GEF AGENCY ID: PIMS 5094;
AWARD ID: 00076999

GEF Operational Program/Strategic Program - LDCF Objective 2: “Increase Adaptive Capacity to Respond to the Impact of Climate Change”

The project contributes to the following Outcomes and Indicators:

- a) Outcome 2.1: Increased knowledge and understanding of climate variability and change-induced threats at country level and in targeted vulnerable areas; Outcome Indicator 2.1.1, Relevant risk information disseminated to stakeholders, Output indicator 2.1. Type and scope of monitoring systems in place; and,
- b) Outcome 2.2: Strengthened adaptive capacity to reduce risks to climate-induced economic losses: Output Indicator 2.2. % of population covered by climate change risk reduction measures.

Implementing Partner: Government of Uganda - Ministry of Water and Environment

Implementing Entity/Responsible Partners: Ugandan National Meteorological Authority (UNMA), Department of Water Resource Management (DWRM), Department of Relief, Disaster Preparedness and Management (DRDPM)/Office of the Prime Minister (OPM), and Ministry of Agriculture, Animal Industries and Fisheries (MAAIF).

Management Arrangement: National Implementation

Program Period: SEPTEMBER 2013 TO SEPTEMBER 2017

Evaluation Team Members: Veronica Muthui (nyawira.muthui@gmail.com), and John Wasige (johnwasige@gmail.com)

Acknowledgements: The evaluators thank the following: the Project Board, Senior Management of UNMA, DWRM, the Project Management Unit (PMU) team, the UNDP Country Office and the Project Manager (Mr. Okello Onegiu Pascal) for the efficient and professional organizational support they provided during this evaluation; The Executive Director of UNMA (Mr. Luboyera Festus), Mr. Sam Ochoto and Onesimus Muhwezi (UNDP Country Office) deserve a special mention for the professional manner in which they facilitated the MTR process. We also thank the District Technical Teams and the staff of UNMA that received the mission in the field and provided information upon which the evaluation is based.

Executive summary

Table 1: Project Summary Table

Organization/Co-financier	US \$	
	At project Formulation	At Mid-Term
GEF	4,000,000	4,000,000
1. Government of Uganda (GoU)/MWE-Uganda National Meteorological Authority (UNMA), budget allocation	6,000,000	3,000,000
2. GoU, MWE, Joint Partnership Fund, Joint Water and Environment Sector Support Programme (JWESSP)	5,400,000	3,000,000
3. UNDP Strengthening Uganda's Disaster Preparedness and Management Capacities (SUDPMC)	3,900,000	3,900,000
4. GoU, Directorate of Water Resource Management (DWRM) budget allocation	2,800,000	1,700,000
5. GoU, Department of Relief, Disaster Preparedness and Management (DRDMP)/Office of the Prime Minister (OPM) budget allocation	1,500,000	1,000,000
6. German Agency for International Cooperation (GIZ)	1,264,000	800,000
7. MWE, World Bank (WB), Water Management and Development Project (WMDP)	1,100,000	500,000
8. GoU, MAAIF, Agricultural Technology and Agribusiness Advisory Services Programme (ATAAS)	1,000,000	700,000
9. Agency for Technical Cooperation and Development (ACTED) Drought Early Warning System (DEWS)	400,000	300,000
10. The International Telecommunications Union and Uganda Communication Commission (ITU/UCC)	300,000	200,000
TOTAL(Excluding GEF funding)	23,664,000	5,100,000

Brief Description of the Project

1. Uganda is particularly vulnerable to the increasing frequency and severity of droughts, floods and severe storms (hail, thunder, lightning and violent winds), and their impacts on sectors such as agriculture, fisheries, as well as infrastructure. Such climate-related hazards are having increasingly adverse effects on the country and future climate change is likely to further exacerbate the situation. A large proportion of the Ugandan population has a low capacity to adapt to climate change. Climate change impacts are likely to be particularly negative on Uganda's rural population because of their high dependence on rain- fed agriculture and natural resource-based livelihoods.
2. The LDCF project contributes to overcoming barriers to mainstreaming climate risks into development and livelihoods in Uganda by strengthening climate monitoring and early warning systems of the country. The project seeks to improve national capacities to generate and use climate information in planning for, and management of, climate hazards and long-term strategic planning. The project aims to achieve this by transferring appropriate technology, infrastructure and skills to hydro-meteorological services (DoM and DWRM), user- agencies

(MAAIF, DRDPM, CCU and MoLG) and end-users (local communities) in the country. The project objective is therefore to: “to strengthen the weather, climate and hydrological monitoring capabilities, early warning systems and available information for responding to extreme weather and planning adaptation to climate change in Uganda.” The objective is to be achieved through two complimentary Outcomes: 1). Enhanced capacity of the Department of Meteorology (DoM) and Department of Water Resource Monitoring and Assessments (DWRM) to monitor and forecast extreme weather, hydrology and climate change; 2). Efficient and effective use of hydro-meteorological and environmental information for making early warnings and long-term development plans.

3. Through Outcome 1, LDCF resources are being used, in conjunction with other ongoing initiatives, to assist the Government of Uganda (GoU) to address some of the fundamental barriers to the deployment of an operational and modernised (automated) weather, climate and hydrological monitoring system and forecasting extreme weather and longer-term climate variability. The project is therefore increasing the coverage and automating the national weather and hydrological monitoring system and upgrading weather and climate forecasting facilities.
4. Through outcome 2, LDCF funding is being used to build human technical capacity to use data collected from the strengthened and modernised weather and hydrological monitoring system and increasing the proportion of the local population that has access to adequate climate information, both for early warning purposes and for long-term planning. This is being pursued through training DoM (now UNMA) and DWRM in up-to-date forecasting methodologies and meteorological workstation software. Standard Operating Procedures (SOPs) for disseminating and responding to weather and climate forecasts – including warnings for floods, droughts and severe weather – will be developed and demonstrated in the Teso and Mt. Elgon sub-regions in the Kyoga WMZ. National systems will be linked to existing community-based systems and decentralised observation networks. It is expected that this will show the socio-economic benefits of adequate climate services that will support the upscaling, operation and maintenance of the system in the long term. The table below shows the outputs per Outcome.

Table 2: Project Outcomes

GOAL: To strengthen the weather, climate and hydrological monitoring capabilities, early warning systems and available information for responding to climate shocks and planning adaptation to climate change in Uganda
Outcome 1: Enhanced capacity of the UNMA and DWRM to monitor and forecast extreme weather, hydrology and climate change
Output 1.1: 16 Automatic Water Level Stations (AWLSs) installed and 40 manual hydro-meteorology stations and 5 AWLSs rehabilitated in the Victoria, Kyoga, Albert and Upper Nile Water Management Zones (WMZs)
Output 1.2: 25 Automatic Weather Stations (AWS) installed and 32 manuals (12 synoptic, 10 agro-meteorological and 10 hydro-meteorological) and 32 AWSs rehabilitated in priority district
Output 1.3: Weather and climate forecasting facilities upgraded including an integrated hydro-meteorological data management and information system and an online web platform for operationalizing collaboration arrangements and procedures between DRDPM and UNMA
Output 1.4: Capacity developed for operating and maintaining observation networks and related infrastructure including training 9 meteorological and 10 hydrological trainers and 50 weather observers, raising local community awareness, developing an O&M toolbox, and establishing internal arrangements and procedures between UNMA and DRDPM
Outcome 2: Efficient and effective use of hydro-meteorological and environmental information for making early warnings and long-term development plans
Output 2.1: Technical capacity of UNMA and DRDPM is strengthened by training 16 forecasters – including 8 senior and 8 junior – to build in-house capacity for producing standard and customised

weather and climate forecasts and packaging hydro-meteorological data and information into a suitable format for user-agencies and local community end-users
Output 2.2: Tailored weather and climate information (including colour-coded alerts – advisories, watches and warnings – for flood, drought, severe weather and agricultural stresses, integrated cost-benefit analyses and sector-specific risk and vulnerability maps) made accessible to decision makers in government, private sector, civil society, development partners and local communities in the Teso and Mt Elgon sub-region
Output 2.3: Weather and climate information mainstreamed into national Policies, annual work plans and local development including the National Policy for Disaster Preparedness and Management, and district and sub-county development plans in priority districts in the Bukedi, Busoga, Elgon, Teso, Acholi, Karamoja and Lango sub-regions
Output 2.4: Governmental and non-governmental communication channels and procedures for issuing alerts including advisories, watches and warnings are strengthened at a national and local level including the development of an early warning system dissemination national and local toolbox and mobile-based alert platforms in the Teso and Mt Elgon sub-regions
Output 2.5: Sustainable financing options – including appropriate government cost recovery arrangements, service level agreements and public-private partnerships – identified, developed and implemented for the operation and maintenance of the installed hydro-meteorological observation, forecasting and early warning system

5. The project is in the third year of implementation; the Mid-Term Review was therefore conducted in accordance with the guidelines and regulations of UNDP and GEF, and, assessed the overall performance against the project objectives as set out in the Project Document and other related documents; relevance of the project to national priorities, as well as UNDP and GEF strategic objectives; the effectiveness and efficiency of the project; sustainability of the project interventions and project impacts; implementation and management arrangements of the project, including financial management. The review has also documented lessons and best practices concerning project design, implementation and management, which could be of relevance to other projects in the country and elsewhere in the world.

Table 3: Evaluation Ratings for the Development Objective, Outcomes, Relevance, Efficiency, Effectiveness, Sustainability, Impact and Monitoring and Evaluation

Criterion	Rating
Assessment of outcomes	
Overall rating of project objectives and results	Satisfactory
A. 1. Effectiveness	Satisfactory
A. 2. Relevance	Relevant
A. 3. Efficiency	Highly Satisfactory
A.4. Impacts	Not yet significant
B. Sustainability of Project outcomes; (overall rating); Sub criteria (below)	Unlikely
B. 1. Financial	Unlikely
B. 2. Socio Political	Unlikely
B3. Institutional framework & governance	Likely
B. 4. Environmental	Likely
C. Achievement of outputs and activities (see section on overall results and impacts)	Satisfactory
D. Monitoring and Evaluation (overall rating); Sub criteria (below)	Satisfactory
D. 1. M&E Design	Satisfactory
D 2. M&E plan Implementation - use for adaptive management	Satisfactory
D 3. Budgeting & Funding for M&E activities	Satisfactory
E. Catalytic Role	Catalytic

F. Preparation and readiness	Satisfactory
G. Country ownership	Highly Satisfactory
H. Stakeholders involvement	Satisfactory
I. Financial planning	Satisfactory
J. Implementation approach	Satisfactory
K. UNDP/GEF Supervision and backstopping	Satisfactory

I. SUMMARY OF CONCLUSIONS, RECOMMENDATIONS AND LESSONS

The MTR found that overall, the project is on track for the 2 goal level targets: Highlights of these are:

- The 20% end of project target for increase in budgetary allocation for UNMA has been exceeded at MTR: increase by 100% for 2015 – 2016 and over 300% for 2016-2017.
- The budget increment for the DWRM was not available and needs to be confirmed by the TE.
- Capacity development (UNDP Sore Cards) is at 83% (119 out of 143).

Delivery on all 3 indicators (with 11 targets) for Outcome 1 and 2 indicators (with 3 targets) are on track, per the following highlights:

- National coverage of meteorological monitoring infrastructure has increased; 52 Districts (46% of the country) have rain gauges; 25 districts have Automatic Weather Stations installed (100% of end of project target) including 5 Total Solutions Automated Weather Stations; the Automated Message Switching System (AMSS) is installed and software provided to analyse and exchange data (including data from non-project stations); 27 base weather stations have been renovated.
- As a result, all 25 Automatic Weather Stations are functional and exchanging information with the region and the world (via the AMSS), 12 out of 12 (100%) of the synoptic stations are functional and are providing near real-time weather information; 7 out of 14 (50%) Hydro-met stations are functional; and 8 out of 18 (44%) Agro-met stations are functional and are giving reliable information for ten days (decadal) weather information as well as bi-weekly and monthly advisories.
- NECOC (National Emergency Coordination Centre) has started producing and disseminating monthly publication on National Integrated Early Warning Bulletin “U-NIEWS”, which provides updates on disasters, both human induced and natural, humanitarian responses, health surveillance, and the crop and pasture conditions.
- Piloting of cell phone dissemination of climate information has started.

A1. Effectiveness - the MTR found that despite a 5-month delay in project start-up, implementation and delivery of results has been highly effective. Overall delivery is at US\$ 2,474,704, representing 62% within 2 years and 3 months of implementation. There is no doubt that with an extension of 6 months (to recover the lost time), the project will fully deliver the program of work within time and budget.

A2. Relevant - the project remains relevant, contributing to:

- The country's NAPA objectives 3 and 9;
- National Development objectives of the 2015-2020 Development Plan;
- UNDAF Outcome 2

A3. Efficiency - The MTR found that by increasing availability and access to more accurate climate information, the project has paved the way for a cost effective way to secure Uganda's investments into development, infrastructure and livelihoods, to be achieved once a broad range of stakeholders start to use this information in day to day decision-making. Four strategies increased the efficiency of the resources at the operational level:

- Involvement of Government Agencies in a partnership aimed at utilizing comparative advantages of all partners and building capacity via implementation;
- The PMU played a key role in identifying synergies and linking this project with, not only the rest of the GEF Portfolio in the country, but also to the CIEWS Portfolio in Africa;
- Use of the TWG to harness technical capacity of various professionals, for which the project didn't have to pay;
- The three-tier project management modality of UNDP (CO/RCU/Hq) provides quality technical and management support at reasonable cost to individual projects. The three-tier was complimented by the "Climate Information for Development in Africa (CIRDA)" group, which provided cost effective technical assistance to the CIEWS portfolio in Africa).

A4. Impacts: The project has delivered short-term results in increasing capacity of climate information institutions, but the long-term results (impacts) of broad access to and use of climate information in decision making by a broad spectrum of stakeholders is yet to be realized. This is partly because project implementation is still on-going and partly because there are still challenges to be tackled to increase the use of information in decision making.

B. Sustainability of Project outcomes - overall finding - Unlikely

B. 1. Financial (unlikely) - Sustainability of generating and disseminating CIEWS is highly dependent on continued functioning of meteorological and hydrological infrastructure. There's a history of poor maintenance of equipment in the Ministry of Water and Environment, particularly with the former DoM, low budgetary allocation for the Maintenance Unit and indicators of organizational performance do not include one on maintaining a functioning system.

B. 2. Socio Political (unlikely) - Uganda's economy is highly dependent on agriculture, upon which livelihoods of the majority of the rural population is entirely dependent. New climate information products could be sold in the market but it is not yet known if majority of farmers can afford such products, or if they trust the quality and accuracy of CI to have improved enough to invest in them.

B3. Institutional Framework and Governance (likely) - The creation of UNMA has elevated the appreciation of CI in national development, allowing the Government to increase investments into its acquisition and utilization. The protocol of data sharing and management between UNMA and DWRM has (in addition to ensuring efficiency) improved institutional collaboration; the empowerment of NECOC will ensure mainstreaming of CIEWS into national disaster risk management. Capacity scorecard confirms increase in capacity of the key institutions. However, CIEWS provision needs to be decentralized to involve the Ministry of Local Government in supporting delivery and maintenance of the expanded infrastructure. This should be systematized via Cabinet Paper. In addition, NECOC needs further support to strengthen its capacity for disaster risk reduction.

B. 4. Environmental (likely) - There is need to continue expanding the coverage of the country with weather and hydro stations.

C. Achievement of outputs and activities (see section on overall results and impacts)-satisfactory

D. Monitoring and Evaluation (overall rating) - Satisfactory

D. 1. M&E Design - (Satisfactory); The MTR found that the project design is based on clear logic (threats, barrier analysis); outcomes and indicators are SMART and the MTR found no need to revise project design. Risks and assumptions identified at design were monitored and have not upstaged project implementation.

D 2. M&E plan Implementation (marginally satisfactory) - use for adaptive management - Satisfactory: M&E plan was used effectively to monitor and mitigate risks – evidence of adaptive management indicated by budget reallocation to purchase TSAWS. However, the lack of active use of M&E systems in the government partner institutions limits the ability of the project to mainstream M&E into partner implementers. This is exacerbated by the late recruitment of an M&E Officer for the project.

D 3. Budgeting & Funding for M&E activities - (Satisfactory): The MTR found no issues with the budgeting for M&E activities; MTE Tools used were: Inception workshop, APR/PIR, quarterly and annual work plans and reports, including financial reports;

E. Catalytic Role: (Catalytic) - The MTR found three areas in which the project shows potential for playing a significant catalytic role: demonstrating the use of cost benefit analysis of CI and the use of that information in the pricing of CI products and services; the design of the CI products and developing markets for CI products and services; and the adoption (and purchase) of the Total Solutions Automated Weather Stations (TSAWS).

F. Preparation and readiness - (Satisfactory): The project was planned over a period of one year with a budget to identify and negotiate partnerships for implementation. As evidenced by the satisfactory findings on project design and implementation, the project preparation period led to a viable project.

G. Country ownership - (Highly Satisfactory): In addition to the points outlined under relevance, the project concept originated from Government's stated objective of securing the economic development and livelihoods via mainstreaming climate risks into production systems. Four ways country ownership is demonstrated: i) The Project Steering Committee (PSC)/Board has been actively engaged in the project, as reflected by the quality of discussions recorded in the minutes of the PSC meetings; ii) Enthusiastic support of the project by the District Technical Teams (and members of the DDMC); iii) The report from the DDMC and the staff members of the Synoptic Stations that the demand for CI is increasing, and that incidences of people walking into these stations to request for CI is on the rise; iv) PMU reports excellent working relations and support of the Senior Management of the Parent Ministry and the Project Board.

H. Stakeholders involvement - (Satisfactory): MTR found that stakeholder participation was catered for during project design and was pursued during project implementation. However, the MTR found that communities and community leaders as well as the staff of UNMA need to be more involved during the rest of the project.

I. Financial planning - (Satisfactory): MTR found that project financing was adequate for the program of work for which it was meant to finance. Co-finance is however needed to address challenges that would reduce the effectiveness of the rest of the results chain to lead to long-term impacts, outlined in the impact and sustainability assessment sections.

J. Implementation approach - (Satisfactory): MTR found that the implementation arrangement promoted synergies and led to a highly effective implementation. The PMU played a key role in maintaining excellent partnerships and driving efficient use of project resources.

K. UNDP/GEF Supervision and backstopping - (Satisfactory): The MTR found no issues with the UNDP supervision and backstopping. The MTR found that the CO and RCU provided adequate support to the PMU and other partners; the three-tier arrangement of UNDP (CO-RCU-Hq) identified as a cost effective tool of providing quality support to the project at minimal cost (due to sharing of RTAs by many countries).

II. LESSONS LEARNT

- 1) Mainstreaming lessons from other projects is a cost effective measure because it avoids duplication and waste of resources. The choice of Implementing Partner with the necessary linkages to other adaptation and CIEWS projects, and the fact that this project was part of an II Countries' Project portfolio played a key role in the excellent level of exchanging lessons from the cluster to the benefit of all of the cohort;
- 2) Government leadership in ensuring coordination of projects addressing the same issue is critical;
- 3) A capable Project Management Unit staffed with a Project Manager who understands both the UN and Government bureaucracies thoroughly is a worthwhile investment;
- 4) The MTR believes that the excellent working relationships between UNDP, PMU, UNMA and DWRM contributed to the high delivery achieved by this project, despite the 5 month late start. While all these units worked hard to build the relationships, the PMU played the critical role of maintaining the relationships that ensured smooth delivery of project results. Investing in a capable PMU that understands the importance of such relationships is an excellent investment;
- 5) Sophisticated and expensive to maintain technology may not be suitable or acceptable solution for establishing CIEWS;
- 6) The adoption of TOC based evaluation as a tool helps stakeholders to understand and appreciate the problem in totality as opposed to what project can address. The TOC articulates the assumptions about the process through which change will occur and specifies the ways in which all of the required early and intermediate outcomes related to achieving the desired long-term change will be brought about and documented as they occur, thus the logic between inputs and impacts.
- 7) Political buy-in for the maintenance of the expanded climate information infrastructure needs to be reflected in high level indicators and a budgetary allocation for the same.

