9/15/2020

Terminal Evaluation

Final Report

Strengthening Climate Information and Early Warning Systems in Cambodia to Support Climate Resilient Development and Adaptation to Climate Change Project

GEF Project ID: 5235
UNDP/GEF ID: 5318
UNDP Project ID: 00091519
Evaluation Period: March-August 2020
Date of Evaluation Report: 4 August 2020
Country and Region: Cambodia, Southeast Asia
GEF Operational Programme: LDCF
GEF Agency: UNDP
Executing Partner: MOWRAM /UNDP

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ii. Table of Contents

List of Tables:

1. Executive Summary

1.1 Project Summary Table

Project Title:	**Strengthening Climate Information and Early Warning Systems in Cambodia to Support Climate-Resilient Development and Adaptation to Climate Change Project**	
GEF Project ID:	5235	
UNDP Project ID (PIMS #):	5318	
ATLAS Business Unit, Award & Project ID:	KHM10, Award ID: 00082718 Output ID: 00091519	
Country(ies):	Cambodia	
Region:	South-East Asia	
Focal Area:	Climate Change	
GEF Focal Area Strategic Objective:	CCA-1: Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional, and global levels. CCA-2: Increasing adaptive capacity: increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional, and global levels. CCA-3: Adaptation technology transfer: promote transfer and adoption of adaptation technology.	
Source of Fund	LDCF	
Executing Agency/ Implementing Partner	NIM: MOWRAM (November 2014-July 2017) DIM: UNDP (August 2017 to present)	
Project Financing	at *CEO endorsement (US$)*	at *TE July 2020 (US$)*
[1] GEF financing:	4,910,285	4,663,399
[2] UNDP contribution:	0	200,782
[3] Government (in-kind):	20,812,540	128,920
[4] Other partners:	MRC: 390,000 JICA: 682,000	0 0
[5] Total co-financing [2+3+4]:	21,884,540	329,702
PROJECT TOTAL COST [1+5]	26,794,825	4,993,101
Project Document Signature Date	28 November 2014	
Closing date	Planned 28 November 2018	Actual October 2020

1.2 Project Description

The UNDP implemented and GEF/LDCF supported project *Strengthening Climate Information and Early-Warning System in Cambodia to Support Climate-Resilient development and Adaptation to Climate Change* (referred herein as 'the project') was initially formalized in November 2014.follows the direct implementation modality (DIM) since July 2017. The Project was designed to be nationally implemented following the national implementation modality (NIM). However, implementation modality was changed in July 2017 to DIM[1]. The Project

[1] The project has faced serious delay in implementation progress and inability to convene the PB as per the PIR, as a result, UNDP in partnership with the Government has launched a refinement process in April 2017 resulting in the refinement report of August 2017. The process led to the formal approval of the change of implementation modality (from NIM to DIM) in August 2018.

executing agency from its inception until July 2017 was the Ministry of Water Resources and Meteorology (MOWRAM) and UNDP from July 2017 to present.

This project was designed based on key principles to develop an effective Early Warning System (EWS) in Cambodia. It was designed to build Cambodia's resilience to climate change by strengthening institutions and coordination frameworks for an effective EWS. Funding of approximately US$4.9 million was approved by the LDCF Council in October 2014 and the project was officially launched in May 2015 during the project Inception Workshop.

The project's main **objective** is to *strengthen climate observing infrastructure and increase capacity to utilize climate and environmental information for responding to climate hazards and planning adaptation to climate change*[2]. The project aims to *build the capacity for analysis, modelling and communication of climate trend information and weather event advisories, as well as transferring weather and environmental observational technology*[3]. To achieve the project's objective and aim, the project has **three** outcomes, and **eleven** outputs as stated in the Project Document (ProDoc):

Outcome 1. Increased institutional capacity to assimilate and forecast weather, hydrological, climate and environmental information.

Outputs under this outcome are:

- Output 1.1: Training-of-trainers programs for Department of Meteorology (DOM) and Department of Hydrology and River Works (DHRW) forecasters to combine regional/global information and data from monitoring stations in data quality control, archiving and modelling/ forecasting climate, flood and water resource information (on daily to seasonal, as well as medium to long term timescales).
- Output 1.2: Customized weather and climate information for targeted stakeholders to meet short-term and long-term planning needs.
- Output 1.3: Training materials and courses available in a local university for continued learning.
- Output 1.4: Central repository for the weather, climate, and environmental data to enhance historical records of climate and weather trends and related impacts.

Outcome 2. Climate and weather information available and utilized for national, sectoral, and sub-national planning, as well as for transboundary communication in the region.

Outputs to achieve Outcome number 2:

- Output 2.1: Standard Operating Procedures (SOP) for effective and timely EWS and climate information dissemination.
- Output 2.2: Training programs for planning/line ministry staff at the national and sub-national levels to apply climate information to inform climate-resilient planning.
- Output 2.3: Regular exchange of climate and weather information with border countries on transboundary issues, as well as best practices and lessons learned related to building climate change resilience and adaptive capacity.

Outcome 3. Strengthened institutional capacity to operate and maintain EWS and climate information infrastructure, both software and hardware, to monitor weather and climate change.

Outputs to achieve outcome number 3:

- Output 3.1: Upgrade of up to 25 sites with automatic meteorological stations, establish telemetry and data quality & control systems for centralized access by all CI/EWS agencies.

[2] Project Document. Page 28. Section 2.4 Project Objective, Outcomes and Outputs/Activities.
[3] Project Document. Page 28. Section 2.4 Project Objective, Outcomes and Outputs/Activities.

Output 3.2: Upgrade of 29 hydrological stations for surface and groundwater with automatic hydrological stations, establish telemetry and data quality & control systems for centralized access by all CI/EWS agencies.

Output 3.3: Training-of-trainers programs for DOM and DHRW staff to build capacity in the selection (i.e. identifying cost-effective technologies), installation, operations, and maintenance of equipment to established standards and services.

Output 3.4: Sustainable financing plan for the long-term O&M of the equipment, including private and public financing arrangements

The capacity in Cambodia at the time of the project design and development were quite inadequate in addressing climate change-related issues from an EWS perspective. The Royal Government of Cambodia (RGC) was planning to implement an effective early warning system which aimed to monitor climate and environmental data on a real-time basis, detect adverse trends and make reliable predictions of possible impacts in the form of early warning information. However, RGC faced several challenges in realizing its goal, including the insufficient data to refine predictions and forecasts, limited human resources and capacity, and high staff turnover. The UNDP-GEF intervention sought, therefore, to address the existing barriers and gaps through strengthened institutions, coordination frameworks and strengthened capacity at the different levels (national, sub-national and community level) to apply climate information to inform climate-resilient planning and emergency response.

The project has used a direct implementation modality (DIM) since July 2017, with UNDP as the executing agency. The project was designed to be nationally implemented under a national implementation modality (NIM), with the Ministry of Water Resources and Meteorology (MOWRAM), however, implementation modality changed in July 2017 to DIM[4].

1.3 Evaluation Rating Table

The Project's overall rating is **Satisfactory** as the project has achieved the intended results despite the delay encountered during its implementation. The detailed project rating is provided in Table 1.

Table 1: Rating Project Performance[5]

Criteria	Rating
Monitoring and Evaluation	
Overall Quality of M&E	S
M&E Design at Project Start-Up	S
M&E Plan Implementation	S
IA & EA Execution	
Overall Quality of Implementation / Execution	S
Implementing Agency Execution	S
Executing Agency Execution	S
Outcomes	
Overall Quality of Project Outcomes	S
Relevance: Relevant (R) or Not Relevant (NR)	R
Effectiveness	S
Efficiency	S
Sustainability: Likely (L); Moderately Likely (ML); Moderately Unlikely (MU); Unlikely (U).	
Overall Likelihood of Risks to Sustainability	ML
Financial Resources	MU

[4] The project faced serious delays in implementation progress and inability to convene the PB as per the PIR. As a result, UNDP in partnership with the Government launched a refinement process in April 2017, resulting in the refinement report in August 2017. The process led to the formal approval of the change of implementation modality (from NIM to DIM) in August 2018.

[5] *The ratings for the main evaluation criteria are narratively highlighted in the report; other ratings are not. Rating explanations: HS- Highly Satisfactory; S- Satisfactory; MS- Moderately Satisfactory; MU – Moderately Unsatisfactory; U – Unsatisfactory; HU – Highly Unsatisfactory; UA – Unable to Assess; N/A – Not Applicable. Sustainability ratings: L – Likely; ML – Moderately Likely; MU – Moderately Unlikely; U – Unlikely. Impact ratings: Significant – S-; Minimal - M; Negligible - N.*

Socio-Economic	L
Institutional Framework and Governance	ML
Environmental	L
Impact: Significant (3), Minimal (2), Negligible (1)	
Environmental Status Improvement	3
Environmental Stress Reduction	3
Progress Towards Stress/Status Change	3
Overall Project Results	**S**

1.4 Summary of Conclusions, Recommendations, and Lessons

Summary of Conclusions

According to project documentation and interviews with stakeholders (project progress reports, refined implementation plan), the project did not make the progress expected between its official launch in May 2015 until mid-2018, although support from national and sub-national technical stakeholders towards the project was high. The main reasons behind the delay in implementation were discussed and summarized in the Project Refinement Report, as follows:

- It took the implementing agency approximately a year after the project approval to establish a project decision-making body.
- Possible overlap with investments from an Asian Development Bank (ADB) supported hydro-meteorological strengthening project. The final design of the ADB project suggested potential overlap between the two projects in terms of the investment in AWS/AHS infrastructure and risk of inadequate maintenance of assets after the project.

Despite the unforeseeable operational issues that set back project implementation, the project managed to deliver considerable results by the end of its implementation. The overall conclusions of the TE of this project are:

- 2019 earmarked significant achievement of project activities as the Automatic Weather and Hydro Stations were officially handed over to the RGC. Data from the installed stations was been made available online, and in real-time to the public.
- The project was able to enhance the forecasting capacity of DOM, including in the use of various climate models in conducting short, medium, and long-term forecasting. The Standard Operating Procedures (SOPs) on EWS in Cambodia was developed. Several technical studies on drought risk assessment and status of groundwater in Cambodia were commissioned by the project.
- Application of Climate Information (CI) in development sectors has been achieved, mainly in the agriculture sector. Cambodia's Curriculum of Forecast Application for Risk Management has been developed by the project, which provided guidelines for imparting CI at the local level. Development of guidelines for Drought Resistance Agriculture (DRAT) and the use of these guidelines in enhancing farmers and agriculture leaders' capacity is another key highlight in promotion of local-level adaptation measures.
- The expansion of phone-based EWS to national coverage (of which the project supported 11 provinces out of the 25) was also achieved. The system has proven to be very effective. Further, gender-focused field-level activities were achieved by the project as intensive training to women groups took place in coastal provinces, resulting in enhancing 21 women champions capacity at the provincial level.
- The project managed to host a regional event, as per the ProDoc as part of contributing to the regional Early Warning mechanism. The Lower Mekong Early Warning Conference was hosted by the project, attended by representatives from Mekong River Commission's four-member countries (i.e. Cambodia, Thailand, Vietnam, Lao PDR and Myanmar).

The project success has been very much dependent on close consultation and coordination, and hard work from the project team, beneficiary communities, executing, and implementing partners and the RGC. The project reports and meetings with key stakeholders indicated that the project was able to achieve the project's objectives and outcomes but with a considerable delay. Hence, and based on the review and assessment and taking into consideration the

difficulties the project's team faced during the project launching phase, the overall rating on the achievement of results is **Satisfactory**.

The project is very much acknowledged by the RGC, and relevant to UNDP, GEF/LDCF, and the Government's plans. With the confirmed interest and support provided by UNDP and RGC, risks are reduced and prospects for sustainability are possible, and overall sustainability is considered **moderately likely**.