III. RECOMMENDATIONS

1. The MTR recommends that project should be given a non-cost extension of 5 month to allow more time for the Implementing Partner to trouble shoot operational gaps and enable UNMA to smoothly go beyond the threshold of replication and trigger meteorological data revolution in Uganda (Action UNDP and GEF).
2. The Implementing Partner and Government should speed up the enactment of by-laws and ordinances for supporting decentralized implementation of CIEW services
3. Recommendation 3: The installation of the DWRM equipment should be treated as urgent (by The Implementing Partner¹).
4. The project has supported UNMA to develop its Communications Strategy, which is important for improving its visibility and the credibility of its products to the public. However this strategy document, among other deliverables from consultancies undertaken need to be put to use. Also to increase appreciation of meteorological services at the Policy level, the cost-benefit and market study need to be followed up with a detailed study of the contribution of meteorology to the GDP.
5. The stakeholders should allocate dedicated resources to manage the establishment and management of PPP's

¹ It is however noted that equipment for DWRM were procured by Sept.2016, installation is pending completion of on-going construction of the hydrological stations.

6. There is still a great deal of work to be done in Uganda to ensure that CI becomes a part of daily decision-making processes by a large majority of the population. The Government and UNDP should formulate another project to build on the results delivered by this and other projects, which have been closely coordinated with it (GiZ and the World Bank supported initiatives). Indeed, further capacity development is needed to make NECOC more effective. Suggested areas are: i) Strengthen coordination of early warning systems in the country through the NECOC based at OPM; ii) Operationalize and strengthen the National early warning sub-committee housed at OPM; iii) A national early warning secretariat/unit should be established to help in managing Early warning in the country; iv) Strengthen the development and dissemination of the multi-hazard early warning bulletin as initiated by OPM at NECOC.
7. The Implementing Partner should build on the baseline assessment study to establish the extent to which CI is currently being used in decision-making by stakeholder groups. This will contribute to monitoring the long-term impacts expected from the project.
8. UNMA and DWRM should adopt institutional performance indicators on maintenance of their networks and allocate adequate budgets for actual maintenance.
9. UNMA should ensure that sufficient resources are allocated to the finalisation of the tabled PPP's between UBIMET, FIT Uganda, HNI and Earth Networks. This should ideally be managed by a dedicated resource that can initiate and manage on-going commercial agreements. The assessment of "unlikely sustainability" in this scenario will remain high risk if UNMA (with the help of CIRDA and the UNP CO) do not assist in addressing the aforementioned points.
10. To ensure that key stakeholders prepare the ground and address the challenges to sustainability of the results from this and similar projects, the Implementing Partner, with the backing of UNDP and the Ministry, should convene the development partners investing in CI infrastructure in Uganda and negotiate better support to the Management and Maintenance of the CI infrastructure
11. The Ministry of Water and Environment should engage the Ministry of Local Government (MoLG) to put in place formal collaboration that enables decentralization of CI services, and hence an arrangement for resource mobilization to support regular met equipment maintenance by the Chief Administration Officer (CAO)'s Office at the Districts and lower levels.
12. The project and UNMA/DWRM should support further development of the climate information products and a market for the same;
13. Support further training for staff and linking with University to increase skills in big data analysis, automated equipment maintenance and research for meaningful and effective engagement with the new automated CI technologies;
14. The Implementing Partner and project partners should make greater effort to involve communities and their leaders and the existing staff Recommendation 12: The project and UNMA/DWRM should support further development of the climate information products and a market for the same.

Contents

I	INTRODUCTION.....	15
1.1	PURPOSE OF THE EVALUATION	15
1.2	SCOPE AND METHODOLOGY	15
1.2.1	Desk review of documents	15
1.2.2	Preparation of MTR tools and approach	15
1.2.3	Data collection and analysis	19
1.2.4	Deliverables	20
1.3	Structure of the evaluation report.....	20
2	PROJECT DESCRIPTION AND DEVELOPMENT CONTEXT	21
2.1	PROJECT START AND DURATION.....	21
2.2	PROBLEMS THAT THE PROJECT SOUGHT TO ADDRESS.....	21
2.3	IMMEDIATE AND DEVELOPMENT OBJECTIVES OF THE PROJECT	22
2.4	BASELINE INDICATORS AND EXPECTED RESULTS	22
2.5	MAIN STAKEHOLDERS	22
3	MEDIUM-TERM REVIEW (MTR) FINDINGS	22
3.1	PROJECT DESIGN/Formulation.....	22
3.1.1	Analysis of logical framework.....	22
3.1.2	Assumptions and risks.....	22
3.1.3	Lessons incorporated from relevant projects	23
3.1.4	Replication approach	24
3.1.5	UNDP comparative advantage	25
3.1.6	Linkages between project and other interventions within the sector	25
3.1.7	Management arrangements	26
3.1.8	Project implementation.....	26
3.1.9	Adaptive management.....	34
3.1.10	Partnership arrangements (with relevant stakeholders involved in the country/region).....	34
3.1.11	Project Finance (and Co-finance)	34
3.1.12	Monitoring and evaluation: design at entry and implementation (*)	36
3.1.13	UNDP and Executing Agency implementation / execution, coordination and operational issues	36
3.2	Project Results	36
3.2.1	Relevance – Highly Relevant - Relevant.....	43
3.2.2	Effectiveness – Satisfactory	43
3.2.3	Sustainability of Results (Financial, Socio-Political, Institutional Framework and Governance, Environmental) – Overall Rating – Unlikely	43
3.2.4	Environmental – likely	46

3.2.5	Efficiency – Satisfactory	46
3.2.6	Monitoring and Evaluation (M&E Design, M&E Plan Implementation and Use for Adaptive Management, Budgeting & Funding for M&E Activities) – Marginally Satisfactory	47
3.2.7	Catalytic Role– Good Potential for Playing a Catalytic Role	48
3.2.8	FINANCIAL PLANNING – SATISFACTORY	49
3.2.9	Country Ownership – Highly Satisfactory	49
3.2.10	Mainstreaming - Satisfactory	49
3.2.11	Stakeholder Participation – Marginally Satisfactory	50
3.2.12	Implementation Approach - Satisfactory	50
4	CONCLUSIONS, LESSONS and RECOMMENDATIONS	51
4.1	CONCLUSION	51
4.2	Recommendations.....	52
5	ANNEXES.....	54

List of Tables

Table 1: Project Summary Table	3
Table 2: Project Outcomes.....	4
Table 3: Evaluation Ratings for the Development Objective, Outcomes, Relevance, Efficiency, Effectiveness, Sustainability, Impact and Monitoring and Evaluation	5
Table 4: State of project implementation and delivery of key outputs by October 2016.....	28
Table 5: <i>Co-financing by the SCIEWS Project partners</i>	34
Table 6: Delivery at the outcome and development objective levels (improved performance by UNMA and DWRM)	37

List of Figures

Figure 1: The Results Chain for projects	16
Figure 2: The SCIEWS (Uganda) results chain	17
Figure 3: The CIEWS Specific Results Chain	17
Figure 4: What influences performance along the Results Chain.....	18
Figure 5: Evaluation Criteria along the Results Chain	19
Figure 6: Annual Expenditures of the SCIEWS project.....	36

List of Acronyms

ACDP	Acoustic Doppler Current Profiler
ACTED	Agency for Technical Cooperation and Development
AfDB	African Development Bank
AIDS	Acquired Immunodeficiency Syndrome
AMAT	Adaptation Monitoring & Assessment Tool
ASCII	American Standard Code for Information Interchange
ATAAS	Agricultural Technology & Agribusiness Advisory Services
AWLS	Automatic Water Level Stations
AWS	Automatic Weather Stations
CBO	Community Based Organisation
CbWRS	Catchment based Water Resource Management
CCA	Climate Change Adaptation
CCD	Climate Change Department
CCU	Climate Change Unit
DDMTC	District Disaster Management Technical Committees
DEA	Directorate of Environmental Affairs
DESS	Department of Environmental Support Services
DEWS	Drought Early Warning System
DRDPM	Department of Relief, Disaster Preparedness & Management
DRR	Drought Risk Reduction
DWD	Directorate of Water Development
DWRMA	Department of Water Resource Monitoring & Assessment
EU	European Union
GEF	Global Environmental Facility
GHG	Green House Gas
GIS	Geographical Information Systems
GIZ	German Society for International Cooperation
GoU	Government of Uganda
GPRS	General Packet Radio System
HIV	Human Immunodeficiency Syndrome
HFA	Hyogo Framework for Action
IFAD	International Fund for Agricultural Development
INC	Initial National Communication
IP	Implementing Partner
IT	Information Technology
ITU	International Telecommunications Union
IWRM	Integrated Water Resource Management
JPF	Joint Partnership Fund
JWSSP	Joint Water & Environment Sector Support Programme
KfW	German Development Bank
KP	Kyoto Protocol
LDCF	Least Developed Countries Fund

LRIT	Low Rate Information Transfer
M&E	Monitoring and Evaluation
MAAIF	Ministry of Agriculture, Animal Industry & Fisheries
MoLG	Ministry of Local Government
MTR	Medium Term Review
MSG	Meteosat Second Generation
MTTI	Ministry of Tourism, Trade & Industry
MWE	Ministry of Water & Environment
NAP	National Adaptation Plan
NAPA	National Adaptation Programmes of Action
NC	National Communications
NCCP	National Climate Change Policy
NDP	National Development Plan
NDRRMP	National Disaster Risk Reduction & Management Policy
NECOC	National Emergency Coordination & Operations Centre
NMC	National Meteorological Centre
NWSC	National Water & Sewerage Cooperation
O & M	Operations and Maintenance
OMP	Office of the Prime Minister
QMS	Quality Management System
RUWASS	Reform of the Urban Water & Sanitation Sector
SCCF	Special Climate Change Fund
SCDMC	Sub - County Disaster Management Committees
SKU	Station Key Unit
SMS	Short Message Service
SoP	Standard Operating Procedure
TPC	Technical Planning Committee
TSU	Technical Support Unit
UCC	Uganda Communication Commission
UN	United Nations
UNCT	United Nations country Team
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNMA	Uganda National Meteorological Authority
UNMB	Uganda National Meteorological Bill
UWASNET	Uganda Water & Sanitation Network
WB	World Bank
WIND	Weather Information for Development
WMD	Wetlands Management Department
WMDP	Water Management Development Project
WMO	World Meteorological Organisation
WMZ	Water Management Zones
WS	Water & Sanitation

I INTRODUCTION

1.1 PURPOSE OF THE EVALUATION

6. In accordance with UNDP and GEF M&E Policies and Procedures, all full and medium - sized UNDP supported GEF financed projects are required to undergo a Mid-Term Review (MTR) (at a mid-point in project implementation) and terminal evaluation upon completion of implementation. The purpose of the MTR was to assess the relevance, effectiveness, efficiency, sustainability and impact of the project; and, to assess whether the project is likely to achieve the targets set in the Project Document (ProDoc). It is also to suggest adjustments required in project design and / or strategy to achieve the targets. The lessons learnt are expected to improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming. Detailed TORs are given in Annex I.

1.2 SCOPE AND METHODOLOGY

7. The MTR was conducted in close coordination with UNDP, Government of Uganda (GoU), Project Implementing Partners (IPs) and the concerned UNDP-GEF Regional Technical Advisor (RTA). The MTR took place from 27th September 2016 to 30th November 2016 [30 working days spread over a period of almost two months]. The Inception Report (Annex 2) contains the methodologies and activity schedule used to conduct the review. It was prepared in consultation with UNDP, project authorities, concerned GoU officials and district officials. The list of persons consulted is given in Annex 3.

1.2.1 Desk review of documents

8. The key documents reviewed during the evaluation process are given in the Inception Report (Annex 2). The review provided a basis for the analysis and enabled the consultants to determine what further information was required. The review of UNDP documents was necessary to establish linkages of the project with the umbrella programmes, such as United Nations Development Assistance Framework (UNDAF) and Country Programme. Review of GoU plans, Policies and Strategies enabled linkage of the project results at the national level, and to determine the contribution of the project towards the achievement of goals as stipulated in the GoU plans and Policies.

1.2.2 Preparation of MTR tools and approach

9. The review adopted the theory of change (TOC) approach to evaluation. The TOC articulates the assumptions about the process through which change will occur and specifies the ways in which all of the required early and intermediate outcomes related to achieving the desired long-term change will be brought about and documented as they occur. The first step was therefore to reconstruct the Theory of Change – presented in the sections below, based on the results chain analysis.

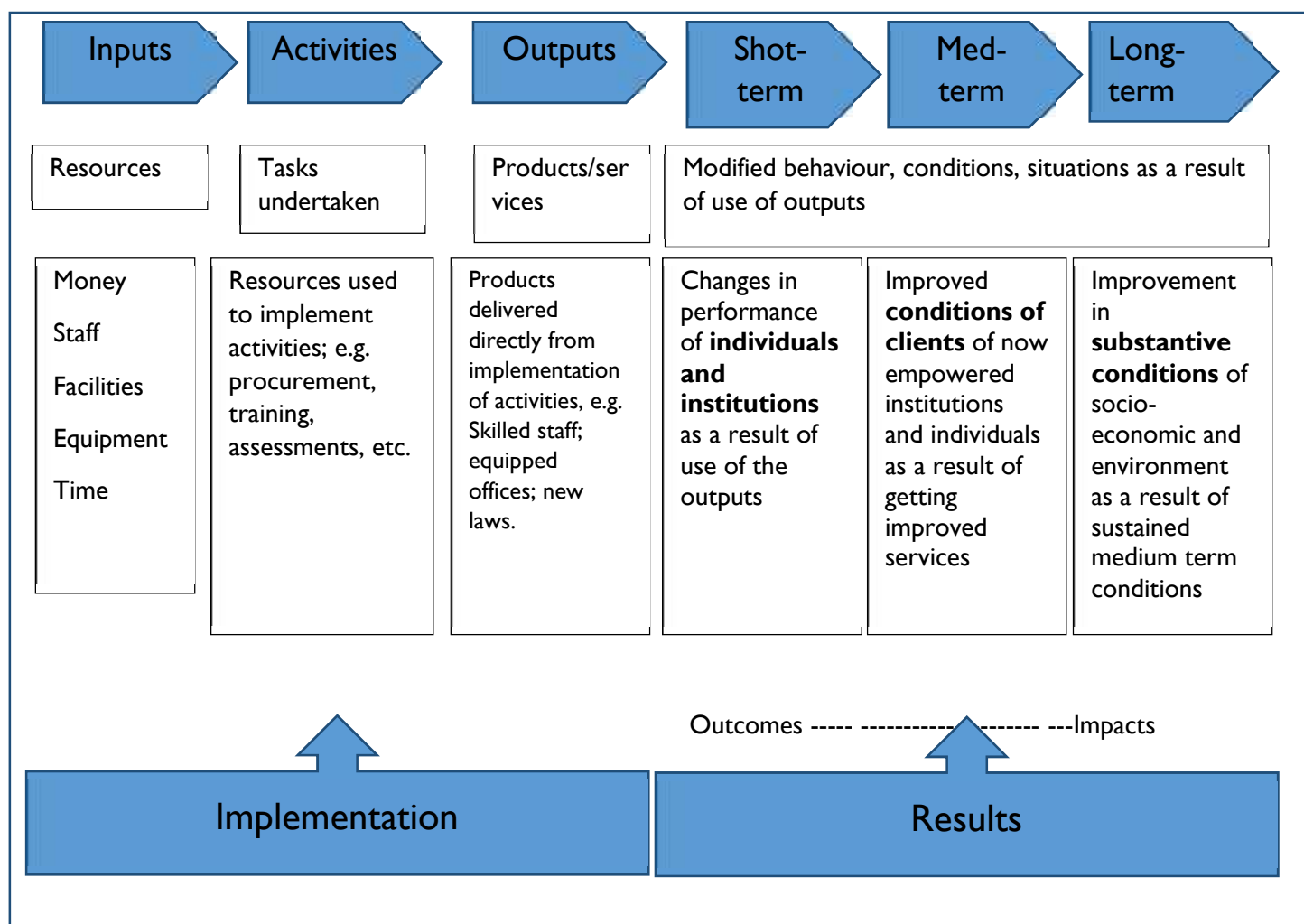


Figure 1: The Results Chain for projects

10. Projects achieve results and impacts through an incremental process, which involves use of all resources (money, time, staff members, and facilities, equipment) to implement activities and deliver outputs. These outputs have to reach the intended users, who must utilize them in order to achieve outcomes. Outcomes occur at three main levels) immediate or short-term in individuals and institutions targeted by the project – for example as a result of training, or better use of newer equipment; b) medium-term outcomes occur when conditions of the project clients improve as a result of getting better services from more empowered institutions and individuals; c) long-term impacts occur on the socio-economic and environmental condition as a result of sustained medium-term results. Use of resources to do activities and deliver outputs is referred to as implementation while delivering short-term, medium-term and long-term outcomes is generally referred to as delivering results.