Recommendations

- ***Recommendation 1:*** An exit strategy and sustainability plan to be developed, discussed among key stakeholders, and approved by the Project Board before the operational closure of the project. The project should hold a workshop with stakeholders to adopt the comprehensive exit strategy to ensure the project's results sustainability. The vision should provide a clear statement that work on EWS and CI is crucial to protect human lives, enhance community resilience, and ensure sustainability of the project's impacts. (**UNDP/ MOWRAM**).
- ***Recommendation 2:*** Continuous financial support from the government, e.g. through dedicating a budget line for equipment operational and maintenance cost, and efforts to promote learning and enhancing knowledge sharing to improve participation in CI and EWS, is required. An urgent and clear plan of action needs to be developed to ensure the maintenance of the equipment after 2020 to ensure project's outcome sustainability (**MOWRAM, UNDP**).
- ***Recommendation 3***: Ensure sustainability of the project's impacts by institutionalizing the project's results and work. The project should investigate establishing a specialized EWS/CI Unit or a Directorate at national government level through existing planning mechanisms and link it to regional/provincial departments. The possibility of linking the work of this Unit/Directorate to all line ministries and directorate should be investigated to utilize functional existed mechanisms. **(MOWRAM, UNDP).**
- ***Recommendation 4:*** In addition to the use of EWS and CI in the agriculture sector to ensure food security, the Government with the support of UNDP must investigate possibility for community-based and private enterprise-based use of EWS/CI in other sectors like health, water resources management, disaster risk reduction etc. with a focus on the role of women (**UNDP, MOWRAM, RGC**).
- ***Recommendation 5:*** The project has managed to produce a set of valuable documentation including public awareness products, training manuals, technical notes, Facebook pages etc. that contain a lot of essential information for farmers and local beneficiaries, etc. It is recommended to develop a dissemination plan for these public awareness and outreach tools to ensure that future initiatives build on the project activities and results and incorporate the project's products in its work (**UNDP, MOWRAM)**.
- ***Recommendation 6:*** Capture lessons learned from this project, mainly on the role of the private sectors in EWS and supporting DRR work, and share at the national/ regional/global level (**UNDP CO**).
- ***Recommendation 7:*** MOWRAM to encourage and attract active participation of the private sector in the use of EWS/CI to enhance national and local climate resilience and adaptation. Through private-public-partnership, dedicate a certain percentage of the Corporate Social Responsibility (CSR) fund to finance better environment/ climate change adaptation measures and tools through effective communication tools.
- ***Recommendation 8:*** MOWRAM, in coordination with other government entities, should undertake intensive and periodic inspection of the installed stations and provide required maintenance to ensure long-term use of the stations.

Lessons Learned

A summary of the lessons learned is outlined below. Lessons learned are concluded based on review of project documents, interviews with key stakeholders, and analysis of data/information collected during the terminal evaluation.

- During project design and inception phases, it is crucial to ensure that all national aspects are taken into consideration. The project design phase needs to be more detailed, with discussion of the management arrangement and agreement on the project's governance structure. This will help in launching the project with no delay. It was noticed that many projects, not only this one, suffer from weak project management designs that do not take the local context and capacity of government partners into consideration.
- The TE recognizes the dedicated commitment and efforts of all actors, including MOWRAM, NCDM, UNDP, and international and national non-governmental organizations' teams in achieving the project's results despite the complex situation and critical risks the project faced during its inception phase.
- The TE recognizes the interest of the Government in implementing timely adaptive management measures during project implementation to avoid further delays. The government has accepted the alteration in project implementation modality to DIM to accelerate the implementation process. However, Government ownership is key for projects' successful implementation.
- Good planning is essential to ensure timely project inputs in order to achieve project outcomes. The project experienced the 23-month delay in operationalizing implementation due to several reasons. However, conducting a refinement exercise, and developing and reviewing adaptive management measures supported the project's implementation and ensured its smooth operation afterwards.
- Wide representation from government organizations, private sector, institutions, and NGOs in project implementation is a contributing factor to the achievement of the project objectives.
- Strong technical inputs and relevant experience is a key factor to successful project design and implementation. The presence of an international technical expert with managerial background, supported by several national and international technical experts worked collaboratively to provide sound technical guidance and inputs, conduct and review technical work, ensured the implementation of project's activities by the closure of the project.
- Building on previous projects' experiences and results is crucial to ensure smooth implementation of new projects and build on existing capacities. The CIDA-funded project mentioned in the project proposal provided baseline information for the EWS project on perceived changes in climate and current agricultural practices. Yet, no evidence in the ProDoc shows that the project incorporated any lessons learned.

2. Acronyms and abbreviations

APR	Annual Progress Report
AWP	Annual Work Plan
BRH	Bangkok Regional Hub
CDRs	Combined Delivery Reports
CI	Climate Information
CO	Country Office
CPAP	Country Programme Action Plan
CSR	Corporate Social Responsibility
DIM	Direct Implementation Modality
EA	Executing Agency
EWS	Early Warning System/s
GEF	Global Environment Facility
GEF CEO	Global Environment Facility Chief Executive Officer
IP	Implementing Partner
IR	Inception Report
IW	Inception Workshop
LFA	Logical Framework Analysis
M&E	Monitoring and Evaluation
MDGs	Millennium Development Goals
MAFF	Ministry of Agriculture, Forestry and Fisheries
MOWRAM	Ministry of Water Resources and Meteorology
MOU	Memorandum of Understanding
MTR	Mid-Term Review
NCDM	National Committee for Disaster Management
NIM	National Implementation Modality
NPD	National Project Director
NAPA	National Adaptation Programme of Action
PAC	Project Appraisal Committee
PDOWRAMs	Provincial Departments of Water Resources and Meteorology
PIF	Project Identification Form
PIN	People in Need
PIR	Project Implementation Report
PMU	Project Management Unit
ProDoc	Project Document
RGC	Royal Government of Cambodia
RTA	Regional Technical Advisor
SDGs	Sustainable Development Goals
SOPs	Standard Operating Procedures
TE	Terminal Evaluation
UNFCCC	United Nations Framework Convention on Climate Change
UNDAF	United Nations Development Assistant Framework
UNDP	United Nations Development Programme
UNDP CO	United Nations Development Programme - Country Office
UNDP- GEF	United Nations Development Programme - Global Environmental Finance

1. Introduction

This report for the Terminal Evaluation (TE) of the UNDP-supported GEF-financed project "***Strengthening Climate Information and Early Warning Systems in Cambodia to Support Climate Resilient Development and Adaptation to Climate Change***" (hereafter called the "project") summarizes the full evaluation and main findings of the TE following the UNDP/GEF terminal evaluation guide[6]. This TE is an integral component of the UNDP-supported GEF-financed project cycle.

1.1 Purpose of the Evaluation

As per the UNDP/GEF policies and procedures, this full-sized UNDP/GEF project is required to undergo a terminal evaluation upon completion of implementation. The purpose of the evaluation is to use the criteria of *relevance, effectiveness, efficiency, sustainability,* and *impact* to assess the project's status in achieving its intended results, impacts, and achievements of the project overall objective. All TEs are intended to provide evidence-based, credible, useful, and reliable information as it produces a set of recommendations and lessons learned to help guide future design and implementation of UNDP/GEF projects. TEs also contribute to the overall assessment of results in achieving GEF strategic objectives aimed at global environmental benefits. This TE must achieve the five standard purposes[7] of the UNDP/GEF project terminal evaluation.