Figure 2: The SCIEWS (Uganda) results chain

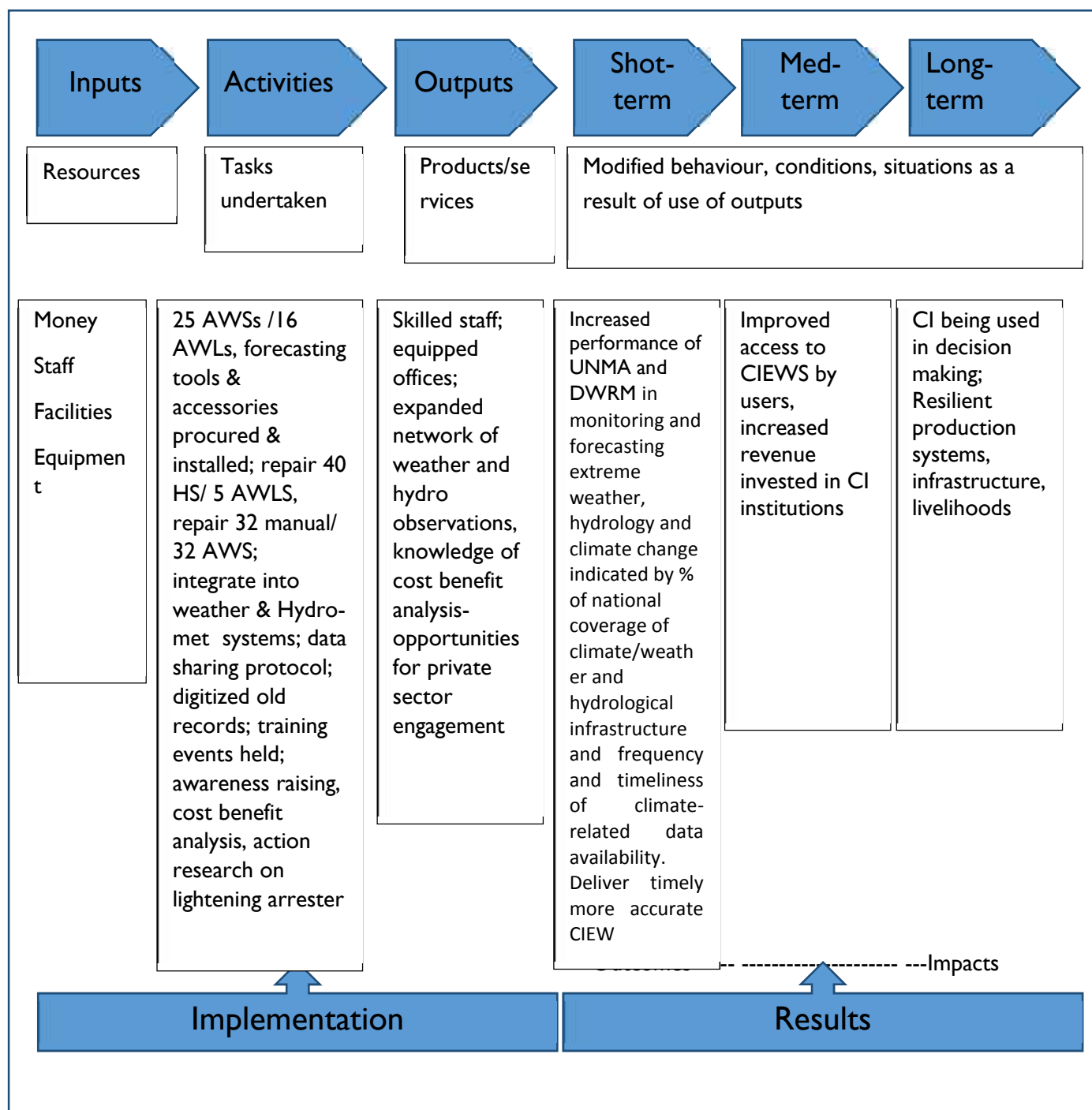


Figure 3: The CIEWS Specific Results Chain

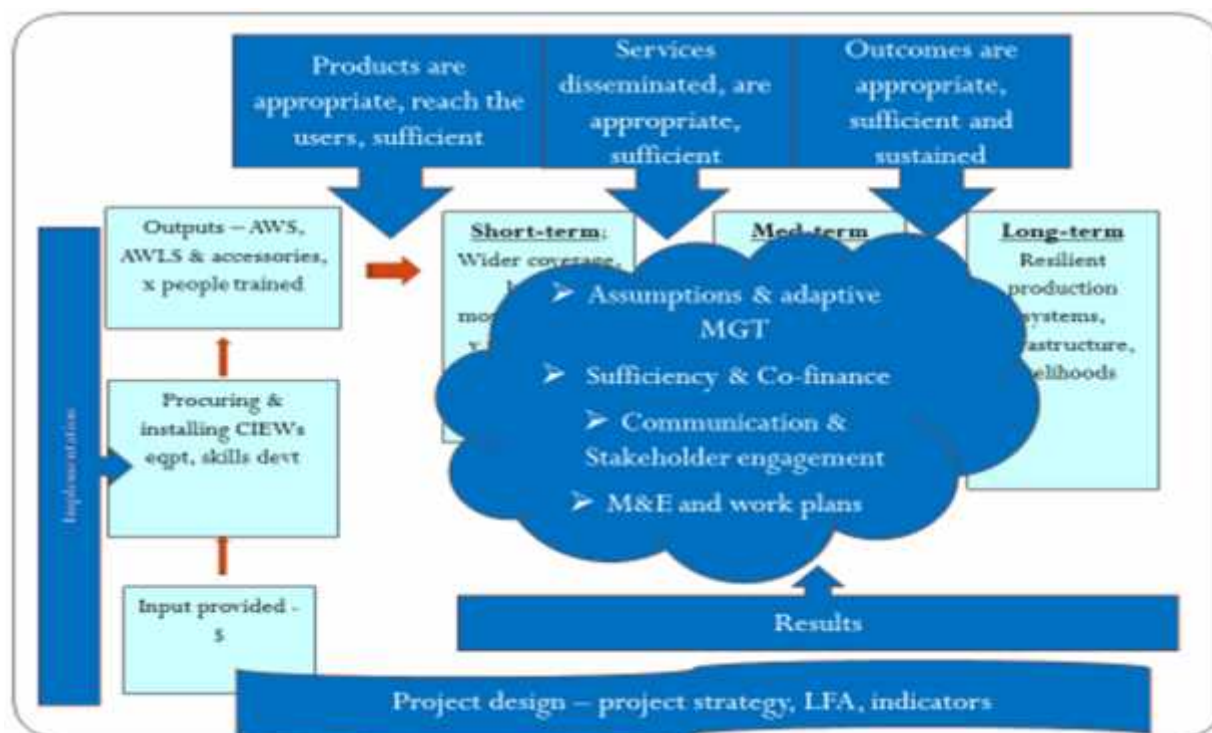


Figure 4: What influences performance along the Results Chain

11. For the results chain to happen, it is assumed that project resources will be adequate to finance all the planned activities, and that activities will be held within time and budget, and that adaptive management will be used to make any necessary adjustments. For the products to lead to short term changes (improvement in capacities of CI institutions to produce timely more accurate climate information and early warning signals) it is assumed that the products will reach the necessary users and will be appropriate and sufficient to address the challenges the project is focused on. For LDCF-GEF projects, it is further assumed that co-finance is made available in time to bridge any gaps in sufficiency of products to address challenges, and that adaptive management, supported by M&E will identify and address any gaps in both sufficiency and co-finance. In this case that automated and rehabilitated manual weather and water level stations, the total solutions automated weather stations, the improved forecasting and communication equipment (computers, automatic message switching systems), etc., truly expand the coverage of met and hydrology monitoring infrastructure significantly, start functioning in a timely manner, can be operated effectively by staff of CI institutions, are appropriate and sufficient to address shortfalls of CI institutions, and that co-finance from government and other partners will be availed to build the required parallel capacity to make efficient use of the new systems.
12. For short-term outcomes (timely and more accurate information) to translate to medium-term outcomes (increased access to this timely and more accurate information) by clients/stakeholders, it is assumed that the new services will be disseminated, through communications and stakeholder engagement, and that once again, adaptive management and M&E will identify and implement corrective measures where needed. For medium term outcomes to become impacts, it is assumed that delivery of medium term outcomes is sustained in the long-term. In this case, that CIEW institutions continue to produce and communicate timely more accurate CIEW to the extent that stakeholders rebuild faith in the reliability of the products and start to use them in decision making, such that agriculture is made resilient, infrastructure development is informed by CI, government investments are influenced by CI, etc. The overall assumption therefore is that the results chain is underlain by a solid yet robust project design, as stipulated in the project strategy, logframe, budgets, and indicators.

1.2.3 Data collection and analysis

13. The evaluation team spent initial 2 days in Kampala to meet with the UNDP Country Office [CO] and GoU officials based in Kampala to discuss with them the inception report, tools, methodology and approach. Thereafter, 7 days were spent in the field to visit the project intervention sites and record the progress achieved. During this time, meetings were also held with the District Officials to record their responses. Particular efforts were made to record evidence-based impact of project interventions, in terms of the progress towards the articulated global environmental benefits of the project.
14. After observing the progress, the team worked from Kampala for another 3 days and interviewed the GoU officials in relevant ministries and recorded their responses in the form of a matrix. During this time, the Programme Manager and Project Coordinator were interviewed to record their impressions, bottlenecks in project implementation, measures taken to remove barriers, changes in project design / implementation and flow of inputs to enhance project implementation, lessons learnt, and best and worst practices.
15. The team examined co-finance as recorded by the project team, comparing it to the co-finance figures provided in the ProDoc.
16. The monitoring and evaluation system practiced by the project was also examined through the review of progress reports and recording of data against the stipulated indicators in the ProDoc. The quality of data was measured from the methodology followed.
17. The catalytic role of the project was assessed by examining whether the project has produced public goods; demonstrated socially and economically acceptable practices and models; replicated best practices by other projects or districts, and scaled up best practices.
18. It was also important to assess mainstreaming of the best practices, approaches, lessons learned in other UNDP focal areas of intervention, such as governance, poverty and gender to ensure an integrated development. This was assessed by examining the practices followed by the project from other thematic areas or the good practices followed by other projects that emerged from areas of interventions.

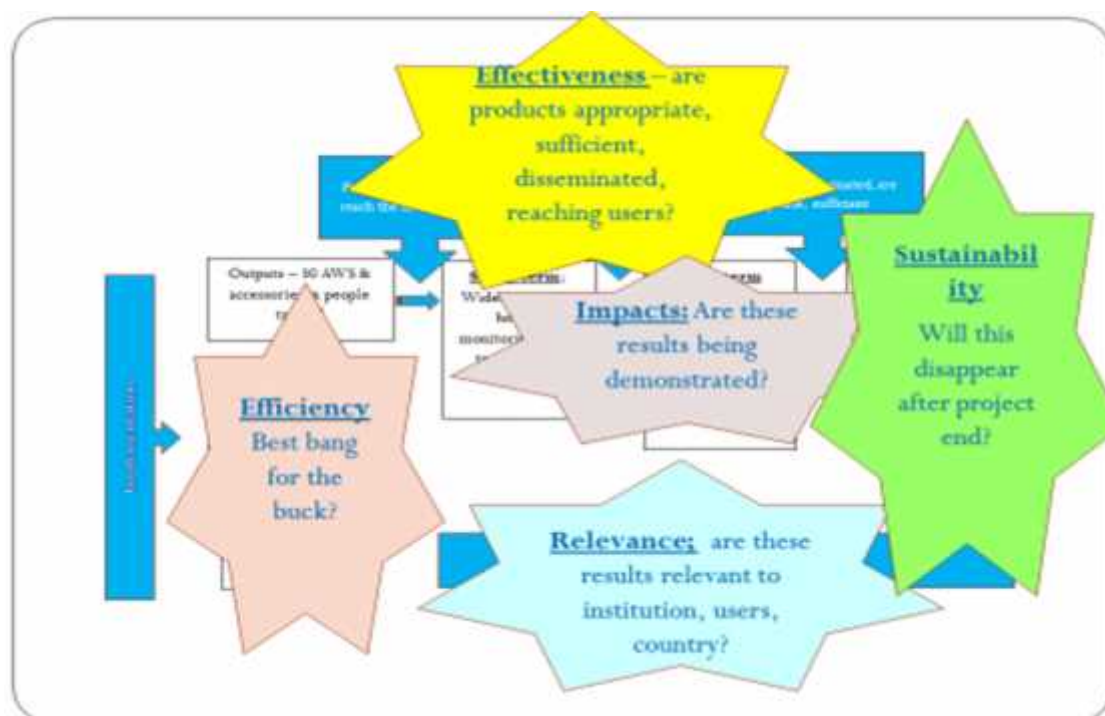


Figure 5: Evaluation Criteria along the Results Chain

19. In line with the ToR (Annex I), the MTR executed three key actions:

- Validate the results chain, checking if the project design was solid, yet robust; whether this is well described in the project strategy, logframes, budgets, indicators, etc.; for example checking if the results chain is well thought out and if the time allocated to implement activities is within reason, if activities are likely to lead to outputs, if outputs are appropriate and sufficient to lead to outcomes, etc.
 - Evaluate whether implementation was done in the most efficient manner - and if the project has delivered outputs at the best value for money possible; if the outputs are being translated into outcomes in the most effective ways possible; if results and impacts are being manifested; if the results are relevant to the country's development agenda and if the impacts can be sustained over the long-term. In other words has the project led to, or is it likely to lead provision of climate information in the country in a way that assists decision making by individuals and organizations; that is user-driven development and provision of knowledge for understanding the climate, climate change and its impacts, and guidance to researchers and decision makers in policy and business; that can facilitate climate-smart decisions that will reduce the impact of climate-related disasters, improve food security and health outcome, and enhance water resource management.
 - Provide recommendations for the remaining project implementation period.
20. Specific evaluation questions used and methods used for data collection, along with the inception report showing the timetable of the review are in annex 2.

1.2.4 Deliverables

21. The assignment produced the following deliverables:
- Inception report, mainly giving methodology, schedule of activities, interviews to be conducted and places to be visited.
 - Final MTR report based on the review of project's financial and technical reports, field research, and interviews of District Officials, IPs, officials of the concerned ministries of GoU, project authorities and concerned UNDP Programme Officers and UNDP-GEF Regional Technical Advisor [RTA]. The report captures the project's achievements against stipulated outputs / outcomes measured against indicators given in the ProDoc, evidence based assessment of relevance, effectiveness, efficiency, sustainability, impact, replication / scaling up, co-financing mobilized, lessons learned, best / worst practices, recommendations and conclusions along with rating tables for all the aforementioned dimensions. It also includes the evaluation consultant code of conduct agreement form, and management response template.
 - Best practices / success stories observed during the study.
 - Photographs to document the progress and various dimensions of the project.
 - PowerPoint presentation.

1.3 Structure of the evaluation report

22. The MTR report is structured in line with UNDP's guidance and covers 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 asset)
 - Project Design / Formulation
 - Project Implementation
 - Project Results
 - Conclusions, Recommendations & Lessons
 - Annexes.

2 PROJECT DESCRIPTION AND DEVELOPMENT CONTEXT

2.1 PROJECT START AND DURATION

23. The project document was finalized and DoA issued on November 20th, 2013, approved on January 2014 for a period of 4 years. Implementation started on March 21st 2014 following the recruitment of core project staff plus re-validation of outputs, including: annual work plans and deliverables; and Monitoring & Evaluation framework. It commenced its operation on 21st March 2014 after the Inception Workshop. The project will be completed in December 2017.

2.2 PROBLEMS THAT THE PROJECT SOUGHT TO ADDRESS

24. Statistics and recent (past three decades) weather events place Uganda at high vulnerability to climate change. The country is said to be experiencing increasing temperatures, shifting rainfall patterns and climate hazards particularly droughts, floods and severe storms (hail, thunder, lightning and violent winds) which the country will continue experiencing in frequency and severity. Average temperatures in Uganda have been predicted to increase by up to 1.5 degrees Celsius in the next 20 years and by up to 4.3 degrees Celsius in the 2080s. Rainfall patterns and total annual rainfall amounts are also expected to change with the climate becoming wetter and increase in rainfall becoming unevenly distributed and occurring more frequently and intensely.
25. The effects of climate change for Uganda include increased food insecurity, increase in incidences of diseases such as malaria, soil erosion and land degradation, damage to infrastructure and settlements by floods, decline in productivity of agricultural and natural resources. Another important impact will be on vulnerable members of the population- poor, people living with disability and HIV/AIDS, youth and children- orphans in particular- the elderly, refugees and marginalised communities. Climate change will push these populations further into the brinks of poverty. So far climate change is said to have impacted negatively on the livelihoods of about 150,000 people and resulted to yearly deaths of about 74 members of the population. Extreme weather events is said to contribute to 70% of natural disasters in Uganda, which results to annual destruction of about 800,000 hectares of crops. All in all, these destructions bring the total economic loss to an excess of UGX 120 billion. Increases in droughts, floods, temperatures and severe storms will have a negative effect on crop production and supply chain. It will also impact negatively on national security, longevity of infrastructure, hydropower production, human health, ecosystem integrity and consequently natural capital.
26. The fundamental problem that this project seeks to address is that the current climate information (including monitoring) and early warning systems in Uganda are not functioning as optimally as they could for effectively supporting the adaptive capacity of local communities and key sectors. This constrains management and early warning activities, as well as restricts long-term planning, better knowledge of expected future climate change impacts, in particular those associated with the expected increase in frequency and intensity of droughts, floods and severe storms. The current state of climate information and early warning systems in Uganda, if not improved, will significantly undermine social and economic development under a changing climate.
27. Weather and climate information, as well as disaster management, has until now mostly focussed on relief and rehabilitation (reactive actions) in Uganda. At present, there are limited hard (e.g. weather/climate observing infrastructure and communications equipment) and soft (e.g. weather forecasting and analysis software, derived analyses of user-friendly information) technologies as well as human and technical capacity to utilise these technologies. This has resulted in: i) insufficient understanding of current and future climate risks; ii) inadequate monitoring and forecasting of climate hazards; iii) inappropriate communication and packaging

of warnings; iv) restricted responses to impending climate hazards; and v) constrained planning for long-term climate changes in economic development and risk reduction efforts.

2.3 IMMEDIATE AND DEVELOPMENT OBJECTIVES OF THE PROJECT

28. The objective of the LDCF project is “to strengthen the weather, climate and hydrological monitoring capabilities, early warning systems and available information for responding to extreme weather and planning adaptation to climate change in Uganda.” This will be achieved by delivering two integrated and complementary outcomes: 1). Enhanced capacity of the Department of Meteorology (DoM) and Department of Water Resource Monitoring and Assessments (DWRM) to monitor and forecast extreme weather, hydrology and climate change; 2). Efficient and effective use of hydro-meteorological and environmental information for making early warnings and long-term development plans.

2.4 BASELINE INDICATORS AND EXPECTED RESULTS

29. The baseline indicators and targets to be achieved, as mentioned in the ProDoc are listed in Tables 4 and 6.

2.5 MAIN STAKEHOLDERS

30. The project concept and design was developed over a period of about two years in a highly participatory manner. Partners met regularly to provide technical input to the project logic and proposal based on their experiences in the field. The project targeted three groups of stakeholders: local authorities and national authorities. The lead institution for all project outputs is the Ministry of Water and Environment. The implementation strategy for the project is dependent on comprehensive stakeholder participation. Participating stakeholders and their key responsibilities are detailed in Table 14 of the Prodoc.

3 MEDIUM-TERM REVIEW (MTR) FINDINGS

3.1 PROJECT DESIGN/Formulation

3.1.1 Analysis of logical framework

31. The log frame has a single development objective and 2 outcomes. The extensive activities are also listed in full, complete with their own indicators. The MTR found that the objectives, components and outputs are clear and appropriate to the threats, root-cause barrier analysis described in the project document. It also found that they are appropriate for the timeframe of the project. This is supported by the fact that there has not been any change in number of outputs, sub-outputs or activities from the original logframe, and the MTR found that project implementation is likely to be completed within time and budget. The indicators of the logframe are relevant, precise and mostly SMART (Specific; Measurable; Achievable and Attributable; Relevant and Realistic; Time-bound, timely, tractable and targeted). All are based on sound scientific monitoring protocols using the most relevant measures for a given criteria. The MTR found that the capacity of executing/implementing agencies was considered while developing project activities and that roles and responsibilities of the partners were made clear from the project design phase.

3.1.2 Assumptions and risks

32. The MTR found that project design sufficiently analysed potential risks and assumptions related to the project and that the assumptions and risks set in the project document were logical and robust. These helped to identify appropriate activities and required precaution measures to address the risks and assumptions. No arrangements for assumptions and risks other than related to natural fluctuation were made to effectively implement project activities to achieve

the targeted results. Two key assumptions need further monitoring: One, the project assumed that it'd receive support from local government authorities, local communities and their leadership to help project implementation with mutual consensus. Two, it assumed that communities that live near the new and old weather and hydro-meteorological equipment take it upon themselves to consistently ensure that equipment is well maintained by responsible institutions and is being protected from vandalism. While the project has received excellent support from the Local government authorities, the MTR found that the communities around the new and existing met and hydro stations have not been meaningfully engaged with the project or the process of strengthening climate information in the country. Although this can be explained by the fact that the component on awareness and outreach is at about 46% delivery, which is in-line with the Multi-Year Project Plan, there is need to engage these communities at the earliest opportunity. In addition, the staff of the Ministry of Local Government has not received training or handing over of the management or maintenance of any stations yet. There is need to determine where such handover may be appropriate.

33. There was an assumption that climate shocks occurring whilst the EWSs are being established would not be so severe as to result in relocation of the communities where the effectiveness of the EWSs will be tested, or to irreparably damage hydro-meteorological equipment. So far no such natural fluctuations took place and such things are beyond the control of the project. The project also assumed that the most up to date technology and scientific approaches and advances available in the market would be feasible and appropriate for meeting the LDCF project needs, and that the level of error for forecasting would be within the minimum thresholds appropriate for the LDCF project activities. The MTR found that although the Total Solutions Automated Weather Stations are amongst the most upto date and suitable equipment for monitoring lightening, an annual maintenance bill of US\$ 260,000 for the five stations is unlikely to be made available by UNMA, raising questions of sustainability.