1.2 Scope and Methodology

Terminal evaluations are planned monitoring and evaluation (M&E) activities of any UNDP/GEF projects according to the UNDP/GEF TE Guidance. This TE followed a participatory and consultative approach and focused on ensuring close and continuous engagement with all national and state government counterparts, UNDP Country Office, project team (Project Management Unit/PMU), and key beneficiaries, partners and stakeholders. The TE was carried out following the evaluation Terms of Reference (**TOR, Annex 1**).

Four major components were considered in this TE: project implementation, Log-Frame Matrix Analysis (LFA) and strategy, adaptive management framework, and project performance. The evaluation exercise focused also on reviewing, analyzing, and understanding project preparation and implementation phases, starting from the project's development stage (PIF formulation) to the current time. The project's Logical Framework (LF) was carefully reviewed to examine the rationale behind the project's design and consider how that contributed to achieving the objective and overall Government, UNDP, and GEF goals.

Another key aspect was to analyze and assess the project's strategy. It was analyzed carefully along with the project's main components, outcomes, outputs, indicators, and targets. Project adaptive management was analyzed and reviewed thoroughly. Furthermore, the project's risks, issues, and assumptions were assessed and analyzed. Special focus was given to assessing their validity, and how the project has responded to and managed risks and issues. The TE focused also on evaluating the project's performance and the project's impacts over its lifetime. Accordingly, the TE assessed the effectiveness of implementing various activities in achieving the project's outcomes, and thus the effectiveness of the project's outcomes on achieving the project's objective.

The TE methodology was developed during the inception phase of the TE exercise, was further developed during the evaluation exercise and consisted of several methods with an analysis of

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6 http://web.undp.org/evaluation/guideline/documents/PDF/UNDP_Evaluation_Guidelines.pdf

7 *Project-Level Evaluation: Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects:* http://web.undp.org/evaluation/guideline/documents/PDF/UNDP_Evaluation_Guidelines.pdf *promote accountability and transparency, and to assess and disclose the extent of project accomplishments; synthesize lessons that can help to improve the selection, design, and implementation of future GEF financed UNDP activities; provide feedback on issues that are recurrent across the UNDP portfolio and need attention, and on improvements regarding previously identified issues; contribute to the overall assessment of results in achieving GEF strategic objectives aimed at global environmental benefit; and gauge the extent of project convergence with other UN and UNDP priorities, including harmonization with other UN Development Assistance Framework (UNDAF) and UNDP Country Programme Action Plan (CPAP) outcomes and outputs.*

both qualitative and quantitative data. It followed a participatory approach and included three main stages:

- *The initiation/inception stage* of the TE involved desk review of project-related documents that the TE consultant considered useful for an evidence-based evaluation assessment (list of documents reviewed, (**Annex 2**)). An Inception Report (IR) was developed after reviewing the project's related documents and developing a good understanding of the project and its main achievements. The IR was submitted to UNDP for approval on the 15th of March 2020; it included:
  - ❖ General overview of the project, its aim, main objective, and components;
  - ❖ The objective of the TE, and its proposed methodology;
  - ❖ The proposed agenda for conduct a mission to Cambodia taking into consideration the outbreak of the COVID-19. A tentative mission agenda was developed and timetable for interviews was prepared to replace the mission agenda (**Annex 3**);
  - ❖ A list of stakeholders and people to meet with during the mission and/or via Skype calls and virtual interviews. This list was prepared based on the project Document and list of project's stakeholders and beneficiaries (**Annex 4**);
  - ❖ An evaluation matrix to be used during the mission to Cambodia/ virtual meetings with stakeholders and beneficiaries to guide the interviews (**Annex 5**).
- *Virtual meetings and interviews stage:* due to COVID-19 issue, the planned mission to Cambodia was first postponed and eventually cancelled. All meetings were conducted virtually with key stakeholders. This stage included two main activities:
  - ❖ Consultations with project stakeholders and beneficiaries via semi-structured interviews happened virtually to get updates on the project's activities. Findings were crosschecked during different interviews and with available evidence (project documentation). The TE consultant used a set of pre-prepared questions to initiate and facilitate the discussion with the stakeholders and ensure that all aspects of the TE were covered (**Annex 6**).
  - ❖ This stage also involved gathering more details about the project's achievements, reports, specific financial data and documents, and technical deliverables.
- *Preparing the Terminal Evaluation Report stage*: following the intensive consultations and interviews, information and data collected were systematically and carefully examined following the UNDP Project Evaluation Methodology. Information and stakeholders' opinions with associated sources/references and assumptions given were used to develop the project's evaluation ratings and draft the TE report that was submitted to UNDP for review and feedback. It is UNDP CO responsibility to circulate the report to key project partners for review. UNDP CO is also responsible to compile all comments on the TE draft report and share with the TE team. The response to these comments, whether comments were accepted and integrated into the TE report or not, is provided in the "Audit Trail[8]" document (annexed separately to the TE final report).

1.3 Structure of the Evaluation Report

According to the "Project-Level Evaluation Guidance for conducting Terminal Evaluations of UNDP-Supported and GEF-Financed Project", the TE report is structured around four main chapters, in addition to an executive summary with a table showing the evaluation rating and several annexes, as follows:

- *Executive Summary* (at the beginning of the TE report): provides a comprehensive review of the project's progress along with the project evaluation rating, a set of recommendation and lessons learned.
- *Chapter 1:* provides project introduction, project objectives and aim, evaluation scope, and the TE methodology.

[8] Audit trail document is considered by the UNDP GEF TE Guidebook as an integral part of the TE final report submission

- *Chapter 2:* provides a detailed project description including the problems sought to address, the project objective and development context, the baseline indicators, expected results and project's stakeholders.
- *Chapter 3:* describes the main finding of the TE concerning project design, implementation, results, and sustainability.
- *Chapter 4:* provides the TE conclusions, recommendations, and lessons to be learned.

Annexes include the TE's TOR, agenda of the virtual meetings, list of stakeholders interviewed, list of documents reviewed, evaluation question matrix, the questionnaire used and summary of results, and evaluation consultant agreement form.