3.1.3 Lessons incorporated from relevant projects

34. The LDCF project is based on information received from four stakeholder consultations conducted in Uganda from September 2012 to April 2013. The authoritative Early Warning institutions in Uganda are the DoM, DWRM, MAAIF, FEWSNet, and WFP VAM. There is a linkage between the Meteorology Department and Early Warning and Agricultural Statistics Unit in MAAIF and DWRM. MAAIF uses data from Meteorology to advise farmers on what to plant basing on the critical minimums for each of the production processes right from planting to harvesting. Agronomists and agro-meteorologists at MAAIF use weather and seasonal forecasts to prepare advice for farmers regarding appropriate crops for the expected conditions as well as on the occurrence of seasonal dry-to-wet and wet-to-dry transitions for informing planting and harvesting times. In February 2012, the DoM launched an agricultural component of the Mobile Weather Alert pilot project in Kasese District in close collaboration with the Grameen Foundation and WMO. The project focused on delivering agricultural advisories in conjunction with 10-day, monthly and seasonal forecasts directly to farmers in Kasese District.
35. As a result of the success of the above SMS-based pilots, the International Telecommunications Union and the Uganda Communication Commission is implementing the project "Natural Disaster Early Warning System Pilot in Uganda" which will design and deploy a pilot SMS-based public alert system to assist authorities with the dissemination of weather and climate information to targeted communities. ACTED DEWs provides drought warning information to communities within the Karamoja sub-region by making use of community and market indicators. The project assists DDMC/SDMCs use local radio, school and community-based drama groups, fliers, newsletters, and meetings to disseminate particularly drought early warnings and information. At present, donor- and NGO-supported initiatives, namely: i) Uganda Red Cross Society Programme (URCS); ii) ACTED Drought Early Warning System (ACTED DEWs); and iii) Agricultural Technology and Agribusiness Advisory Services (ATAAS), aim to strengthen the DDMC/SDMCs disaster risk reduction and early warning

system activities in certain priority regions, particularly the Karamoja sub-region. The MTR found that the project design incorporated lessons from these initiatives.

36. The project is also part of an II-project Portfolio in Africa, which is addressing the same CIEWS issues. These projects have been actively coordinated as a portfolio and several knowledge exchange events have been organized.

Lesson I: Mainstreaming lessons from other projects is a cost effective measure because it avoids duplication and waste. The choice of Implementing Partner with the necessary linkages to other adaptation and CIEWS projects, and the fact that this project was part of an II project Portfolio played a key role in the excellent level of exchanging lessons from the portfolio to the benefit of all of them.

3.1.4 Replication approach

37. The MTR found several areas that support replication of project results:

- The project has empowered MWE's capacity to collect and process meteorological data (outcome I). Although the project is piloted in 28 districts, which benefit from a denser coverage of monitoring stations, the Automatic Message Switching System has increased the country's access to regional weather data, improving the weather forecasting for the whole country. The project has therefore generated improved climate information at a national level, and activated communication channels and procedures for issuing alerts including advisories, and warnings at a national and local level. There is thus considerable scope for replication of activities in the other II sub-regions of Uganda, using the improved climate information generated at the national level and the experience in developing locally relevant products for initial target regions. UNMA needs to identify operational gaps in replication efforts that can be included in the next medium term project. To facilitate the effective replication of project activities, the lessons learned during the project implementation will be disseminated nationally through training programmes, the online platform and toolboxes including courses and manuals.
- The SCIEWS project conditions for broader replicability have also been facilitated through the increase in national coverage of the hydro-climate monitoring system (from 10 % to 30 %) and the development of Standard Operating Procedures, which will enable the further integration of climate information into planning at all levels, and which will set the conditions for operating an EWS country-wide. Dissemination of forecast to a wider community will trigger large application of CI in decision-making (outcome I).
- The close involvement of government institutions and departments – principally UNMA and DWRM – in the LDCF project's development and implementation means there is considerable potential for future incorporation of the project's approaches into on-going planning and strategies. Additionally, it is expected that the strengthening of capacities among key government stakeholders will enable continued mainstreaming of the use of climate information and early warnings into sectoral planning and decision-making. There's however need to implement the projected training and capacity building of local communities and technical staff regarding the application of climate information and the response to early warnings, to ensure the uptake and sustainable use of climate information in decision-making.
- Success stories on improved CIEWS developed by the project have been posted on the CIRDA and UNDP websites. Several others stories are mentioned in electronic media, e.g. https://mail.google.com/_/scs/mail-static/_/js/k=gmail.main.en.VlyfbbYw8vl.O/m=m_i.pdt,t,it/am=MovrAiD_7_uDODIAyEqfQTD7_vnmUtmxzz3_vz9AFPIF-H-z_wf4P_aiFgo/rt=h/d=1/rs=AHGWq9DK6TMBu_UH9ShgZtg2Uh3AdqfOBAhttp://bit.ly/1YdmgFe. [http://undp-cirda.blogspot.ug/2016/10/climate-information-early-warnings-to.html?utm_source=feedburner&utm_medium=email&utm_campaign=Feed:+Multi-countrySupportProgramCirda+\(Multi-country+Support+Program+CIRDA\)](http://undp-cirda.blogspot.ug/2016/10/climate-information-early-warnings-to.html?utm_source=feedburner&utm_medium=email&utm_campaign=Feed:+Multi-countrySupportProgramCirda+(Multi-country+Support+Program+CIRDA)). <https://undp->

[adaptation.exposure.co/innovative-climate-data](https://undp-adaptation.exposure.co/innovative-climate-data). <https://undp-adaptation.exposure.co/623a11bc33622ca5c3d79ff3b296087b>. <https://undp-adaptation.exposure.co/623a11bc33622ca5c3d79ff3b296087b>. [https://www.film4climate.net/Uganda: Collecting Data, Saving Lives](https://www.film4climate.net/Uganda:CollectingData,SavingLives). <https://www.film4climate.net/fbapps/profiletab/?eid=1983745>. The below link will take you to a webpage where you can download the report (scroll to the end of the page). <http://adaptation-undp.org/resources/knowledge-products/climate-and-weather-services-market-assessment-revenue-generating>

3.1.5 UNDP comparative advantage

38. The MTR found UNDP has demonstrated its comparative advantage regarding the SCIEWS project in three key aspects: i) it has experience designing and implementing climate change adaptation and climate information projects in Africa and world-wide. The SCIEWS Uganda project is one of 11 in a global portfolio that is addressing the same set of challenges and making headway in improving the state of generation and use of climate information in Africa. Three meetings have brought together all the 11 projects, with their selected stakeholders, demonstrating that there is active exchange of experience and knowledge amongst the 11 projects; ii) related to the above point, having a large portfolio of projects addressing the same challenges has enabled UNDP to organize cost effective technical teams to support the SCIEWS Uganda project. In addition to the three level project support provided by UNDP (consisting of teams in the country, the regional and global office), the SCIEWS portfolio has been supported by a special technical team based in New York, which has provided technical support cost effectively; iii) a large part of the SCIEWS project is procurement of weather and hydrological equipment from the international markets. The project has benefitted from UNDP's back-up systems for international procurement; the procurement of the automated weather stations and the Total Solutions Automated Weather Stations was accelerated through the UN procurement. Procurement of the hydro-met equipment is however delayed.

3.1.6 Linkages between project and other interventions within the sector

39. The MTR found that the LDCF project was designed to support implementation of the provisions of the National Development Plan (2010-2014), UN Development Assistance Framework (UNDAF), National Disaster Risk Reduction and Management (DRRM) Policy, National Climate Change Policy (NCCP), and NAPA. It was also designed to support the capacity building of the newly formed Uganda National Meteorological Agency. It was also designed in close collaboration with the Department of Relief, Disaster Preparedness and Management (DRDPM) in the Office of the Prime Minister (OPM). The DRDPM coordinates the implementation, review and monitoring of the NDRRM Policy. The LDCF project is consistent with these priorities and is aligned with the NCCP's 'research and observation' priority area, which includes monitoring, detection, attribution and prediction. Uganda's NAPA identified strengthening meteorology services as an urgent and immediate need for building climate change resilience in the country. The LDCF project addresses this need as it focuses on enhancing the capacity of the Department of Meteorology to provide efficient, timely and reliable weather and climate information to vulnerable communities. The Early Warning Subcommittee of the National DRR Platform has recently been formed with the mandate for monitoring of all national EVS. It is currently looking at developing regular early warning bulletins and examining the dissemination structure. All EVS information that is not time-essential must be disseminated through this structure, although as yet the dissemination structures have not been fully developed. The Ministry of Agriculture, Animal Industries and Fisheries currently facilitates the dissemination of seasonal alerts and relevant warnings through its national structures, down to the district level. It provides agricultural extension services to rural farming communities and is therefore a key implementing partner for the project. The project is also implemented in close collaboration with the GiZ and World Bank supported Climate Information projects coordinated by UNMA.

3.1.7 Management arrangements

40. The project is implemented by UNDP, under National Implementation Modality (NIM) modality. It is executed by the MWE, which is responsible for coordinating the implementation of activities and production of results. Day to day project implementation is undertaken by a Project Management Unit (PMU), which consists of a Project Manager, finance officer, procurement associate and two drivers. The PMU is supervised by both UNDP and UNMA. A Project Board is responsible for providing overall guidance and direction to the project. The MTR found that the project management arrangement promoted efficiency and effective project implementation. The PMU has the flexibility to utilise comparative advantages of all key stakeholders, using whichever systems were deemed to be most effective for particular activities. For example using UNDP for procurement of the met and hydro met equipment as well as high-level technical assistance not easily available in the country. Some stakeholders opined that the PMU should have been hosted in the Government premises (e.g. UNMA), which they thought would have increased ownership of the project by government. While this is a valid opinion, the MTR found no disadvantage to implementation from the current arrangement.

Lesson 3 - A capable PMU staffed with a PM who thoroughly understands both UN and Government bureaucracies is a worthwhile investment, and more important to project success than the placement of the PMU.

3.1.8 Project implementation

41. As shown in Table I, the MTR found that implementation has proceeded in accordance with the project document, multi-year and annual work plans. In summary, there are no serious delays in any part of the project implementation (as per workplans). Highlights include the following:

- Procuring and installing SCIEWs equipment has been completed – notable items includes 20 automated weather stations, a Message Switching System in Entebbe and 5 Total Solution Automated Weather Stations (TSAWS). In addition, two servers have been installed at UNMA (Kampala and Entebbe) to receive data from the TSAWS².
- 16 hydrological AWLSs equipment for the hydrology sector is being procured and installed later in 2016 (slight delays, but no real problems).
- Skills development: 4 sub-national workshops held for 28 Districts' leadership to sensitize them about the early warnings in the country and their expected roles and responsibilities.
- Awareness raising: through inception workshop, in collaboration with the Ministry of Local Government and UNMA a series of workshops have been organized for partners from the 28 pilot districts in the Elgon, Karamoja, Teso and Lango Sub-Regions.
- The Public-Private Partnership (PPP) initiative: a number of weather product developers for example FIT Uganda, Human Network International (HNI) and UBIMET have expressed interest in signing Memorandum of Understanding with UNMA to deal in weather information and hence explore CI product markets as a source of additional income for the meteorology sector. Earth Networks, the supplier of the TSAWS have also proposed a PPP to offset the on-going operational costs. This outcome in addition to the already enhanced collaboration with the Civil Aviation Authority (CAA), is expected to boost UNMA's revenue base and hence sustainability of its services. The ultimate benefit of the project is to make an impact to the end users of the weather and climate information. To respond to this expectation a downstream activities have begun via sub-national dialogues on weather and early warning to communities.
- Assessments – two key assessments were implemented: i) baseline assessment of the extent to which various stakeholders receive CIEW and characterization of the stakeholders; ii) market assessment – which used a cost benefit analysis to demonstrate the revenue generating potential of climate information. It also identified organisations providing commercial services to the industry in Uganda (listed in the bullet point above). This demonstrated the potential

² UNMA needs to connect the servers to the internet in order to receive data from the TSAWS

for UNMA to partner with companies that have an existing service to the industry, or the danger that UNMA may cease to be relevant if they do not respond to the industry demands for products and services cost benefit analysis of the CIEW information provision.

Outputs

42. The MTR found that all key outputs and products have been delivered, in accordance with the Multi-Year and Annual Work plans. Key notables include the following:
 - Functional equipment - 20 AWS, 5 TSAWS, 27 hydro-meteorological stations and 5 AWLSs in WMZs (comprising 12 in the Upper Nile WMZ, 9 in the Kyoga WMZ, 16 in the Albert WMZ, 8 in the Victoria WMZ); Automatic Message Switching System (AMSS) which now analyses and exchanges weather information from the National Meteorological Centre to the Global Telecommunications System and the Regional hub in Kenya Meteorological Department in Nairobi; 16 Automatic Water Level Stations including solar panels, batteries, data transmission software packages and networking facilities has been delivered during September 2016 and is expected to be installed January 2017 after houses have been constructed.
 - Protocols and Agreements including standard operating procedures for early warning data sharing among government agencies and partners in Early Warning System have been developed and are pending review by the partners along with staff from the Solicitor General's Office and eventual signing by willing Ministries Departments and Agencies.
 - Trained personnel - 131 people have skills in accessing climate and early warnings information in the country and their expected roles and responsibilities; 10 meteorological and 12 hydrological technicians (70% men, 30% women) have improved skills on the operation and maintenance of the installed AWSs and AWLSs; 4 officials of MAAIF, DRDPM, UNMA and DWRM have skills on hazard and vulnerability mapping necessary for producing sector-specific risk maps. They can now do so using climate and weather data and vulnerability information for disaster-prone districts in the Teso and Mt. Elgon sub-regions (to include GIS centre for practice based at NECOC);
 - Stronger partnerships for CIEWS production, dissemination and use in the country: Governance framework strengthened via the National Platform for disaster risk reduction (DRR) with Standard Operating Procedures and MoUs on data sharing among MDAs; UNMA has made progress in consolidating capacity and NECOC supported to fulfil its mandate. Technical Teams in the Districts have better understanding and the importance of CIEWS and their role in disseminating CIEWS (via the District Disaster Management Committees);
 - Knowledge to guide refinement and sustainability of CIEWS value chain: (to provide a synthesis of the findings of the two assessments).
43. It is however noted that there was a delay of 5 month in the start-up of implementation of the project due to the late recruitment of project staff. The project was signed in November 2013, implementation started in March 2014 and is slated to end in December 2017.

Lesson 4 - The MTR believes that the excellent working relationships between UNDP, PMU, UNMA and DWRM contributed to the high delivery achieved by this project, despite the five-month late start. While all these units worked hard to build the relationships, the PMU played the critical role of maintaining the relationships that ensured smooth delivery of project results. Investing in a capable PMU that understands the importance of such relationships is an excellent investment.

Recommendation 1: The MTR recommends that project should be given a non-cost extension of 5 month to allow more time for the Implementing Partner to trouble shoot operational gaps and enable UNMA to smoothly go beyond the threshold of replication and trigger meteorological data revolution in Uganda (Action UNDP and GEF).

Table 4: State of project implementation and delivery of key outputs by October 2016

Output	Indicator	Baseline	Target	Achievement by Oct 2016	Budget	Expenditure	Delivery	Status
Output 1.1: 16 Automatic Water Level Stations (AWLSs) installed and 40 manual hydro-meteorology stations and 5 AWLSs rehabilitated in the Victoria, Kyoga, Albert and Upper Nile Water Management Zones (WMZs.)	Number of Automatic Water Level Stations (AWLSs) installed and functional	10 AWLS installed and functional	26	26 AWLS installed and functional	1,546,400.00	759,519.25	50%	On track
	Number of manual hydro-meteorology stations rehabilitated in the Water Management Zones (WMZs.)	35 manual hydrological stations and 5 AWLSs in WMZs	Repairs of 40 manual hydrological stations in all the WMZs is ongoing	75 manual hydrological stations repaired				
	Number of AWLS rehabilitated	None Rehabilitated	0	5AWLS repaired				
	Number off Acoustic Doppler Current Profiler (ADCP)	None existing (0)	0	1				
Output 1.2: 25 Automatic Weather Stations (AWS) installed and 32 manuals (12 synoptic, 10 agro-meteorological and 10 hydro-meteorological) and 32 AWSs rehabilitated in priority district	Number of Automatic Weather Stations (AWS) installed	12 AWS installed	25 installed	25 Automatic Weather Stations (AWS) installed	1,546,400.00	759,519.25	50%	On track
	Number of Manual Weather Stations (MWS) upgraded (Synoptic)	12 MWS upgraded, Synoptic	11	12 synoptic stations upgraded				
	Number of Manual Weather Stations (agro-meteorological) upgraded	10 Manual Weather Stations (agro-meteorological) upgraded	7	10 agro-meteorological upgraded				
	Number of Manual Weather Stations (hydro-meteorological) upgraded	None existing (0)	10	10 hydro-meteorological stations upgraded				
	Number of obsolete/ poorly functioning stations rehabilitated/Upgraded	None existing (0)	28	32 obsolete/poor functioning stations rehabilitated and upgraded (12 Synoptic, 10 hydro-				

				meteorological; and 10 agro-meteorological)				
Output 1.3: Weather and climate forecasting facilities upgraded including an integrated hydro-meteorological data management and information system and an online web platform for operationalizing collaboration arrangements and procedures between DRDPM and UNMA	Establishment of a Knowledge-sharing protocol between UNMA and DWRM	No knowledge sharing-framework exists	1	An operational information sharing platform between UNMA and DWRM	71,000	9,175	6%	Off track
	An Upgraded hydro-meteorological Data management and information system	Weak Climate Information MIS	0 – priority for 2017	A functional and well maintained climate information system				
	Online web platform for operationalizing collaboration arrangements and procedures between DRDPM and UNMA	No Web Portal	0 – priority for 2017					
Output 1.4: Capacity developed for operating and maintaining observation networks and related infrastructure including training 9 meteorological and 10 hydrological trainers and 50 weather observers, raising local community awareness, developing an O&M toolbox, and establishing internal arrangements and procedures between UNMA and DRDPM	Number of meteorological staff trained in operating and maintaining observation network	1 staff trained in operating and maintaining observation network	5	9 meteorological staff trained	22,500	9,225	41%	On track
	Number of hydrological staff trained in operating and maintaining observation network	6 staff trained in operating and maintaining observation network	2	Additional 4 – hydrological trainers trained in operating and maintaining observation network (10 hydrological trainers)				
	Number of community weather observers trained in creating awareness	No observers trained in creating awareness in weather and climate information	10	50 weather observers trained at Soroti, Kasese, Gulu and Masaka regional training sites				
	Number of meteorological technicians trained	1 technician trained in operating and maintenance of meteorological infrastructure	2	5 meteorological technicians trained				

	Number of hydrological technicians trained	2 technicians trained in operating and maintenance of hydrological infrastructure	4	6 hydrological technicians trained				
	Development of an Operations and Maintenance toolbox	No toolkit	0	Operations and Maintenance Toolbox developed				
Overall delivery for outcome I					1,546,400.00	759,519.25	50%	On track
Output 2.1: Technical capacity of UNMA and DRDPM is strengthened by training 16 forecasters – including 8 senior and 8 junior – to build in-house capacity for producing standard and customised weather and climate forecasts and packaging hydro-meteorological data and information into a suitable format for user-agencies and local community end-users.	Number of senior meteorologists trained at UNMA	3 meteorologists have been trained	9	7 senior meteorologists/ forecaster trained	51,600	48,251.81	94%	On track
	Number of junior meteorologists trained at (UNMA	2 trained	6	4 junior meteorologist's forecasters trained				
	Number of senior hydrologists trained at DWRM	3 senior staff attended internship	4	7 senior hydrologists trained through internships				
	Number of junior hydrologists trained at DWRM	2 junior staff trained	4	6 junior hydrologists trained				
	Training toolkit developed	None existing (0)	0	Training toolkit developed				
	Number of hydro-meteorological internships in foreign countries	0 – internships held	0	2 hydro-meteorological internships secured				
Output 2.2: Tailored weather and climate information (including colour-coded alerts – advisories, watches and warnings – for flood, drought, severe weather and agricultural stresses, integrated cost-benefit	A Climate Information Production System (CIPS)	No Information production system	1	A weather and climate information online platform housed at the National Early Warning Data and Documentation Center based at the DRDPM.	47,300	49,498.75	105%	Achieved
	Production of colour-coded alerts – advisories, watches and warnings – for flood,	No alert system exists	In place via OPM	Regular, timely and informative climate				

analyses and sector-specific risk and vulnerability maps) made accessible to decision makers in government, private sector, civil society, development partners and local communities in the Teso and Mt Elgon sub-region.	drought, severe weather and agricultural stresses, integrated cost-benefit analyses and sector-specific risk and vulnerability maps			change alerts being produced.				
	Number of hazard and vulnerability mapping personnel from MAAIF, DRDPM, UNMA and DWRM trained	None trained	8 personnel trained (2- from each institution: MAAIF, DRDPM, UNMA, DWRM)	4 personnel trained (1- from each institution: MAAIF, DRDPM, UNMA, DWRM)				
	Develop a protocol for data and information exchange, analysis and dissemination among UNMA, DWRM, and MAAIF, DRDPM, CCU and related institutions.	None existing protocols between institutions (0)	1 between UNMA and DWRM	A fully functional Protocol established between the production and user agencies				
	Number of handbooks and policy and information briefs highlighting the value of enhanced hydro-meteorological services and early warning systems.	None existing (0)	1 on Cost Benefit and Market of UNMA products	Handbooks and policy briefs and information guides being produced.				
Output 2.3: Weather and climate information mainstreamed into national Policies, annual work plans and local development including the National Policy for Disaster Preparedness and Management, and district and sub-	Number of national/Local government Policies which have mainstreamed weather and climate information	No Policies that have mainstreamed climate change	2 : on disaster preparedness and meteorologic al act	Included in 30 district development plans	49,000	42,992.70	88%	On track
	Number of Policies and plans under review within the DRWM and UNMA for better climate adaptation management	None existing (0)	1	One produced by the end of the project				

county development plans in priority districts in the Bukedi, Busoga, Elgon, Teso, Acholi, Karamoja and Lango sub-regions.	Number of district annual work plans which have mainstreamed weather and climate information	None (0)	28	8- districts mainstreaming weather and climate information into the district annual work plans				
	Development of a National weather and climate information and early warning system communication and coordination strategy	No strategy exists	1 Communications Strategy for UNMA developed and is operational	A definitive National weather and climate information and early warning system communication and coordination strategy.				
	Number of members of Sub-county and DMCs trained in 18 districts in Eastern Uganda	30 trained	87 trained	90 trained				
	Number of members of Sub-county and DMCs trained in 12 districts in Northern Uganda	24 trained	36 trained	60 trained				
Output 2.4: Governmental and non-governmental communication channels and procedures for issuing alerts including advisories, watches and warnings are strengthened at a national and local level including the development of an early warning system dissemination national and local toolbox and mobile-based alert platforms in the Teso	Development of a National EWS dissemination I toolbox	No Early warning system,	60% of EWS implemented	100% of EWS implemented	30,000	29,119.69	97%	Achieved
	Establishment of call centers/hotline and internet connection at the DRDPM linked to the UNMA and DWRM.	No hotline (0)	One functional hotline at NECOC	One functional hotline				
	Establishment of an SMS-based alert system for floods, droughts, severe weather and other agricultural advisories for local farmers and vulnerable communities in Teso and Mt. Elgon sub-regions.	No SMS alert system exists	1 via NECOC	A highly publicized SMS awareness network established for climate information dissemination				

and Mt Elgon sub-regions.	SOPs for disseminating weather at all levels (community, local-level, state/province-level and national level)	No SOPs exist	I for data sharing among UNMA and DWRM in place	Functional SOPs at all levels				
Output 2.5: Sustainable financing options – including appropriate government cost recovery arrangements, service level agreements and public-private partnerships – identified, developed and implemented for the operation and maintenance of the installed hydro-meteorological observation, forecasting and early warning system.	Level of finance/ budgetary allocation to UNMA and DRDPM for climate change adaptation	Budget allocations < 25% of planned?	Budget allocations increase by 100%	Budget allocations increase by 60%	22,000	22,954.02	104%	Achieved
	Comprehensive study to establish the viability of different sources of revenues to capitalize on potential income streams.	No strategy for potential income streams	One existing strategy for income streams	Enhanced income streams accruing from UNMA data products				
	Number of Service level agreements developed with users of UNMA data	No service agreements exist	One service agreement developed	Several service agreements				
Overall outcome delivery					288,900	257,178	89%	On track

3.1.9 Adaptive management

44. The MTR found that adaptive management was applied as circumstances demanded. The key decision point needing adaptive management was the implementation of the findings of the assessment of the equipment for monitoring lightening. The report suggested that ten Total Solutions Automated Weather Stations (TSAWS) would be required to cover the country. However, budget analysis demonstrated that only 5 could be accommodated, upon which the decision was made to replace 5 Automated Weather Stations with TSAWS (even though the costs are drastically different, at US\$ 25,000 for AWS versus US\$ 100,000³ for TSAWS. This did require further adjustments; the project planned to renovate 32 weather stations and 40 water levels but was later changed to 27 weather stations and 28 water levels.
45. Other issues addressed via adaptive management are that - Emerging needs that were not originally provided for in Project Doc: upgrade of hydrological monitoring stations to automatic (US\$ 200,000); software for the AMSS archiving system (50,000); Numerical Prediction Software (100,000 US\$).
46. The MTR however found that although there is documented evidence that the project steering committee fully participated in the discussions and approval of the purchase of the TSAWS, there remains a feeling that the PSC was coerced into agreeing to this expensive equipment, and that they did not fully comprehend the full implications of the recurring maintenance cost (US\$ 261,000 per year) at the time of the decision. The MTR however notes that The PPP (MOU) proposed by Earth Networks provides for the offset of the on-going costs of the system through an equitable share of risk and revenue. This principle of PPP is an important tenant of the CIRDA programme to ensure sustainability. There is need to clarify this to the government (UNMA), although a budgetary allocation for the government part of maintenance of the TSAWS still remains a challenge.

Lesson 5 - Sophisticated and expensive to maintain technology may not be suitable or acceptable solution for establishing CIEWS.

3.1.10 Partnership arrangements (with relevant stakeholders involved in the country/region)

47. The MTR found that project implementation relied on partnerships for the improved, efficient, accurate and timely production of CIEWS, as stipulated in the project document.

3.1.11 Project Finance (and Co-finance)

The GEF contributed US \$ 4.0 million, the Government's in-kind contribution was supposed to be US \$ 23.664 million. By MTR, the Government provided US \$ 15.1 million (Government staff time, office space, vehicles, etc.). The contribution of the Government indicates a strong commitment towards the project objectives.

Table 5: Co-financing by the SCIEWS Project partners

Organization/Co-financier	US \$		Remarks
	Commitment	Realized	
I. Government of Uganda (GoU)/MWE-Uganda National Meteorological Authority (UNMA), budget allocation	6,000,000	3,000,000	Staff time for installation of Automatic Weather Stations (AWS); training of sub-national partners from 28 pilot districts; Office space for Technical Focal Person, including stationery, communication, utilities, participation in project planning meetings and monitoring visits, review of documents including BoQs for construction and analyzing

³ The cost of \$100,000 also includes the services of running a forecasting system, climate data display, training etc.

			Bids for equipment to be procured; provision of transport with fuel for supervision of sites for the project; Participation in briefing meetings , Board meetings and Technical Committee meetings.
2. GoU, MWE, Joint Partnership Fund, Joint Water and Environment Sector Support Programme (JWESSP)	5,400,000	3,000,000	Sector Review meetings, monitoring and reporting
3. UNDP Strengthening Uganda's Disaster Preparedness and Management Capacities (SUDPMC)	3,900,000	3,900,000	Supported the establishment of the National Emergency Coordination Centre (NECOC); carrying out vulnerability assessments across the country and supported development of contingency plans and the District Disaster Management Committees to ensure their implementation.
4. GoU, Directorate of Water Resource Management (DWRM) budget allocation	2,800,000	1,700,000	Participation in project planning meetings and monitoring visits, review of documents including BoQs for rehabilitation of weather stations and analyzing Bids for equipment to be procured; Participation in briefing meetings, Board meetings and Technical Committee meetings. Office space for Technical Focal Person, including stationery, communication, utilities; management time for coordination of SCIEWS project activities on behalf of all the partners;
5. GoU, Department of Relief, Disaster Preparedness and Management (DRDMP)/Office of the Prime Minister (OPM) budget allocation	1,500,000	1,000,000	Collection of early warning information from weather and climate information generators and communities; dissemination of early warning alerts to communities; cost of hiring staff to run the NECOC;
6. German Agency for International Cooperation (GIZ)	1,264,000	800,000	Provision of AWSs to UNMA and installation of hydrological stations in Kyoga WMZ, including provision of technical support to the regional water offices in Eastern Uganda.
7. MWE, World Bank (WB), Water Management and Development Project (WMDP)	1,100,000	500,000	Support to formation of the Catchment Based Water Management Structures across the country; technical support to monitoring water resource use.
8. GoU, MAAIF, Agricultural Technology and Agribusiness Advisory Services Programme (ATAAS)	1,000,000	700,000	Participation in the SCIEWS project Board and Technical Committee meetings and planning sessions; dissemination of weather forecasts to farmers across the country and building the capacity of farmers to utilize the weather products.
9. Agency for Technical Cooperation and Development (ACTED) Drought Early Warning System (DEWS)	400,000	300,000	Dissemination of weather forecasts to communities in Karamoja sub-region.
10. The International Telecommunications	300,000	200,000	Participation in Board, Technical Committee meetings; dialogue with the private sector

Union and Uganda Communication Commission (ITU/UCC)			partners; Support to dissemination of weather products; pilot project in Eastern Uganda.
TOTAL	23,664,000	5,100,000	

48. The annual expenditure for the project funds is summarized in figure 5 below. Comparing budgets in annual work plans with actual expenditures reported in combined delivery reports, financial delivery rates generally improved over time. By October 2016, about 72% of the budget had been spent. As per the rules and regulations of UNDP, the project accounts are supposed to be audited. Project accounts have so far not been audited. Implementing Partner project should ensure the project is annually audited.

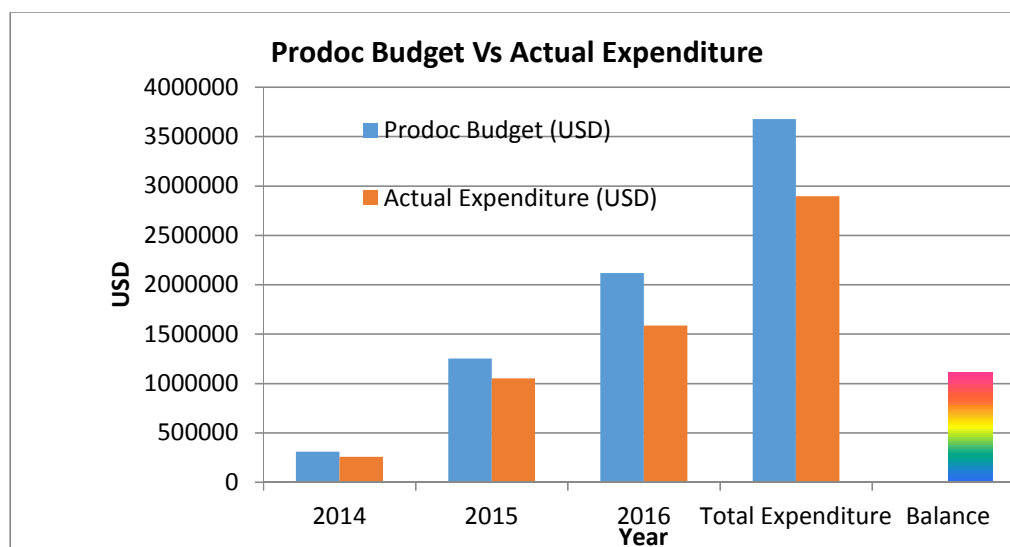


Figure 6: Annual Expenditures of the SCIEWS project

3.1.12 Monitoring and evaluation: design at entry and implementation (*)

49. The MTR found that the M&E design at entry was in-line with UNDP-GEF guidelines. Relevant indicators included baseline and target values, and the M&E plan was budgeted for adequately.

3.1.13 UNDP and Executing Agency implementation / execution, coordination and operational issues

50. The MTR found that the project implementation was well coordinated with all the initiatives cited in the project design and that implementation has been efficient and effective. UNMA has played a key role in ensuring that the project initiatives are coordinated with other initiatives in the sector and with government programs on disaster risk management and climate information.
51. The short delay in the start up of implementation (November 2013-March 2014), seems to have been partly due to slow institutional staff planning at the UNDP, i.e., the recruitment of the project management team was somewhat delayed and occurred after signing of project document. The MTR however found that the delays experienced in the beginning of the project did not affect overall efficiency and achievement of the project outcomes.

3.2 Project Results

Intermediate outcomes achieved - Satisfactory

52. In addition to the outputs listed in Table 4 and section on implementation (above), the MTR found that the project has delivered short-term results to a Satisfactory level (Table 3). From the ToC presented earlier, the short-term outcomes expected from the project is “increased

performance of CIEWS agencies; demonstrated by expanded coverage of the country by met and hydro monitoring infrastructure (from production of timely, more accurate climate information and early warning signals”). The review found plenty of evidence of improved performance by UNMA although not yet by DWRM (Table 3).

53. However, the provision of Sector-specific Policies, annual budgets and development plans that integrate climate information (type and level of development plans) is yet to happen. Enactment of by-laws and ordinances for supporting decentralized implementation of CI services is still required and should be done in line with the decentralization of CIEW services.

Recommendation 2: The Implementing Partner should speed up the enactment of by-laws and ordinances for supporting decentralized implementation of CIEW services.

Table 6. Delivery at the outcome and development objective levels (improved performance by UNMA and DWRM)

Result	Indicator	Baseline Level	Achievements by Oct 2016 (MTR)	Budget	Expenditure	Status
GOAL: To strengthen the weather, climate and hydrological monitoring capabilities, early warning systems and available information for responding to climate shocks and planning adaptation to climate change in Uganda.	Capacity as per capacity assessment scorecard	115	119 out of 143 of both men and women			On track. One end of project target has been exceeded – the target for increase in budgetary allocation for UNMA is 20% for end of project. Budgetary allocation is over 100% for 2015 – 2016 and over 300% for 2016-2017. The budget increment for the DWRM was not available and needs to be confirmed by the TE. Capacity development (UNDP Score Cards) is at 84% (119 out of 143).
	Domestic finance committed to UNMA of DWRM to monitor and forecast weather, climate and hydrological variability and change.	Annual budget US\$1,500,000 (UNMA)	1,482,193 USD (in the financial year June 2014-June 2015) to 3,590,486 USD (in the financial year June 2015-June 2016) representing over 100% increase.			
		Annual budget \$ 450,000 (DWRM)	TBC			
Outcome I: Enhanced capacity of the UNMA and DRDPM to monitor and forecast extreme weather, hydrology and climate change.	Frequency and timeliness of climate related data availability.	UNMA→ Hourly for synoptic stations; and > Once a month for agro- and hydro-meteorological stations. Seasonal forecasts have a lead-time of 0-2 weeks.	Seasonal forecasts are issued via the Agro-met stations and are giving reliable information for ten days (decadal) weather information as well as bi-weekly and monthly advisories;	1,546,400.00	759,519.25	On track with 50% overall delivery on expenditure. Target reached for UNMA weather forecasting, but delayed for DWRM (hydromet monitoring). This is due to delayed procurement of stations for hydromet (which is however in progress, and is expected to be completed and installation done by March 2017).

		Monthly weather reviews and forecasts are not issued at present.				
		Agro-met monthly advisories are not issued at present.				
		DWRM – weekly to monthly.				
	UNMA - Percentage of national coverage of meteorological monitoring infrastructure	10% national coverage of operational infrastructure	30% covered			
		Manual weather (synoptic, agro/hydro-meteorological) stations (9%)	15% covered			
		Automatic weather (synoptic, agro/hydro-meteorological) stations (1%)	Hourly forecasts for synoptic stations; dekadal (every ten days) for agro- and hydro-meteorological stations.			
	DWRM - Percentage of national coverage of hydrological monitoring infrastructure	28% national coverage of operational stations	Still 28%; to increase after installation of new stations by January 2016			
		Operational surface hydrometric stations (24%)	24%			
		Automatic weather	4%			

		stations (4%)				
Outcome 2: Efficient and effective use of hydro-meteorological and environmental information for making early warnings and long-term development plans.	%of population with access to improved climate information and drought, flood and severe storm warnings (disaggregated by gender).	3% of men with access to improved climate information and flood, drought and severe weather warning Male: 920,000	The baseline assessment report found that 72.2% of households receive information from radio (doesn't report if more receive it from TV). 36.8% receive updates seasonally (or longer) while 14.4% receive monthly updates. 75.2% of households reported that EW was timely while 58.7% of households facing temperature disasters reported timely EW information.	288,900	257,178	On track with 89% delivery on expenditure. There are two issues worth noting about the indicator and the baseline: the indicator emphasizes access to improved climate information while the figures reported in the baseline report are of households receiving the general climate information. This makes it difficult to attribute the jump from 3% to 72% of households receiving Improved CI to the project. In addition, the challenge in Uganda is the lack of trust in the CI and hence reluctance by the majority to use it in decision making. The study did not assess the percentage of those who receive CI actually use it in decision-making, which will be critical for increasing resilience.
		3% women with access to improved climate information and flood, drought and severe weather warning Female: 1,010,000	91% of households agreed that EW information from different sources is coherent, 74.1% reported EW forecasts of MONTHS into the future while only 4.2% of households reported EW forecasts of DAYS into the future. 71% of households could comprehend EW Information while 30% of households in drought disaster areas			Enactment of by-laws and ordinances for supporting decentralized implementation of CI services is still required and should be done in line with the decentralization of CIEW services.

			couldn't comprehend EVV information. 10.4% of households thought the information/warning was a false alarm			
	Sector-specific Policies, annual budgets and development plans that integrate climate information (type and level of development plans).	0	0			

54. From the Theory of change, the medium-term outcomes expected from the project are “increased access to the timely and more accurate information (now being generated by the CIEWS institutions) by clients/stakeholders”. For this to happen, the improved climate information needs to be packaged into climate services and products and disseminated widely. Potential users need to be aware of the existing products and convinced that they are appropriate and sufficient to meet their needs.
55. The MTE did not engage with the intended users of climate information and products. However, assessing the transition of newly acquired capacities of CI institutions into wider dissemination of CI information and products (from the perspectives of the key project stakeholders) still indicated that although progress has been made, there is still work to be done. Key achievements are outlined below:
- On the meteorology information (UNMA), there is increased awareness of the importance of, and availability of improved climate information among technical teams in the Districts, especially the 28 districts under the pilot part of the project. However, the technical teams, together with the UNMA and DWRM staff in the weather stations report that this awareness has not penetrated structures below the districts.
 - While many individual staff members reported that demand for climate information is rising, the improved information continues to be disseminated as the traditional CI products via the traditional channels (TV, cell phones, newspapers, etc.) – as confirmed by the baseline assessment on demographic, social and economic characteristics of the household population to monitor the usage of climate information and early warning practices that prevail in communities⁴.
 - The cost benefit analysis⁵ identified several potential and new CI products that could be packaged and disseminated (even sold) to different groups of stakeholders – but this has not been done yet. The study also identified potential of public and private partnerships (PPP) in the provision of CI, currently being tested by UNMA. Plans are under way to increase the cost of weather products sold to Civil Aviation of Uganda, but that is dependent on acquiring ISO certification (see section on sustainability). Further progress in the PPP is however also contingent on UNMA allocated dedicated resources to implement and manage PPP's.
 - The planned piloting of the cell-phone based dissemination of CIEWS has however started and this is likely to improve access to information significantly;
 - Staff members of the field stations (both UNMA and DWRM) reported a steady rise in enquiries about climate information from various stakeholders; however, they have no access to the improved CI products as none of the station has internet and most have no computers. So they do not access the CI products whose improvement they are contributing to. The smart phones could be used to access the UNMA weather page but this would be too costly.
 - A communications strategy to raise awareness of the newly acquired capacities and hence the improved services available has been designed and implementation started. It is therefore expected that awareness for the availability of improved weather and hydrological information by Terminal Evaluation.
 - The National Emergency Coordination and Operations Centre (NECOC), under the Office of the Prime Minister, has initiated the monthly publication on National Integrated Early Warning Bulletin “U-NIEWS”. The bulletin brings together information and forecasting from a number of sources (from both Government and partners), and aims to provide national, multi-hazard, coverage. It provides the most recent information and status updates with regard to disasters, both human induced and natural, humanitarian responses, health surveillance, and the crop and pasture conditions. The bulletin will be published on the 15th of every month.

56. DWRM is however not contributing to these improved information packages simply because their new equipment has not yet been installed, so they have not yet utilized their capacities to improve the quality and timeliness of CI and early warnings.