1.4 Limitations of Terminal Evaluation

There were major limitations to this TE, mainly due to COVID-19 outbreak as all international travels remain suspended. The in-country mission, which is a fundamental element of the TE to visit pilot sites, meet with beneficiaries, collect observations, and verify findings are crucial evaluation tools and these could not be done perfectly virtually.

The TE exercise was put on hold for a few months due to the uncertainty of travel restrictions and the roll-out of social distancing measures. Since international travel continued to be banned until the date of TE report submission, the following remedial actions were taken:

- IE consultant relied on virtual meetings, questionnaires, and phone and skype calls to collect data, interview stakeholders and check and validate findings.
- The project team did their best in providing more information and clarifications to the TE consultant to fill gaps and crosscheck data and findings.

Limitations also included difficulties in getting in contact with all potential interviewees. Not all stakeholders were willing or comfortable interacting virtually and not all stakeholders were able to connect virtually due to lack of internet access. Also, there was a longer-than-planned interview period due to the extra time needed to schedule virtual calls/appointments/meetings, etc.

2. Project Description and Development Context

2.1 Project Start and Duration

The project's implementing and executing agency is the United Nations Development Programme (UNDP). UNDP began executing the project in August 2017. Before that, the Ministry of Water Resources and Meteorology (MOWRAM) was the responsible partner under a National implementation Modality (NIM). This modality was changed to Direct Implementation Modality (DIM) in August 2017[9]. The project is being implemented in partnership with the Department of Meteorology (DOM), Department of Hydrology and River Works (DHRW), National Committee for Disaster Management (NCDM), Ministry of Agriculture, Forestry and Fisheries (MAFF) and Provincial Departments of Water Resources and Meteorology (PDOWRAMs).

The Project Identification Form (PIF) was approved by the GEF on 2nd May, 2013, and the request for CEO Endorsement was approved by the GEF on 23rd October, 2014. The RGC signed the project document on 25th November 2014 and UNDP signed it on 28th November 2014. The first Project Board (PB) meeting was held on 26th September 2018. The project underwent a mid-term review (MTR) in May 2019 and the final MTR report was submitted on 10th June, 2019.

The Inception Workshop (IW) was held on 28th May 2015. The main objective of project's IW was to explain the objectives, outputs, and outcomes of the project along with expected results to all the stakeholders, operating in and around the project landscape. Further, local stakeholders were sensitized on climate change adaptation measures and the installation and use of early warning systems and climate information to enhance local capacity adaptation and resilience to climate change and variability.

The project should have been closed by 28th November 2018, but several factors caused the delay in its completion and hence its operation was extended. Due to this unexpected delay in project implementation, two official extensions were granted by UNDP based on requests by MOWRAM. The first request to extend the project was submitted to UNDP GEF after the MTR, based on the MTR recommendation, and the second extension was requested in March 2020 due to the COVID-19 outbreak. The first extension, which was submitted on 7th May, 2018, requesting an extension until 31st May 2020, allowing the project to accelerate activities implementation after changing the project implementation modality from NIM to DIM. The second extension was requested due to the outbreak of COVID19 and the roll-out of social distancing measures, which caused major delays in the implementation of the remaining activities, hence, the second extension was granted in March 2020. The approved project closure date is 31st October 2020.

The contributing factors for the delay during the period of 2014-2017 are as follows:

- Initial setup of the project's management structures and governing bodies, and, more importantly, the establishment of the Project Board.
- Internal political and operational issues associated with the inability of the government to establish the project board to review and endorse the project's first annual work plan and budget and provide overall guidance to the project management team.

Although UNDP CO and Bangkok Regional Hub (BRH) followed up intensively with the Government to help resolve these issues, the project was in a frozen state for around 2 years which led to a refinement process in April 2017 that lasted till August 2017 and resulted in a Project Refinement report (August 2017).

[9] The project has faced serious delay in implementation progress and inability to convene the PB as per the PIR, as a result, UNDP in partnership with the Government launched a refinement process in April 2017 resulting in the refinement report of August 2017. The process led to the formal approval of the change of implementation modality (from NIM to DIM) in August 2018.

The project refinement exercise focused on addressing the apparent risks and issues associated with the inability of MOWRAM to establish a Project Board. In the project refinement report, four aspects were considered in redesigning of the project strategy[10]:

1) *Aspect 1:* Public-Private engagement in the delivery of early warning and climate information,
2) *Aspect 2:* Potential collaboration of Government and CSO-NGO-Humanitarian networks,
3) *Aspect 3:* End-to-end multi-hazard EWS demonstration, and
4) *Aspect 4:* Adoption of a service-based approach for EWS and climate information capacity building.

In responding to these four aspects, the refinement report recommended four main adjustments to the project design:

1. A refined "business model";
2. An adjustment of project timing and duration;
3. A change in project arrangements modality, with the transition from NIM to DIM; and
4. Further changes in implementation including proposing some flexibility in implementation through dynamic engagement with partners.

2.2 Problems the Project Sought to Address

Cambodia is facing increasing development challenges due to climate change. In October 2013, damage caused by heavy rain and seasonal swelling of the Mekong River was estimated at $356 million, affecting 80% of the provinces and 1.7 million people; 297,600 hectares of rice paddies were inundated and more than 28,100 hectares of rice were immediately destroyed[11].

Climate change is resulting in longer dry seasons and shorter, more intense rainy seasons. This impacted both the frequency and severity of natural hazards induced by climate change such as floods and droughts, as well as agricultural production, which is dependent on seasonal rainfall. Recovery from such events puts a strain on the country's limited resources and forces shifts in development priorities - hindering Cambodia's ability to progress and achieve its development goals.

In response to climate change and its anticipated impact, the RGC decided to implement an early warning system (EWS). The purpose of an EWS is to monitor climate and environmental data on a real-time basis, detect adverse trends and make reliable predictions of possible impacts in the form of early warning information. An EWS, therefore, refers not only to advisories in emergencies but also to information related to the changing climatic trends revealed after tracking and analyzing climate and weather data over time. The purpose of an effective EWS is to enable timely response to natural hazards and extreme weather events, as well as informed planning considering changing climate trends.

However, the RGC faced several challenges in realizing its plans to adapt to climate change and its impacts. With few working climate and weather observation stations, there was insufficient data to refine predictions and forecasts based on sector, geographic areas, or vulnerability. Further, limited human resources and high staff turnover made it difficult for institutions such as MOWRAM to develop capacity and maintain qualified forecasters. Appropriate and timely dissemination of information was also a challenge.