Recommendation 3: The installation of the DWRM equipment should be treated as urgent (by UNMA⁶).

Recommendation 4: The project has supported UNMA to develop its Communications Strategy, which is important for improving its visibility and the credibility of its products to the public. However this strategy document, among other deliverables from consultancies undertaken need to be put to use. Also to increase appreciation of meteorological services at the Policy level, the cost-benefit and market study need to be followed up with a detailed study of the contribution of meteorology to the GDP.

Recommendation 5: The stakeholders should allocate dedicated resources to manage the establishment and management of PPP's.

Long-term outcomes (impacts) – n/a

57. From the theory of change analysis, the long-term outcomes (impacts) expected from the project is that "climate information (CI) is being used in decision making by a broad range of stakeholders; and that resilient production systems, infrastructure and livelihoods start to manifest as a result of this use of CI". There are two reasons why this review has not assessed the long-term impacts: i) it is too early in the project implementation process to see changes at this high level ii) there is still major challenges to be addressed with delivering the medium-term outcomes, before the results chain can progress to higher level impacts. However, the project could continuously monitor the extent to which the CI is being taken into account, and used in decision-making. However, there is no baseline against which to measure this important indicator⁷.

Lesson 6 - The adoption of TOC based evaluation as a tool helps stakeholders understand and appreciate the problem in totality as opposed to what project can address. The TOC articulates the assumptions about the process through which change will occur and specifies the ways in which all of the required early and intermediate outcomes related to achieving the desired long-term change will be brought about and documented as they occur, thus the logic between inputs and impacts.

Recommendation 6: There is still a great deal of work to be done in Uganda to ensure that CI becomes a part of daily decision-making processes by a large majority of the population. The Government and UNDP should formulate another project to build on the results delivered by this and other projects, which have been closely coordinated with it (GiZ and the World Bank supported initiatives). Indeed, further capacity development is needed to make NECOC more effective. Suggested areas are: i) Strengthen coordination of early warning systems in the country through the NECOC based at OPM; ii) Operationalize and strengthen the National early warning sub-committee housed at OPM; iii) A national early warning secretariat/unit should be established to help in managing Early warning in the country; iv) Strengthen the development and dissemination of the multi-hazard early warning bulletin as initiated by OPM at NECOC.

⁶ It is however noted that equipment for DWRM were procured by Sept.2016, installation is pending completion of on-going construction of the hydrological stations.

⁷ The Baseline Assessment on extent to which stakeholders access CIEW did not assess the extent to which currently available CIEW is being used in decision making.

Recommendation 7: The UNMA should build on the baseline assessment study to establish the extent to which CI is currently being used in decision-making by stakeholder groups. This will contribute to monitoring the long-term impacts expected from the project.

3.2.1 Relevance – Highly Relevant - Relevant

58. The MTR found that Climate Information remains relevant to the development of Uganda as well as securing the economic gains and livelihoods - and that the situation has not changed from the relevance statements in the project Document.

3.2.2 Effectiveness – Satisfactory

59. As evidenced by the Highly Satisfactory rating of the overall implementation (and a delivery of over 70% in less than 3 of 4 project years), implementation has been highly effective. The MTR found that the PMU and the current project implementation strategy has played a key role in the effective implementation of the project of this nature, which involved significant procurement and installation of sophisticated equipment. UNMA and the PMU are to be congratulated for avoiding bureaucratic delays that would have (and have) caused serious derailment of similar projects. The slight delay in the procurement of the AWLMSs is noted but it is unlikely to cause serious challenges to delivering the project within time and budget.
60. The MTR found that key deliverables are in place: UNMA has been supported in its transformation from a department to an Agency, the information sharing protocol is in place, NECOC has been empowered to mainstream CI into the management of national disasters and emergencies. However, there is a great deal of work still required to improve the delivery of the improved CI to intended users such that the short term outcomes (increased capacity of CIEWS institutions) is not being effectively transformed into medium term outcomes (better access to CIEW information by intended users); this state of affairs compromises the transition of the medium-term outcomes to impacts (long-term outcomes), so it is not yet evident that CIEW being is being used in decision making to reduce vulnerability of livelihoods, economic development and infrastructure. Much of this work is outside the mandate of the current CIEWS project; however, the current situation affects the effectiveness of the work of the project, and so its effectiveness cannot be judged in isolation of the larger picture.

Lesson - As in lesson 6, using the Theory of Change to clarify the various levels of results clarifies the challenges to be overcome to deliver the long-term impacts, and the role of the project in the results chain.

Recommendation: As in recommendation 6, the government and UNDP should design a follow up project to build on the results delivered by this projects and drive towards the long-term impact.

3.2.3 Sustainability of Results (Financial, Socio-Political, Institutional Framework and Governance, Environmental) – Overall Rating – Unlikely

Financial Sustainability - Unlikely

61. The sustainability of the provision of timely and accurate climate information is particularly linked to maintenance of the infrastructure that provides this information. The review found serious lack of maintenance of government infrastructure in general across the board, and specifically met/hydromet equipment. This is attributed to three interrelated facts: low levels of staffing at the technician level, inadequate maintenance budgets, exacerbated by the fact that maintenance is not considered a priority by senior management of most institutions (hence the low budget and few personnel). UNMA for example has a maintenance schedule consisting of two key activities: i) monthly basic maintenance of cleaning of met equipment by station staff; ii) quarterly service routines by the Network Management and Maintenance Unit of Headquarters.
62. However (and as confirmed by the baseline assessment undertaken during project formulation), there is little evidence of actual maintenance; and too many incidents of broken

down equipment. The staff of the synoptic stations we visited reported to have almost no skills of basic maintenance of the manual equipment and none at all for the automated new equipment. This is despite the fact that the project implemented the training component as reported in the previous section. They reported that the training offered is not sufficient to enable them perform maintenance duties. It is however noted that training is still on-going, especially for technical staff from various stations and headquarters. None of the synoptic stations have internet connectivity so Synoptic Station staff cannot monitor the automated weather and water level measurement equipment.

63. The Headquarters-based Network Management and Maintenance Unit has no resources for meaningful maintenance (for example, no vehicle, and a typical budget of about UGS 4,500,000 (US\$ 1,300) per quarter (transport and field allowances). This was completely inadequate for the past and laughable with the extended infrastructure. Despite an increase in budgetary allocation to UNMA, the maintenance budget is still inadequate.
64. Although the TSAWS are excellent for lightening detection, being managed by international companies will come with a huge maintenance bill (currently estimated at USD 261,000 per year for data receiving, processing and transmission as well as servicing the equipment). It is unlikely that UNMA will afford this beyond the project.
65. At the political level, there is no indicator for functional equipment at the ministerial performance measurement strategy, hence easy to overlook it's financing.
66. The creation of UNMA has offered hope for addressing the situation. But although government investment in CI has more than doubled in the last two years, the financial requirements for running an Agency instead of a Department has also increased significantly. It is expected that revenue generation will grow significantly with the implementation of the PPPs proposed by both government and Earth Networks, especially when the findings of the market assessment study are implemented. Part of the implementation is more realistic costing of existing CI services and creation and selling of new products. It is under this arrangement that it is hoped that the services sold to the Uganda Aviation Authority will jump from minimal to USD 500,000 per year. But this is dependent on UNMA obtaining an ISO certificate, which is not necessarily a guaranteed deal. UNMA is acquiring technical support from abroad to prepare for ISO assessment, but there is still a great deal of work to be done to improve the quality of data collection, management, processing and dissemination to meet required standards. This is not a situation where relevant parties are not doing what is expected, rather a situation where the gap is too large for the resources available.
67. Commercialisation of CI in agricultural sectors has been shown to work in some developing countries; for example Kilimo Salama in Kenya. Popularizing the products is an important part of implementation, which can be done via an effective communication plan with a reasonable packaging and pricing strategy.

Lesson 7 - Political buy-in for maintenance needs to be reflected in high-level indicators and a budgetary allocation for the same.

Recommendation 8: UNMA and DWRM should adopt institutional performance indicators on maintenance of their networks and allocate adequate budgets for actual maintenance.

Recommendation 9: UNMA should ensure that sufficient resources are allocated to the finalisation of the tabled PPP's between UBIMET, FIT Uganda, HNI and Earth Networks. This should ideally be managed by a dedicated resource that can initiate and manage on-going commercial agreements. The assessment of "unlikely sustainability" in this scenario will remain high risk if UNMA (with the help of CIRDA and the UNP CO) do not assist in addressing the aforementioned points.

Recommendation 10: To ensure that key stakeholders prepare the ground and address the challenges to sustainability of the results from this and similar projects, UNMA, with the backing of UNDP and the Ministry, should convene the development partners investing in CI infrastructure in Uganda and negotiate better support to the Management and Maintenance of the CI infrastructure

Recommendation: As in recommendation 6, UNDP and Government should find additional resources to pay for the maintenance bill for the 2017-2018 year (due in April 2017), while working out more permanent arrangements to mobilize resources for the maintenance of the TSAWS.

Socio-political - unlikely

68. Uganda's economy is highly dependent on agriculture; livelihoods of the majority of the rural population are dependent entirely on agriculture. District Technical Teams and the staff of the synoptic stations reported that demand for CI is rising with regular people visiting the stations looking for information for planning cropping cycles, infrastructure development etc. The Baseline Assessment on the extent to which stakeholders access to CIEW reported that over 80% of stakeholders reported receiving the information from various sources. A similar study in Zambia (sister project) found that the problem is not access to CIEW information, but the confidence people put in it and hence the extent to which they would trust it enough to factor it in decision making. This point is important because it influences the likelihood of creating a market for CI products in Uganda, one of the key recommendations for increasing revenue and contributing to sustainability. It has been argued that CI should be treated as an input into agriculture, in the same category as fertilizer or pesticides. One can add index-based insurance to this list. However, since general CIEW are public goods, the CIEWS institutions need to create very specialized products, which would convince a majority of farmers to invest in them, in this socio-political situation where disposable incomes are limited for a majority of the population. Currently a number of weather product developers for example FIT Uganda, Human Network International (HNI) and UBIMET have expressed interest in signing Memorandum of Understanding with UNMA to deal in weather information and hence a source of additional income for the meteorology sector. While they can build on the products identified by the cost benefit analysis report, the outcome of these initiatives is far from certain.

69. The extent to which stakeholders will trust the information enough to purchase it will also be influenced by the accuracy of predictions. Uganda has made a tremendous jump in improving timeliness and accuracy of the CI predictions. However, only about 40% of the landmass is covered by weather stations. This is probably not yet enough to make the required changes in accuracy to convince people to invest their limited resources in CI products. There is indeed a potential risk if trying to sell the products while the gap in accuracy is still large, as this may further reduce the trust in the information and kill the probability of a market ever developing prematurely.

Recommendation: As in recommendation 6, Government and UNDP should continue mobilizing resources for extending the coverage of weather monitoring network further.

70. The creation of UNMA has elevated the appreciation of CI in national development, allowing the Government to increase investments into its acquisition and utilization. The protocol of data sharing and management between UNMA and DWRM has (in addition to ensuring efficiency) improved institutional collaboration; the empowerment of NECOC will ensure mainstreaming of CIEWS into national disaster risk management. From a policy perspective, the current set-up is likely to promote sustainability. However, provision of CIEW is still centralized, making it difficult for decentralized institutions (such as the Ministry of Local Government) to effectively support the collection and dissemination of CIEW at the local levels. This is important especially given the difficulty UNMA and DWRM have in maintaining the existing and expanded met and hydromet infrastructure, and the unlikelihood of expanding capacity to the district and local levels. Both DWRM and UNMA have adopted a regional approach with the country divided into four regions, each supposed to be managed by a Senior Regional Officer. But some stations have no land or offices yet (need to find how many) so this strategy is far from being operational.
71. The other Ministries use the Ministry of Local Government to host and disseminate services at the District and lower levels. However, currently District Meteorological/ CI services are not catered in the MoLG structure; there is therefore no structure to allow district budget to support local maintenance costs e.g., battery replacement, cleaning and local security. This operational gap between UNMA and MoLG has led inadequate ownership of meteorological equipment, and weak of CI flow between departments in the MoLG structures at the districts levels. There is therefore need for formal collaboration arrangements at the Ministerial levels, facilitated by a Cabinet Paper, which would make it government policy to decentralize CI services. This would allow Districts to receive a budgetary allocation for CI services. Decentralising CI to local levels would in particular help to manage vandalism of CI infrastructure.

Recommendation 11: The Ministry of Water and Environment should engage the Ministry of Local Government (MoLG) to put in place formal collaboration that enables decentralization of CI services, and hence an arrangement for resource mobilization to support regular met equipment maintenance by the Chief Administration Officer (CAO)'s Office at the Districts and lower levels.

3.2.4 Environmental – likely

72. The extent of coverage of CI has hydromet infrastructure has expanded dramatically over the last 5 years. However, only about of 40% of the country is covered. This has implications to the accuracy of predictions, even when this data is supplemented by regional and international data.

3.2.5 Efficiency – Satisfactory

73. Project efficiency has been demonstrated at several levels: at the strategic level, the support capacity of DWRM and UNMA to monitor water resources and climate and weather respectively, contributes directly to the overall objectives of the Joint Water and Environment Support Sector Program (JWESSP). Being implemented under the same Ministry, the project resources have added value, rather than duplicate the effort to strengthen and consolidate the merger of the Water, Environment and Natural Resources subsectors. This has contributed to improving the overall sector coordination, synergy and efficient resource utilization.
74. Still at the strategic level, linking Uganda to the international weather grid (via the Automatic Message Switching System – AMSS) increased access to international data to improve predictions – including now-casting – providing a highly efficient means of improving accuracy of the predictions (as opposed to extending the coverage of monitoring infrastructure, which is however still required in the long-term).

75. At the operational level, the use of the Project Management Unit to accelerate project implementation played a key role in identifying synergies and linking this project with, not only the rest of the GEF Portfolio world-wide, but also to the wider Government and Development Community investments in CIEWS in the country, enhancing efficient use of project resources, and allowing project implementation to be achieved within time and budget. This was supported by the use of the technical working groups to harness technical capacity of various professionals, for which the project didn't have to pay. The three-tier project management modality of UNDP (CO/RCU/Hq) provides quality technical and management support at reasonable cost to individual projects. For this project, the three-tier PM modality was supported by the New York based CIRDA⁸ (Climate Information for Resilient Development in Africa), the technical advisor which provided all the eleven projects in the Portfolio technical services at a reasonable cost to each individual project⁹.

3.2.6 Monitoring and Evaluation (M&E Design, M&E Plan Implementation and Use for Adaptive Management, Budgeting & Funding for M&E Activities) – Marginally Satisfactory

M&E Design – Satisfactory

76. The project monitoring and evaluation design at entry was found to be in line with the guidelines and procedures of UNDP and GEF (for LDCF projects). The project Logframe, in particular the process and outcome indicators and targets are clear and realistic. The risks and assumptions were well stated and used to monitor implementation and progress towards outcomes: the key monitoring points were:
- At Inception – using the inception period to confirm project reality and refine indicators – reported in the Inception Workshop Report;
 - Quarterly work planning and financial reports, including use of UNDP Enhanced Results Based Management Platform, with regular updates of critical risks in ATLAS;
 - Annual workplans have been effectively used to monitor project implementation and the Annual Project Implementation Reports (PIRs) continue to be of high quality and effectively communicate project achievements and adaptive management to the key stakeholders.
77. The MTR found that adequate budget was provided for the functioning of M&E; and, that the M&E plan was used to monitor project progress and to manage risks and assumptions (see section above). The Project Steering Committee continues to guide project implementation at the policy level, and minutes of the PSC meetings capture deliberations and approvals required – for example the budget re-allocation needed to accommodate the cost of the Total Solutions Automated Weather Stations for monitoring and predicting lightening events. The MTR found evidence that PMU and the PSC have made several monitoring missions to the field stations. In addition, the UNDP Country and Regional Teams have made several monitoring missions and provided clear advice to the PMU and on project implementation. This Mid-Term Review has been implemented with minimal delay, and in line with the Multi and annual workplans.

Operational Monitoring –Marginally satisfactory

78. However, on the issue of monitoring of the outcomes, the project is yet to make significant progress. The project has a resourced M&E framework that can enable an on-going adaptive management of the project and assist all partners to fully understand and take ownership of

⁸ The technical teams supporting the 11 countries under the CIRDA programme include 4 technical experts based in Africa with support from the executive team in New York and specialist advisory services in San Francisco, Washington DC and Oklahoma.

⁹ It is however noted that some of the individual consultants recruited under CIRDA did not meet baseline competence criteria, from the perspectives of the CIEWS Uganda stakeholders. This is unfortunate and should be avoided in future.

the project. Project has been monitored through quarterly and annual reports, board meetings and workshops involving UNDP CO, PMU and government personalities. Project Board has visited project sites. There has been inadequate mainstreaming of M&E framework into the M&E framework of partners to continue monitoring project results after GEF project. This is partly because M&E is not a major priority of UNMA during budget allocations, thus making the UNMA staff in charge of this activity incapable of delivering. The PMU and government need to link project outcomes to the existing government M&E framework under OPM and also facilitate the decentralization of CI services to involve District Teams and Community groups in monitoring – especially managing vandalism. Perhaps the more important contribution would be to strengthen monitoring and evaluation functions of the partner institutions, which will be needed to sustain the project results, and to mainstream monitoring of the key project results through these institutions. The project has no substantive staff member to address monitoring and evaluation at this level. The project however developed an M&E plan in 2015 and the Board approved hiring of a part-time (10 days per month) M&E Associate on an IC contract to work with the partners to implement tools and frameworks developed by the consultancy. Implementation was delayed by the fact that the identified candidate demanded a higher pay than had been budgeted for and the position was re-advertized. It is anticipated the Associate will be hired by November 2016. In addition, UNDP has funded from its own TRAC sources an International UNV who has been fast-tracking the ongoing renovation of the weather and water level stations.

79. The strategic level M&E needs to be linked to increased capacity of the CIEW institutions to enhance maintenance of the met and hydromet infrastructure (as discussed in the sustainability section) – and include formal arrangements for decentralized responsibility for CIEWS information. This will enable District and lower levels officials of none CIEW institutions, as well as communities and community leadership to use their capacities at these levels to support CIEWS, including maintenance, M&E.

Recommendation: As in recommendation 8, UNMA and DWRM should include indicators on maintenance of CIEWS networks at institutional performance levels, allocate adequate budgetary resources to monitoring unit and decentralize provision of CIEW information to enable formalized collaboration with the Ministry of Local Government.

3.2.7 Catalytic Role– Good Potential for Playing a Catalytic Role

80. Under catalytic role, the MTR examined whether the project has produced (or is likely to produce) any public goods, if there is evidence of steps being taken to catalyse such public goods (for instance through the development of demonstration sites, successful information dissemination and training); and, whether there is evidence (or likelihood) of replication and scaling up of the project's key results/ achievements /impacts.
81. The MTR found three areas in which the project shows potential for playing a significant catalytic role: demonstrating the use of cost benefit analysis of CI and the use of that information in the pricing of CI products and services; the design of the CI products and developing markets for CI products and services and the adoption (and purchase) of the Total Solutions Automated Weather Stations. Historically, forecasting in Uganda (and Africa) was largely driven by the needs of the aviation industry. Yet the prices the aviation industry pays for the data and service is minimal, contributing to the challenges of financing meaningful CIEWS services in the country. The cost and benefit analysis has already demonstrated the true value of investing in CI. It has also identified products that could be marketed, creating a vibrant market for CI products and services. Although this is yet to be achieved, it has potential for catalysing similar developments across the continent.