In Cambodia, MOWRAM is responsible for providing climate and weather information to line ministries to inform climate-resilient planning, and for the communication of natural hazards and extreme weather events for disaster risk reduction. However, the information is often not presented in a manner that can be easily understood or applied and standard operating procedures (SOPs) defining roles, responsibilities, and accountability are lacking. MOWRAM is also responsible for maintaining EWS infrastructure such as automated weather stations and water gauge stations. At the time of project design, there were urgent needs to improve the

[10] Project Refinement Document, 2017.
11 Info derived from UNDP Cambodia website:
http://www.undp.org/content/cambodia/en/home/presscenter/articles/2013/10/18/cambodias-first-disaster-database-system-unveiled/

national EWS infrastructure. This has prompted some donors to assist the Government in rehabilitating old weather stations or installing new ones. However, there is a significant risk to the sustainability of the newly built infrastructure due to limited financial resources to cover all O&M requirements.

According to the ProDoc, the project sought to include climate change considerations in short- and long-term adaptation/development planning processes, sectoral planning, and other decision-making processes. Data generated through installed hardware, along with risk mapping and forecasted data was made available to specifically benefit the agriculture and water management sectors. The project was designed to enhance the data generation infrastructure, define coordination frameworks for the effective dissemination of climate and weather data, and strengthen national institutions to ensure the development and retention of critical forecasting and modelling capacity.

To achieve the proposed project's outcomes, as per its original design, the approach used by the project was to:

- invest in hard early warning infrastructure – hydrology and meteorology stations nationwide.
- mobilize technical expertise to enhance the capacity of national entities (namely MOWRAM, NCDM, and MAFF) in making use of the information; and
- ensure the smooth flow of information sharing both at the national level and between national and provincial level.

The existing capacity in Cambodia at the time of the project design and development was quite inadequate in addressing climate change-related issues from an EWS perspective. The RGC was planning to implement an effective EWS which aimed to monitor climate and environmental data on a real-time basis, detect adverse trends and make reliable predictions of possible impacts in the form of early warning information. However, RGC faced several challenges in realizing its goal mainly - insufficient data to refine predictions and forecasts, limited human resources and capacity, and high staff turnover. The UNDP-GEF intervention sought, therefore, to address existing barriers and gaps through strengthened institutions and coordination frameworks and strengthened capacity at the different levels (national, sub-national and community level) to apply climate information to inform climate-resilient planning and emergency response.

This project was designed based on key principles to develop an effective EWS to enhance Cambodia's resilience to climate change by strengthening institutions and coordination frameworks. Funding of US$4.9 million was approved by the LDCF Council in October 2014 and the project was officially launched in May 2015.

The project's main objective is to strengthen climate observation infrastructure and increase capacity to utilize climate and environmental information to respond to climate hazards and planning adaptation to climate change[12]. The project aimed to build the capacity for analysis, modelling and communication of climate trend information and weather event advisories, as well as transferring weather and environmental observational technology[13].

2.3 Immediate and Development Objectives of the Project

The project's main **objective** is to *strengthen climate observation infrastructure and increase capacity to utilize climate and environmental information for responding to climate hazards and planning adaptation to climate change*[14].

The project **aims** to *build the capacity for analysis, modelling and communication of climate trend information and weather event advisories, as well as transferring weather and environmental observational technology*[15].

The project is closely aligned with and consistent with Cambodia's United Nations Development Assistance Framework (UNDAF), a five-year strategic program framework that outlines the

[12] Project Document. Page 28. Section 2.4 Project Objective, Outcomes and Outputs/Activities.
[13] Project Document. Page 28. Section 2.4 Project Objective, Outcomes and Outputs/Activities.
[14] Project Document. Page 28. Section 2.4 Project Objective, Outcomes and Outputs/Activities.
[15] Project Document. Page 28. Section 2.4 Project Objective, Outcomes and Outputs/Activities.

collective response of the UN system to development challenges and national priorities in Cambodia (2011-2015). It is also aligned with the Country Programme Action Plan (CPAP 2011-2015).

The project was designed to contribute to ***UNDAF's Outcome 1***:

> "*Outcome 1.1 Sustainably developed agriculture sector promoting equitable physical land economic access to an increased number of safe and nutrition's food and agriculture products*"; and
>
> "*Outcome 1.2 National and local authorities and private sector institutions are better able to ensure sustainable use of natural resources (fisheries, forestry, mangrove, land, and protected areas), cleaner technologies and responsiveness to climate change*."

Within the context of the UNDAF and the UNDP Country Programme, UNDP developed its CPAP. This project was designed to respond to national priorities contained in the CPAP with a special focus on building the capacity of local and national communities to manage ecosystem services by 2015. Hence, the project was designed to contribute to ***UNDP CPAP Outcome 2***:

> "*national and local authorities, communities and private sector are better able to sustainably manage ecosystems good and services to respond to climate change*".

More specifically, ***output 2.3***:

> "*A national strategy, program, and financing mechanism established for cohesive climate change response at national, sub-national, and community level*".

The project is also consistent with LDCF objectives, specifically:

> ***CCA-1:*** *Reduce vulnerability to the adverse impacts of climate change, including variability, at a local, national, regional, and global level.*
>
> ***CCA-2:*** *Increase adaptive capacity to respond to the impacts of climate change, including variability, at a local, national, regional, and global level.*
>
> ***CCA-3:*** *Promote transfer and adoption of adaptation technology*.

2.4 Baseline Indicators Established

Under the baseline scenario, the impact of climate change in Cambodia could be mitigated through timely disaster preparedness measures and climate-resilient plans. Inadequate climate information and early warning systems, forecasts, and analyses create limitations for informed and climate-responsive decision-making. Furthermore, damages from climate-related hazards and extreme weather events are resulting in progressively greater damages and losses in Cambodia. It is estimated that US$ 356 million was the damage cost of flooding in October 2013. Unfortunately, in references to the global climate change projections, a further rise in the severity and frequency of events is expected. Hence, without improved preparedness, Cambodia's capacity to manage severe events will continue to be overwhelmed, with increasingly devastating impacts on lives and livelihoods.

Baseline indicators at the project's design level[16]:

- The number of national, sectoral, and sub-national plans informed by accurate and up-to-date climate information.
- Effective and timely EW/climate information dissemination mechanism established and functioning.
- Number and type of targeted institutions/individuals with increased capacity to assimilate and forecast climate and environmental information.
- Number and type of training/learning tools on forecasting/modelling available for new hires or continued learning of staff.
- Number and types of targeted institutions with increased capacity to reduce risks of and response to climate variability.
- Receipt of transboundary climate and weather-related data.

[16] Project Document, Pages 7 and 8. Sub-section 1.1 Climate Change-Induced Problem.

- Percentage change in agriculture productivity in selected communities.
- Number of automatic weather stations and climate monitoring network in Cambodia.
- Number and type of targeted individuals with increased capacity to provide O&M training for EWS related infrastructure.
- Percentage of financing plan funded for hardware and software operations and maintenance.

2.5 Main Stakeholders

The ProDoc presented the intensive stakeholders' consultations that took place during the development of the ProDoc. It further identified the role of the main stakeholders during the development stage[17]. Stakeholders were identified based on the Project documentation (project document, and the Refined Project Implementation Strategy).

Furthermore, the engagement of stakeholders was a key step in the TE process[18]. Stakeholder involvement included interviews with beneficiaries and stakeholders who have project responsibilities (including government agencies, senior officials, project team, local communities, academia, private sector representatives, international agencies, development partners and donor community). These groups were interviewed virtually as the TE consultant could not travel to Cambodia due to COVID-19 outbreak. A comprehensive list of project's stakeholders is provided below:

Project Stakeholders
Ministry of Water Resources and Meteorology (MOWRAM) including Department of Meteorology (DOM)/ Department of Hydrology and River Works (DHRW)
National Committee for Disaster Management (NCDM)
Ministry of Planning (MOP)
Ministry of Interior (MOI)
National Committee for Sub-National Democratic Development (NCDD)
Ministry of Environment (MOE)
Ministry of Agriculture, Forestry and Fisheries (MAFF)
Ministry of Women's Affairs (MOWA)
Asian Development Bank (ADB)
International Fund for Agricultural Development (IFAD)
Japanese International Cooperation Agency (JICA)
Mekong River Commission (MRC)
Cambodian Red Cross (CR)
Caritas Cambodia
DanChurchAid/Christian Aid (DCA/CA)
Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES)
World Bank/IWRM3
Cambodia National Mekong Committee (CNMC)
Humanitarian Response Forum (HRF)
People in Need (PIN)
Cambodian Humanitarian Forum (CHF)
Provincial Departments of Water Resources and Meteorology (PDOWRAMs)
Private Sector
Academia

Stakeholders involved in the project implementation with a description of key partnerships established are fully discussed under section 3.1.4.

[17] Project Document. Pages 19-22. Sub-section 2.2.1 Stakeholders Baseline Analysis, and Pages 53-54. Subsection 2.10: Stakeholders Involvement Plan.
[18] UNDP/GEF Terminal Evaluation Guidance.

2.6 Expected Results

LDCF funds were designed to be used to strengthen Cambodia's observational network, to enable the collection of local data for analysis, and ultimately to inform planning in response to climate change at the national, subnational and community levels as follows:

- ***Collection of meteorology data:*** this included for up to 25 sites (1 per province). It was supposed to provide nation-wide coverage for the collection of meteorological data in Cambodia.
- ***Collection of hydrological data:*** LDCF funds were supposed to be used to procure new or rehabilitate or upgrade 55 hydrological stations. At the time of the project design, there were 114 hydrological stations in Cambodia, but only 12 were fully functional. The project was designed to provide support for 55 hydrological stations only targeting support to vulnerable areas. These enhancements should have enabled improved climate and weather data collection in Cambodia, facilitated forecasting and modelling, supported sustainable planning, and enabled greater preparation for climate-induced natural hazards and extreme weather events.
- ***Institutional capacity*** to maintain and routinely calibrate EWS related infrastructure was also targeted to be increased through training, ensuring the long-term functionality of the stations, and the accuracy of the data collected.

3. Findings

3.1 Project Design/Formulation

The project was designed to support the RGC in establishing an effective EWS for timely preparation for extreme events, as well as climate-resilient development planning[19]. During the last three decades, the impact of climate-induced natural hazards and extreme weather events included 14 floods and 5 drought events. These resulted in the loss of 1,155 lives and over 16 million people (cumulatively) affected, and the cost of damages reached US$ 605 million. To respond and mitigate the climate change impact, the RGC worked to strengthen its EWS to monitor climate data on a real-time basis, detect adverse trends and make reliable predictions of possible impacts in the form of early warning information. An effective EWS would also help in introducing climate consideration into planning processes to better respond to climate changes and variabilities. This could be achieved through *"(a) strengthened institutions and coordination frameworks and (b) strengthened capacity at the national, sub-national, and community level to apply climate information to inform climate-resilient planning and emergency response*[20]**"**.

The project was considered highly important and relevant to Cambodia at the time of design and development in 2014. It is still very relevant to RGC's global environmental obligations. The Cambodia Climate Strategic Plan (CCCSP) 2014-2023[21] was a guiding document in the design of the project. It seeks to achieve its visions to "*develop towards a greener, low-carbon, climate-resilient, equitable, sustainable and knowledge-based society*" by focusing – among other- on promoting climate resilience through improving food, water and energy security, reduce sectoral, regional, gender vulnerability and health risks to climate change impacts and ensure climate resilience of critical ecosystems.

The project also supported the RGC in achieving its Climate Change Strategic Plan for Water Resources and Meteorology, 2013-2017, The National Strategic Plan on Green Growth, 2013-2030, and the Strategic National Action Plan for Disaster Risk Reduction 2008-2013.

The project is in line with the UNDAF for Cambodia (2011-2015), mainly ***outcome 1.1:*** *Sustainably developed agriculture sector promoting equitable physical and economic access to an increased number of safe and nutritious food and agriculture products*. It is also aligned with the Country Programme Action Plan (CPAP 2011-2015), mainly ***outcome 2:*** *By 2015, national and local authorities, communities and private sector are better able to sustainably manage ecosystems good and services and respond to climate change.*

At the global level, the project contributes to GEF/LDCF Strategic Objective and Programme: ***CCA-1:*** *Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional and global level,* ***CCA-2:*** *Increasing Adaptive Capacity: Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional and global level,* and ***CCA-3:*** *Adaptation Technology Transfer: Promote transfer and adoption of adaptation technology.*

The project successfully linked the intended project's outcomes to the Millennium Development Goals (MDGs) as the project complied with the NAPA-identified urgent needs. All of the NAPA-needs are relevant for supporting national development priorities and for achieving the MDGs specifically MDGs numbers 1, 3 and 7 on eradicating extreme poverty and hunger, promoting gender equality and empowering women, and ensuring environmental sustainability by integrating the principles of disaster risk reduction and sustainable development into country policies and programs. As the MDGs transitioned into the Sustainable Development Goals during the project, the project directly contributes to several SDGs, mainly: SDG 1: No poverty, SDG 2: Zero Hunger, SDG3: Good Health and Well-Being, SDG5: Gender Equality, SDG 11: Sustainable Cities and Communities, SDG 13: Climate Action, SDG 15: Life on Land, and SDG 17: Partnerships for the Goals.