Recommendation 12: The project and UNMA/DWRM should support further development of the climate information products and a market for the same;

Recommendation 13: Support further training for staff and linking with University to increase skills in big data analysis, automated equipment maintenance and research for meaningful and effective engagement with the new automated CI technologies;

3.2.8 FINANCIAL PLANNING – SATISFACTORY

82. The project financing has been found to be adequate for the program of work for which it was meant to finance. Co-finance is however needed to address challenges that would reduce the effectiveness of the rest of the results chain to lead to long-term impacts, outlined in the impact and sustainability assessment sections. This is because the products and services delivered by the project are not sufficient to significantly address the very large investment needed to improve the production, dissemination and use of CIEW information to support resilient development. Key challenges remain in: i) expanding the density of met and hydro-met infrastructure from the current 40% to over 80% - necessary to improve accuracy at national level and international levels; ii) providing further and adequate training for technicians and meteorologists to maintain the current and additional CI infrastructure; iii) to boost the capacity for network management and maintenance; iv) to decentralize CI services and build local structures to provide CI services at the local level; v) develop CI products that respond to users' needs and catalyse a vibrant market/sub-economy.

Recommendation - As in recommendation 6, Government and UNDP should formulate another project to tackle the remaining challenges outlined above.

3.2.9 Country Ownership – Highly Satisfactory

83. In addition to the points outlined under relevance, the project concept originated from government's stated objective of expanding the use of climate information and early warning systems to mitigate the effects of climate change and improve effectiveness of disaster risk reduction in the country. The MTR found evidence of strong country ownership of the project results in the following ways: i) The PSC has been actively engaged in the project, as reflected by the quality of discussions recorded in the minutes of the PSC meetings; ii) Enthusiastic support of the project by the District Technical Teams (and members of the DDMC); iii) The report from the DDMC and the staff members of the Synoptic Stations that the demand for CI is increasing, and that the incidents of people walking into these stations to request for CI is on the rise; iv) PMU reports excellent working relations and support of the Senior Management of the Parent Ministry and the Project Board.

3.2.10 Mainstreaming - Satisfactory

84. The MTR found that project implementation took into consideration gender elements in the baseline assessment for establishing the current status of access to and use of climate information. Women and men often play different roles in society and have different access to information in disaster situations. The project developed and operationalized an EWS dissemination national and local toolbox including a gender sensitive trainer manual on the use of radio, television, print media, SMS-based partnerships, satellite phones, cell phone call centres/hotlines, including local community-specific methods such as flags, drums, village chiefs, religious leaders, and school and community drama, posters and flyers. The aim was to reach at least 1 (one) % of the population - with access to improved climate information and drought, flood and severe storm warnings (disaggregated by gender). Other gender mainstreaming activities included the following:

- 2 out of the 7 Project Board members are women;
- 2 out of the 7 Technical Committee members are women;
- 2 out of the 5 staff at the PMU are women;

- Out of 66 participants in the April 2015 sub national workshop 11 were women and 55 were men;
- Out of the 65 participants in the October 2015 sub national workshop 10 were women;
- Out of 72 participants in the March 2016 sub national workshop, 8 were women;
- Out of 30 participants in the June 2016 workshop on training in packaging the SMS-based alert systems for floods, draught and severe weather, 6 were women and 26 were men.
- 9 out of the 63 participants in the MTR validation workshop in October 2016 were women.

3.2.11 Stakeholder Participation – Marginally Satisfactory

85. Stakeholder participation was well elaborated during the project formulation. The MTR found that the project made efforts to include all the stakeholders identified during the project formulation process, with various parts of the project implemented by the relevant stakeholders (in line with the project document). However, community participation in the project could have been actively enhanced at several levels: i) Involving UNMA staff of Synoptic Stations and local communities and their leadership during the installation of the new stations – it seems that the project prioritized quick delivery of the required infrastructure over involving these key stakeholders. Staff of UNMA especially reported that they have been barely involved in project activities (except from being recipients of training), to the extent that weather station installers turn up at the stations without prior notice to the station, they install the stations and depart, without any discussions. In one District, a project meeting with the Local Government Technical Teams was organized and held without the involvement or participation of the UNMA staff in the district. This has bred a feeling of alienation of the staff from the project, especially heightened by the lack of internet facilities in many of the stations, which means they cannot engage with the UNMA and DWRM websites and keep themselves abreast with the developments. There is also probably a sense or fear of job displacement by the upgrade towards automated weather stations. This needs to be managed.
86. Involving communities and local leadership: vandalism of met and hydro-met infrastructure is still a real threat to sustainability of the project results. In the past, criminals have vandalized equipment in search of mercury and solar panels. Communities and their leaders could have been made part of the installation, with a small ceremony to “hand-over” new capacities to the communities for mitigating against vandalism.
87. It is however noted that implementation of the stakeholder engagement component is at less than 50% (in line with project multi-year work plan).

Recommendation 14: The PMU and project partners should make greater effort to involve communities and their leaders and the existing staff of the CIEWS institutions, especially as it tolls out the implementation of the Community Outreach component.

Recommendation - As in recommendation 6, Government and UNDP should mobilize further resources (as part of a previous recommendation) to upgrade ICT in the CIEWS field offices (computers, internet, TSAWS interphase/ downloader), etc.

3.2.12 Implementation Approach - Satisfactory

88. As evidenced by the high scoring on overall implementation section, implementation arrangement adopted for the project was both suitable and appreciated by majority of the respondents to the structured interviews conducted during the data collection for the MTR. The PMU enabled project implementation to utilise comparative advantages of all key stakeholders, using whichever systems were deemed to be most effective for particular activities. For example using UNDP for procurement of the met and hydro met equipment as

well as high level technical assistance not easily available in the country. Some stakeholders pointed out that the PMU should have been housed in a Government building (e.g. UNMA) to increase ownership. The MTR found that the calibre and professionalism of the PMU is more important than its location, in successful project implementation.

Preparation and Readiness - Satisfactory

89. The project was planned over a period of one year with a budget to identify and negotiate partnerships for implementation, conduct baseline assessments and establish targets. As confirmed in the M&E section, the MTR found that the project design is still sound and requires no adjustment at MTR to deliver the expected results.

UNDP/GEF Supervision and backstopping - Satisfactory

90. The TE found no issues with the UNDP supervision and backstopping, albeit for occasional delays in procurement and disbursement. However, none of them have been serious enough to derail the project. As reported in other sections, the MTR found evidence that the CO, RCU and CIRDA provided adequate support to the PMU and other partners; the 3 tier arrangement of UNDP (CO-RCU-Hq) was already identified as a cost effective tool of providing projects quality support at minimal cost (due to sharing of RTAs by many countries).

4 CONCLUSIONS, LESSONS and RECOMMENDATIONS

4.1 CONCLUSION

91. The overall rating for the project is Satisfactory. The MTR concludes that the Uganda SCIEWS project was well designed and identified and managed all risks that could have upstaged implementation. Implementation has proceeded in accordance with the multi-year and annual workplans, and, despite a five-month delay to project start-up, there is no risk to the project completion on time and within budget, as long as the recommended five month, no cost extension is granted.
92. The MTR identified several lessons and made the recommendations outlined in the section below.

4.2 Lessons learnt

- 1) Mainstreaming lessons from other projects is a cost effective measure because it avoids duplication and waste. The choice of Implementing Partner with the necessary linkages to other adaptation and CIEWS projects, and the fact that this project was part of an II project Portfolio played a key role in the excellent level of exchanging lessons from the portfolio to the benefit of all of them.
- 2) Government leadership in ensuring coordination of projects addressing the same issue is critical
- 3) A capable PMU staffed with a PM who thoroughly understands both UN and Government bureaucracies is a worthwhile investment.
- 4) The MTR believes that the excellent working relationships between UNDP, PMU, UNMA and DWRM contributed to the high delivery achieved by this project, despite the 5 month late start. While all these units worked hard to build the relationships, the PMU played the critical role of maintaining the relationships that ensured smooth delivery of project results. Investing in a capable PMU that understands the importance of such relationships is an excellent investment.
- 5) Sophisticated and expensive to maintain technology may not be suitable or acceptable solution for establishing CIEWS.
- 6) The adoption of TOC based evaluation as a tool helps stakeholders understand and appreciate the problem in totality as opposed to what project can address. The TOC articulates the

assumptions about the process through which change will occur and specifies the ways in which all of the required early and intermediate outcomes related to achieving the desired long-term change will be brought about and documented as they occur, thus the logic between inputs and impacts.

- 7) Political buy-in for the maintenance of the expanded climate information infrastructure needs to be reflected in high-level indicators and a budgetary allocation for the same.

4.3 Recommendations

1. The MTR recommends that project should be given a non-cost extension of 5 month to allow more time for the UNMA to trouble shoot operational gaps and enable UNMA to smoothly go beyond the threshold of replication and trigger meteorological data revolution in Uganda (Action UNDP and GEF).
2. UNMA and Government should speed up the enactment of by-laws and ordinances for supporting decentralized implementation of CIEW services
3. Recommendation 3: The installation of the DWRM equipment should be treated as urgent (by UNMA¹⁰).
4. The project has supported UNMA to develop its Communications Strategy, which is important for improving its visibility and the credibility of its products to the public. However this strategy document, among other deliverables from consultancies undertaken need to be put to use. Also to increase appreciation of meteorological services at the Policy level, the cost-benefit and market study need to be followed up with a detailed study of the contribution of meteorology to the GDP.
5. The stakeholders should allocate dedicated resources to manage the establishment and management of PPP's
6. There is still a great deal of work to be done in Uganda to ensure that CI becomes a part of daily decision-making processes by a large majority of the population. The Government and UNDP should formulate another project to build on the results delivered by this and other projects, which have been closely coordinated with it (GiZ and the World Bank supported initiatives). Indeed, further capacity development is needed to make NECOC more effective. Suggested areas are: i) Strengthen coordination of early warning systems in the country through the NECOC based at OPM; ii) Operationalize and strengthen the National early warning sub-committee housed at OPM; iii) A national early warning secretariat/unit should be established to help in managing Early warning in the country; iv) Strengthen the development and dissemination of the multi-hazard early warning bulletin as initiated by OPM at NECOC.
7. The Implementing Partner should build on the baseline assessment study to establish the extent to which CI is currently being used in decision-making by stakeholder groups. This will contribute to monitoring the long-term impacts expected from the project.
8. UNMA and DWRM should adopt institutional performance indicators on maintenance of their networks and allocate adequate budgets for actual maintenance.
9. UNMA should ensure that sufficient resources are allocated to the finalisation of the tabled PPP's between UBIMET, FIT Uganda, HNI and Earth Networks. This should ideally be managed by a dedicated resource that can initiate and manage on-going commercial agreements. The assessment of "unlikely sustainability" in this scenario will remain high risk if UNMA (with the help of CIRDA and the UNP CO) do not assist in addressing the aforementioned points.
10. To ensure that key stakeholders prepare the ground and address the challenges to sustainability of the results from this and similar projects, the UNMA, with the backing of UNDP and the Ministry, should convene the development partners investing in CI infrastructure in Uganda and negotiate better support to the Management and Maintenance of the CI infrastructure

¹⁰ It is however noted that equipment for DWRM were procured by Sept.2016, installation is pending completion of on-going construction of the hydrological stations.

11. The Ministry of Water and Environment should engage the Ministry of Local Government (MoLG) to put in place formal collaboration that enables decentralization of CI services, and hence an arrangement for resource mobilization to support regular met equipment maintenance by the Chief Administration Officer (CAO)'s Office at the Districts and lower levels.
12. The project and UNMA/DWRM should support further development of the climate information products and a market for the same;
13. Support further training for staff and linking with University to increase skills in big data analysis, automated equipment maintenance and research for meaningful and effective engagement with the new automated CI technologies;
14. UNMA and project partners should make greater effort to involve communities and their leaders and the existing staff Recommendation 12: The project and UNMA/DWRM should support further development of the climate information products and a market for the same.

5 ANNEXES

5.1 ANNEX I: TORS

TERM OF REFERENCE (TOR)

For the procurement of National Consultant for Midterm Review of the Strengthening Climate Information and Early Warning Systems (SCIEWS) for Climate Resilient Development and Adaptation to Climate Change Uganda Project

I. GENERAL INFORMATION

Project/Program Title: Strengthening Climate Information and Early Warning Systems for Climate Resilient Development and Adaptation to Climate Change

Post Title: National Consultant

Consultant Level:

Duty Station: Home-based with mission travel

Expected Places of Travel: Selected 5 regions (Elgon, Karamoja, Teso, Lango and Central Uganda including Kampala and Entebbe)

Duration: Twenty working days from 15 September, 2016 to 30th November, 2016

Expected Start Date: Immediately after Concluding Contract Agreement

II. BACKGROUND

This is the Terms of Reference (ToR) for the UNDP-GEF Midterm Review (MTR) of the full -sized project titled Strengthening Climate Information and Early Warning Systems for climate resilient development and adaptation to climate change – Uganda implemented through the Ministry of Water and Environment (MWE)/Uganda National Meteorological Authority (UNMA). The project was signed in December 2013, though full implementation commenced in March 2014 and is currently in its second 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 will follow the guidance outlined in the document Guidance for Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects:

http://web.undp.org/review/documents/guidance/GEF/mid-term/Guidance_Midterm%20Review%20_EN_2014.pdf

Uganda is particularly vulnerable to the increasing frequency and severity of droughts, floods and severe storms (hail, thunder, lightning and violent winds), and their impacts on sectors such as agriculture, fisheries, as well as infrastructure. Such climate-related hazards are having increasingly adverse effects on the country and future climate change is likely to further exacerbate the situation. A large proportion of the Ugandan population has a low capacity to adapt to climate change. Climate change impacts are likely to be particularly negative on Uganda's rural population because of their high dependence on rain-fed agriculture and natural resource-based livelihoods.

Over the past three decades, increasing temperatures, shifting rainfall patterns and climate hazards – in particular droughts, floods and severe storms (hail, thunder, lightning and violent winds) – have undermined social and economic development in Uganda, with climate hazards negatively affecting the livelihoods of an estimated 150,000 people per year. Notwithstanding these challenges, the current climate information (including monitoring) and early warning systems in Uganda are not functioning as optimally as they could for effectively supporting the adaptive capacity of local communities and key sectors.

The SCIEWS project has since 2014 made some in-roads in supporting particularly the meteorological and hydrological services in terms of building the capacity of UNMA and the Directorate of Water Resources Management (DWRM) to improve their weather and hydrological monitoring capabilities so as to generate products to inform Decision-makers, the public and private sector in Uganda to understand the likely impacts of climate change in the short and long-term. The MTR would therefore help to document the progress made so far, and help gear the project towards a successful completion and sustainability of the investments made.

III. OBJECTIVES OF THE MID-TERM REVIEW

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 and its risks to sustainability.

IV. APPROACH AND METHODOLOGY

The MTR shall provide evidence based information that is credible, reliable and useful. The National Consultant will work with a counterpart International Consultant; the former to support provide the local content while the latter will be the lead Consultant to ensure the deliverables are realized. The MTR team will review all relevant sources of information including documents prepared during the preparation phase (i.e. PIF, UNDP Initiation Plan, UNDP Environmental & Social Safeguard Policy, the Project Document, project reports including Annual Project Review/PIRs, project budget revisions, lesson learned reports, national strategic and legal documents, and any other materials that the team considers useful for this evidence-based review). The MTR team will review the baseline GEF focal **Area Tracking Tool (AMAT)** submitted to the GEF at CEO endorsement, and the midterm GEF focal area Tracking Tool.

The MTR is expected to follow a collaborative and participatory approach¹¹ ensuring close engagement with the Project Team, government counterparts (the GEF Operational Focal Point), the UNDP Country Office(s), UNDP-GEF Regional Technical Advisers, and other key stakeholders.

Engagement of stakeholders is vital to a successful MTR.¹² Stakeholder involvement should include interviews with stakeholders who have project responsibilities, including but not limited to: executing agencies, senior officials and task team leaders, key experts and consultants in the subject area, Project Steering Committee, project stakeholders, academia, local government and CSOs, etc. Additionally, the MTR team is expected to conduct field missions to selected 5 regions (Elgon, Karamoja, Teso, Lango and Central) where the MTR team should be able to meet the project responsible parties and conduct site verification.

The final MTR report should describe the full MTR approach taken and the rationale for the approach making explicit the underlying assumptions, challenges, strengths and weaknesses about the methods and approach of the review.

V. SCOPE

The MTR team will assess the following four categories of project progress.

i. Project Strategy

Project design:

- Review the problem addressed by the project and the underlying assumptions. Review the effect of any incorrect assumptions or changes to the context to achieving the project results as outlined in the Project Document.
- Review the relevance of the project strategy and assess whether it provides the most effective route towards expected/intended results. Were lessons from other relevant projects properly incorporated into the project design?

¹¹ For ideas on innovative and participatory Monitoring and Review strategies and techniques, see [UNDP Discussion Paper: Innovations in Monitoring & Evaluating Results](#), 05 Nov 2013.

¹² For more stakeholder engagement in the M&E process, see the [UNDP Handbook on Planning, Monitoring and Evaluating for Development Results](#), Chapter 3, pg. 93.

- Review how the project addresses country priorities. Review country ownership. Was the project concept in line with the national sector development priorities and plans of the country (or of participating countries in the case of multi-country projects)?
- Review decision-making processes: were perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process, taken into account during project design processes?
- Review the extent to which relevant gender issues were raised in the project design. See Annex 9 of *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for further guidelines.
- If there are major areas of concern, recommend areas for improvement.

Results Framework/Log-frame:

- Undertake a critical analysis of the project's log-frame indicators and targets, assess how "SMART" the midterm and end-of-project targets are (Specific, Measurable, Attainable, Relevant, Time-bound), and suggest specific amendments/revisions to the targets and indicators as necessary.
- Are the project's objectives and outcomes or components clear, practical, and feasible within its time frame?
- Examine if progress so far has led to, or could in the future catalyse beneficial development effects (i.e. income generation, gender equality and women's empowerment, improved governance etc...) that should be included in the project results framework and monitored on an annual basis.
- Ensure broader development and gender aspects of the project are being monitored effectively. Develop and recommend SMART 'development' indicators, including sex-disaggregated indicators and indicators that capture development benefits.

ii. Progress Towards Results

Progress towards Outcomes Analysis:

Review the log-frame indicators against progress made towards the end-of-project targets using the Progress Towards Results Matrix and following the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects*, colour code progress in a "traffic light system" based on the level of progress achieved; assign a rating on progress for each outcome; make recommendations from the areas marked as "Not on target to be achieved."

In addition to the progress towards outcomes analysis:

- Compare and analyse the GEF Tracking Tool at the Baseline with the one completed right before MTR.
- Identify remaining barriers to achieving the project objective in the remainder of the project.
- By reviewing the aspects of the project that have already been successful, identify ways in which the project can further expand these benefits

iii. Project Implementation and Adaptive Management

- Review overall effectiveness of project management as outlined in the Project Document. Have changes been made and are they effective? Are responsibilities and reporting lines clear? Is decision-making transparent and undertaken in a timely manner? Recommend areas for improvement.
- Review the quality of execution of the Executing Agency/Implementing Partner(s) and recommend areas for improvement.
- Review the quality of support provided by the GEF Partner Agency (UNDP) and recommend areas for improvement.

Work Planning:

- Review any delays in project start-up and implementation, identify the causes and examine if they have been resolved.
- Are work-planning processes results-based? If not, suggest ways to re-orientate work planning to focus on results?
- Examine the use of the project's results framework/ log-frame as a management tool and review any changes made to it since project start.

Finance and co-finance:

- Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions.
- Review the changes to fund allocations as a result of budget revisions and assess the appropriateness and relevance of such revisions.
- Does the project have the appropriate financial controls, including reporting and planning, that allow management to make informed decisions regarding the budget and allow for timely flow of funds?
- Informed by the co-financing monitoring table to be filled out, provide commentary on co-financing: is co-financing being used strategically to help the objectives of the project? Is the Project Team meeting with all co-financing partners regularly in order to align financing priorities and annual work plans?

Project-level Monitoring and Review Systems:

- Review the monitoring tools currently being used: Do they provide the necessary information? Do they involve key partners? Are they aligned or mainstreamed with national systems? Do they use existing information? Are they efficient? Are they cost-effective? Are additional tools required? How could they be made more participatory and inclusive?
- Examine the financial management of the project monitoring and review budget. Are sufficient resources being allocated to monitoring and review? Are these resources being allocated effectively?

Stakeholder Engagement:

- Project management: Has the project developed and leveraged the necessary and appropriate partnerships with direct and tangential stakeholders?
- Participation and country-driven processes: Do local and national government stakeholders support the objectives of the project? Do they continue to have an active role in project decision-making that supports efficient and effective project implementation?
- Participation and public awareness: To what extent has stakeholder involvement and public awareness contributed to the progress towards achievement of project objectives?

Reporting:

- Assess how adaptive management changes have been reported by the project management and shared with the Project Board.
- Assess how well the Project Team and partners undertake and fulfil GEF reporting requirements (i.e. how have they addressed poorly-rated PIRs, if applicable?)
- Assess how lessons derived from the adaptive management process have been documented, shared with key partners and internalized by partners.

Communications:

- Review internal project communication with stakeholders: Is communication regular and effective? Are there key stakeholders left out of communication? Are there feedback mechanisms when communication is received? Does this communication with stakeholders contribute to their awareness of project outcomes and activities and investment in the sustainability of project results?
- Review external project communication: Are proper means of communication established or being established to express the project progress and intended impact to the public (is there a web presence, for example? Or did the project implement appropriate outreach and public awareness campaigns?)
- For reporting purposes, write one half-page paragraph that summarizes the project's progress towards results in terms of contribution to sustainable development benefits, as well as global environmental benefits.

iv. Sustainability

- Validate whether the risks identified in the Project Document, Annual Project Review/PIRs and the ATLAS Risk Management Module are the most important and whether the risk ratings applied are appropriate and up to date. If not, explain why.
- In addition, assess the following risks to sustainability:

Financial risks to sustainability:

- What is the likelihood of financial and economic resources not being available once the GEF assistance ends (consider potential resources can be from multiple sources, such as the public and private sectors, income generating activities, and other funding that will be adequate financial resources for sustaining project's outcomes)?

Socio-economic risks to sustainability:

- Are there any social or political risks that may jeopardize sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public / stakeholder awareness in support of the long term objectives of the project? Are lessons learned being documented by the Project Team on a continual basis and shared/ transferred to appropriate parties who could learn from the project and potentially replicate and/or scale it in the future?

Institutional Framework and Governance risks to sustainability:

- Do the legal frameworks, Policies, governance structures and processes pose risks that may jeopardize sustenance of project benefits? While assessing this parameter, also consider if the required systems/ mechanisms for accountability, transparency, and technical knowledge transfer are in place.

Environmental risks to sustainability:

- Are there any environmental risks that may jeopardize sustenance of project outcomes?

Conclusions & Recommendations

The MTR team will include a section of the report setting out the MTR's evidence-based conclusions, in light of the findings.¹³

Recommendations should be succinct suggestions for critical intervention that are specific, measurable, achievable, and relevant. A recommendation table should be put in the report's executive summary. See the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for guidance on a recommendation table.

The MTR team should make no more than 15 recommendations total.

Ratings

The MTR team will include its ratings of the project's results and brief descriptions of the associated achievements in a *MTR Ratings & Achievement Summary Table* in the Executive Summary of the MTR report. See Annex E for ratings scales. No rating on Project Strategy and no overall project rating is required.

VI. TIMEFRAME

The total duration of the MTR will be approximately 20 working days over a time period of 6 weeks. The National Consultant will complement the Lead/International Consultant for a period of 20 working days over the 6 weeks period.

VII. DELIVERABLES

Deliverable	Description	Timing	Responsibilities
MTR Inception Report	MTR team clarifies objectives and methods of Midterm Review	By 25 th September, 2016	Supports the lead consultant to prepare the inception report.
Presentation	Initial Findings	By 10 th October, 2016	Assist the lead consultant in collection

¹³ Alternatively, MTR conclusions may be integrated into the body of the report.

			of data and packaging the presentation
Draft Final Report	Full report (using guidelines on content outlined in Annex B) with annexes	By 30 th October,2016	Assist the lead consultant in preparation of the draft Report.
Final Report	Revised report with audit trail detailing how all received comments have (and have not) been addressed in the final MTR report	By 30 th October,2016	Assist the lead consultant in preparation of the Final Report

VIII. INSTITUTIONAL ARRANGEMENT/REPORTING RELATIONSHIP

The National consultant Reports to the Lead consultant and liaises closely with the Project Manager and the Practice Specialist at UNDP Country Office whenever necessary.

IX. LOGISTICS AND ADMINISTRATION SUPPORT TO PROSPECT TECHNICAL ADVISOR

The UNDP Uganda and UNMA through the Project Management Unit will make available all the transport, and Secretariat support required, and ensure that the consultant has access to resources, key partners and sites as planned.

X. QUALIFICATIONS

Academic Qualifications:

Master's Degree or equivalent in social science or other closely related fields.

Years of experience:

A minimum of 3 years in similar or closely related projects review.

Competencies:

- Recent experience with result-based management review methodologies,
- Experience applying SMART indicators and reconstructing or validating baseline scenarios,
- Competence in adaptive management, as applied to climate change adaptation,
- Experience working with the GEF or GEF-reviews,
- Experience working in Uganda,
- Work experience in relevant technical areas for at least 5 years,
- Demonstrated understanding of issues related to gender and climate change adaptation; experience in gender sensitive review and analysis,
- Excellent communication skills,
- Demonstrable analytical skills,
- Project review/review experiences within United Nations system will be considered an asset.

Language and other skills:

Proficiency in both spoken and written English

Compliance of the UN Core Values:

- 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 favoritism,
- Fulfils all obligations to gender sensitivity and zero tolerance for sexual harassment.

Important Note:

The Consultant is required to have the following professional and technical qualifications. **Only the applicants who hold these qualifications** will be shortlisted and contacted.

XI. SELECTION CRITERIA

Qualified Individual Consultant is expected to submit both the Technical and Financial Proposals. Individual Consultants will be evaluated based on Cumulative Analysis as per the following scenario:

- Responsive/compliant/acceptable, and
- Having received the highest score out of a pre-determined set of weighted technical and financial criteria specific to the solicitation. In this regard, the respective weight of the proposals are:
 - Technical Criteria weight is 70%
 - Financial Criteria weight is 30%

Criteria	Weight	Max. Point
Technical Competence (based on CV, Proposal and interview (if required))	70%	100
Understanding the Scope of Work; comprehensiveness of the methodology/approach; and organization & completeness of the proposal		20
Minimum educational back ground		20
Minimum years of experience		40
Competency based interview		20
Financial (Lower Offer/Offer*100)	30%	30
Total Score	Technical Score * 70% + Financial Score * 30%	

** It is a mandatory criteria and shall have a minimum of 50%*

XII. PAYMENT MILESTONES

Installment of Payment/ Period	Deliverables or Documents to be Delivered	Approval should be obtained	Percentage of Payment
1 st Installment	upon approval of the final MTR Inception Report	UNDP/UNMA	10%
2 nd Installment	upon submission of the draft MTR report	UNDP/UNMA	30%
3 rd Installment	upon finalization of the MTR report	UNDP / UNMA	60%

XIII. RECOMMENDED PRESENTATION OF TECHNICAL PROPOSAL

For purposes of generating proposals whose contents are uniformly presented and to facilitate their comparative review, you are hereby given a template of the Table of Content. Accordingly, your Technical Proposal document must have at least the preferred content as outlined in the IC Standard Bid Document (SBD).

XIV. CONFIDENTIALITY

The Individual Consultant shall not either during the term or after termination of the assignment, disclose any proprietary or confidential information related to the consultancy service without prior written consent. Proprietary interests on all materials and documents prepared by the consultants under the assignment shall become and remain properties of UNDP.

XII. ANNEXES

Existing literature and documents that will help Offerors gain a better understanding of the project situation and the work required are provided as annexes to the TOR, including:

- *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects (2014)*
- List of documents to be reviewed by the MTR Team
- Guidelines on Contents for the Midterm Review Report
- MTR Evaluative Matrix template
- UNEG Code of Conduct for Evaluators/Midterm Review Consultants
- MTR Required Ratings & Achievement Summary Table and Ratings Scales

- MTR Report Clearance Form
- MTR Audit Trail template
- Progress Towards Results Matrix template

This TOR is approved by:

Signature: _____

Name and Designation: _____

Date of Signing: _____

5.2 ANNEX II: ITINERARY: MTR PROGRAMME - OCTOBER-NOVEMBER 2016

Day/Date/ Time	Activity	Location	Responsible Person
Monday 17 th October			
9.00 a.m.	Meeting with the Project Manager	Park Lane Kololo	Pascal
11.00 a.m.	Meeting Executive Director -UNMA	Postel Building	Pascal
2.30 p.m.	Presentation of the Inception Report	UNDP-CO	Pascal
Tuesday 18 th October			
7.30 a.m.	Travel to Mbale; brief stopover in Jinja weather station.	Mbale	Veronica/John
2.00 p.m.	Team 1 & Team 2: Meeting with Mbale District Team	Mbale	Veronica
Wednesday 19 th October			
7.30 a.m.	Team 1&2 : Depart for Sironko/Soroti		
9.00 a.m.	Team 1: Meeting with Sironko District Team	Sironko	Veronica
9.00 a.m.	Team 2: Meeting with Soroti District Team	Soroti	John
2.00 p.m.	Team 1: meeting with Dokolo District Team	Dokolo	Veronica
12.00 noon	Team 2: Meeting with Amuria District Team	Amuria	John
4.00 p.m.	Team 1 travels to Lira; Team 2 travels to Moroto	Lira & Moroto	
Thursday 20 th October			
9.00 a.m.	Team 1: Meeting with Lira District Team	Lira	Veronica
12.00 Noon	Team 1: Meeting with Oyam District Team	Dokolo	Veronica
9.00 a.m.	Team 2: Meeting with Moroto District Team	Moroto	John
11.00 a.m.	Team 2: Meeting with Napak District Team	Napak	John
Friday 21 st October			
9.00 a.m.	Travel back to Kampala	Kampala	
Week end: Desk work for consultants			
Monday 24 th October			
8.00 a.m.	Team 1: Depart for Mbarara; Team 2: Depart for Masindi	Mbarara	Veronica
11.00 a.m.	Team 1: Meeting with Mbarara Weather Station team	Mbarara	Veronica
	Team 2: Meeting with Masindi Weather Station team	Masindi	John
2.30 p.m.	Team 1: Travel to Kasese	Kasese	
	Team 2: Travel to Gulu	Gulu	
Tuesday 25 th October			
9.00 a.m.	Team 1: Meeting with O/C Kasese weather station and Airport Authority	Kasese	Veronica
11.00 a.m.	Team 1: Meeting with CAO -Kasese District	Kasese	Veronica
11.00 a.m.	Team 2: Meeting with O/C Gulu weather station and Airport	Gulu	John
	Team 1: Travels to Kabale	Kabale	
	Team 2: Travels to Arua	Arua	John
Wednesday 26 th October			
9.00 a.m.	Team 1: Meeting with Meeting with O/C Kabale WS	Kabale	Veronica
9.00 a.m.	Team 2: Meeting with O/C Arua weather station & Airport	Arua	John
	Travel back to Kampala	Kampala	
Thursday 27 th October			
9.00 a.m.	Meeting with Commissioner DWRM	Entebbe	Pascal
11.00 a.m.	Meeting with Technical Focal person MAAIF	Entebbe	Pascal
2.00 p.m.	Meeting Director Forecasting-NMC/UNMA	Entebbe	Pascal
Friday 28 th October:			
9.00 a.m.	Meeting with Technical Focal person MoLG	Kampala	Pascal
11.00 a.m.	Meeting with Technical Focal person UCC	Kampala	Pascal
2.00 p.m.	Meeting with Commissioner Relief, Disaster Preparedness & Management in OPM	Kampala	Pascal
4.00 p.m.	Meeting with Technical Focal person from UNMA	Kampala	Pascal
Week end			
Monday 31 st October			
	Workshop to present preliminary finding of the Evaluation	Kampala (TBC)	Veronica, Pascal & Jennifer/ Fredah

LIST OF DOCUMENTS REVIEWED

A. Project Documents

- GEF LDCF programming guidelines
- project document
- inception report
- Project Information Form [PIF]
- UNDP-GEF Guidelines for evaluation
- Logframe Analysis [LFA]
- Quarterly, annual and other progress / review reports of the project
- MOUs signed by the project with IPs
- Progress reports of the IPs
- Project budget broken down by outcomes and outputs
- Co-financing table - the original proposed to GEF for document clearance
- Project tracking tool
- Financial data [budget and expenditure incurred during each year]

B. UNDP documents

- UNDAF
- CPD
- CPAP

C. GEF documents

- GEF focal area strategic programme objectives

D. Government documents

- Plans, Policies and strategies related with the project scope
- government of Uganda development strategies regarding Climate information and its mainstreaming into national development,

MTR QUESTIONNAIRE USED

Evaluation subject	Evaluation questions	Tools and methods
Project strategy	<ul style="list-style-type: none"> • What challenges did the project seek to address? • What was the ToC used to identify and select components, outcomes, outputs and activities? • What are the underlying assumptions? • Have any of the risks and assumptions played out and what is the effect on implementation and achievement of results? • Were any assumptions incorrect or missed out entirely? • Have they played out and what is the effect on implementation and delivery of results? • Was the threat-root-cause barrier analysis comprehensive and on-target? • Have new threats and/or barriers emerged? • Is there room for adaptive management to tackle new threats, barriers? • Relevance: Are the issues/challenges being addressed by the project relevant to national development and livelihoods? • In which way are they relevant? • Are they government priority and if so where are these priorities stated? • What lessons were used to influence project design? What is working well from this project that it has brought excitement in-terms of impacts? What happiness has the project brought so far? • Have those lessons proven to be useful yet in project implementation? • Decision-making processes: • Which groups are likely to be affected by the project, including benefitting from it? • Was project design done in a truly participator manner? • Was gender perspectives factored into project design and reflected in the participatory design process? • If not, why not and what has been the impact of this non participatory design process on implementation and project ownership? • Where is the evidence of participation by the relevant groups? • If there are major areas of concern, recommend areas for improvement. 	<p>Review of project documents:</p> <ul style="list-style-type: none"> ➤ (prodocs, Inception report, PIRs); ➤ Minutes of project steering committee (Board) meetings; ➤ Tracking tools ➤ Technical publications; ➤ Government Policies/strategies on CIEWS; <p>Focus group and individual interviews with relevant groups of stakeholders and key informants, respectively, using structured interview questionnaires;</p> <ul style="list-style-type: none"> ➤ PMU ➤ Members of the Project Board ➤ Key informants in participating Ministries and Ministries responsible for various aspects of CIEWS; ➤ Department of Water Resource Management (DWRM), Department of Relief, Disaster Preparedness and Management (DRDPM)/Office of the Prime Minister (OPM), and Ministry of Agriculture,
Results Framework /Log-frame	<ul style="list-style-type: none"> • Are the project's objectives and outcomes or components clear, practical, and feasible within its time frame? • Are the log-frame indicators and targets "SMART" and gender disaggregated? • Has progress made so far led to, or could in the future catalyse beneficial development effects (i.e. income generation, gender equality and women's empowerment, improved governance etc...) that should be included in the project results framework and monitored on an annual basis. • How are the catalysing effect of the project results being monitored? 	
Project Implementation	<ul style="list-style-type: none"> • What is the current project management arrangement? • What are the SWOT of the current project management arrangements? • Has it been effective? 	

and Adaptive Management	<ul style="list-style-type: none"> • Are responsibilities and reporting lines clear? • Is decision-making transparent and undertaken in a timely manner? • Has the Executing Agency/Implementing Partner(s) facilitated project execution adequately? • What are the recommendations for improvement? • What lessons can be drawn from this arrangement? • Has the GEF Partner Agency (UNDP) supported project execution effectively? • What are the key challenges of project execution? • What recommendations? 	Animal Industries and Fisheries (MAAIF).
Work Planning:	<ul style="list-style-type: none"> • Is project implementation in line with the timeline set in the Prodoc? • If there were delays what caused them? • What is the likely implication of any delays on the rest of the project timeline? • Has adaptive management effectively resolved any issues of delays? If no, why not? • Are work-planning processes results-based? • Has the results framework/ log-frame been used as a management tool? • To what end? Has it worked well and if not why not? • What recommendations? 	<p>Review of project documents:</p> <ul style="list-style-type: none"> ➤ (prodocs, Inception report, PIRs); ➤ Minutes of project steering committee (Board) meetings; ➤ Tracking tools ➤ Technical publications; ➤ Government Policies/strategies on CIEWS;
Finance and co-finance	<ul style="list-style-type: none"> • What is the level of expenditure to-date? • Is this level in line with the original plans in the project budget? • If not, why have changes occurred? And what are the exact changes? • Have the appropriate approvals been sort and provided for these changes? • Has the project been cost effective and what criteria can we use to determine this? • Does the project have the appropriate financial controls, including reporting and planning, that allow management to make informed decisions regarding the budget and allow for timely flow of funds? • Has the project mobilized extra funding? • Has it accessed any co-finance? • Is co-finance being monitored to confirm the expected situation at project design stage? 	<p>Focus group and individual interviews with relevant groups of stakeholders and key informants, respectively, using structured interview questionnaires;</p>
Project-level Monitoring and Review Systems	<ul style="list-style-type: none"> • Does the project use an M&E system? • Does it involve key partners in M&E? • Is the M&E linked to partner institutions' systems? • Does M&E provide the necessary information efficiently/effectively? • Is it considered cost-effective? • Are additional tools required to make M&E more participatory and inclusive? • Are sufficient resources being allocated to monitoring and review? • Are these resources being allocated effectively? 	<ul style="list-style-type: none"> ➤ PMU ➤ Members of the Project Board ➤ Key informants in participating Ministries and Ministries responsible for various aspects of CIEWS; ➤ Uganda Met Agency; ➤ Selected users of CIEWS
Stakeholder Engagement	<ul style="list-style-type: none"> • Has the project developed and leveraged the necessary and appropriate partnerships with direct and tangential stakeholders? • Do local and national government stakeholders support the objectives of the project? 	

	<ul style="list-style-type: none"> • Do they continue to have an active role in project decision-making that supports efficient and effective project implementation? • To what extent has stakeholder involvement and public awareness contributed to the progress towards achievement of project objectives 	
Reporting and communication	<ul style="list-style-type: none"> • Have changes made via adaptive management been reported by the project management and approved by the Project Board. • How well do the Project Team and partners understand and undertake UNDP and GEF reporting requirements (i.e. how have they addressed poorly-rated PIRs, if applicable?) • Have lessons derived from the adaptive management process been documented, shared with key partners and internalized by partners? • How is internal project communication with stakeholders done? • Is it regular and perceived to be effective? What is the evidence of that? • Are there key stakeholders left out of communication? • Are there feedback mechanisms when communication is received? • Does this communication with stakeholders contribute to their awareness of project outcomes and activities and investment in the sustainability of project results? • How does the project communicate with the broader stakeholders? Via a project website? • Has an awareness campaign been mounted? • How does the project inform itself of progress in the field of CIEWS? 	
Sustainability	<ul style="list-style-type: none"> • Are the risks identified in the Project Document, Annual Project Review/PIRs and the ATLAS Risk Management Module the most important and are the risk ratings applied appropriate and up to date? If not, why? • Financial risks to sustainability - What is the likelihood of financial and economic resources not being available once the GEF assistance ends? • What plans are in place for mobilizing financial resources to carry on the work – especially of maintenance of CIEWS equipment and retain highly skilled staff members after the GEF Grant? • Does the project have an exit strategy to ensure sustainability? • Socio-economic risks to sustainability: Are there any social or political risks that may jeopardize sustainability of project outcomes? • What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? • Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? • Is there sufficient public / stakeholder awareness in support of the long term objectives of the project? • Are lessons learned being documented by the Project Team on a continual basis and shared/ transferred to appropriate parties who could learn from the project and potentially replicate and/or scale it in the future? 	

	<ul style="list-style-type: none"> • Institutional Framework & Governance risks to sustainability: Do the legal frameworks, Policies, governance structures and processes pose risks that may jeopardize sustenance of project benefits? • Are there systems/ mechanisms for accountability, transparency, and technical knowledge transfer in place? • Environmental risks to sustainability: Are there any environmental risks that may jeopardize sustenance of project outcomes? • What recommendations do you have for any of the issues raised above? 	
--	--	--

5.3 *Annex 3 - List of Stakeholders consulted*