[19] Project Document. Page 1.

[20] Project Document. Subsection 1.2. page 10.

[21] Cambodia Climate Change Strategic Plan (CCCSP) 2014-2013: http://camclimate.org.kh/index.php/comphyocagaleery/documents-and-media/library/categroy/12-national-policies.html?donlaod=474:cambodia-climate-change-strategic-plan-2014-2023-en-final. Accessed in April 2020.

The ProDoc carefully analyzed the climate-induced disasters in Cambodia, associated economic problems and operational and technical barriers to manage, specified needed outcomes, outputs, activities, indicators, targets, work-plans, and the needed budget per output.

The ProDoc stated extensively how this project would build the national capacity for data analysis and forecasting in cooperation with other related projects operating in Cambodia. It also focused on how these capacity development activities were going to be designed and implemented. The UNDP's systems approach to capacity development was employed to ensure that the "*overall training program is embedded within the broader institutional systems, into existing decision-making processes, and existing national systems, while also identifying gaps in the systems*".[22]

The ProDoc also discussed the sustainability of the capacity development component as a vital aspect to consider, hence it stated that, "*the training will be developed into a course to be housed in local universities or institutions, such as the Technical Service Center for Irrigation and Meteorology (TSC) and the Institute of Technology of Cambodia (ITC), for continued learning of staff as well as new students*". Therefore, the project was considered timely and necessary. The project was designed to help governments and local partners in strengthening *"capacity and ensure that the institutional system in place within MOWRAM can cope with the difficulties of staff retention*"[23].

The ProDoc correctly demonstrated the importance of improving capacity to disseminate and communicate climate information, as well as forecasting and modelling to enable more climate-resilient planning and preparation and response to natural hazards and extreme weather events. Climate and weather information available and utilized for national, sectoral, and sub-national planning, as well as for transboundary communication in the region, is a desired outcome of the project, and to achieve that, three outputs were designed. The project design effectively analyzed the intervention baselines and addressed a set of barriers, which were then described in the ProDoc.

The need for institutional capacity development is convincingly justified in the ProDoc. Based on the environmental initiatives analyzed during the project development stage, the capacity to operate and maintain EWS and climate information infrastructure to monitor weather and climate change needed to be enhanced. Sustainability of the monitoring network beyond the life of the project was also correctly discussed. The project correctly responded in two ways; developing the best practices and lessons learned from previous efforts both in Cambodia and in other countries, and seeking innovative approaches and a financing plan for long-term O&M of the stations.

3.1.1 Logical-Framework Analysis (LFA)/(Project Logic/Strategy, Indicators)

Projects' LFA is a key monitoring and evaluation tool used as a base for the planning of detailed activities defined during the project development phase. The project team must review the LF during the IW, update if necessary, and agree on the new LFA. For this project, according to the Project's Inception Report (IR), the LFA has been reviewed, but "*the inception workshop and following consultations yielded no changes to the project log-frame or management arrangements*"[24]. Changes were limited to: i) the baseline assessment as new co-financing initiatives had emerged and this was incorporated in the ProDoc., and ii) the risks levels as a result of changing co-financing projects and the need to procure needed equipment. As no comments/concerns were expressed during the IW, the outputs and lists of indicators, targets, issues and assumptions remain the same as stated in the IR ", no changes have therefore been made"[25]. Furthermore, even though implementation was delayed for around 2 years and the project had to undergo a refinement exercise, the project refinement process in 2017 did not introduce any adjustment to the Project LF.

[22] Project Document. Page 31.

[23] Project Document, Page 32.

[24] Project Inception Report, Page 2.

[25] Project Inception Report, Page 10.

In principle, the LF followed the GEF format and included targets with dates to be achieved at the outcomes and outputs levels. However, two main issues were observed: i) the complex nature of some activities concerning the regional and transboundary elements as stated in outcome number 2 - achieving this outcome would be beyond the project's capacity and control, and ii) the timeframe proposed to achieve all targets was the end of the project, which was not realistic and did not consider the need to achieve some targets during the first year of implementation to allow the implementation of other activities. This resulted in some weaknesses in the LF, mainly concerning the evaluation of the timeliness of the project's achievements. Table 2 provides an overview of the TE assessment of the Project's LF and how "*SMART*" the achievements were compared to the defined end-of-project targets.

The ProDoc established a simple strategy to address challenges and barriers to establishing an effective EWS in Cambodia. The strategy, as a sound-presented plan, mostly addressed the need to enhance institutional capacity to assimilate and forecast weather, hydrological, climate and environmental information, climate and weather information available for national, sectoral and sub-national planning as well as for transboundary communication in the region, and strengthening institutional capacity to operate and main EWS and CI infrastructure, both hardware and software, to monitor climate and weather. The project strategy appropriately identified capacity barriers (systematic, institutional, organizational, individual, and knowledge), and risks and issues that were hindering the achievement of long term solution to adapt to climate change in Cambodia and hence consistently set the basis for a plan of action. However, the strategy did not survive well through to the long project implementation period and changes were introduced in April 2017 to strengthen the strategy and ensure the implementation of the project activities. The targets achievement per the end of the project as formulated during project development are generally realistic.

According to the UNDP/GEF Terminal Evaluation Guide, the TE team assesses and analyzes whether: the project objective and components were clear, well-written, practical and feasible within the proposed timeframe and allocated budget; the ability and capacities of the project's executing agency to implement the project's components in line with the proposed design; what lessons learned from other relevant projects were incorporated into the project design; needed partnerships to implement the project were properly incorporated in the project design; financial resources (including the cash and in-kind co-financing) were adequate or not; the project's assumptions and risks identified during the project preparation with the proposed mitigation measures; and the project's outcomes and the proposed indicators were **SMART**[26].

Although the project succeeded in addressing existing barriers and highlighting the need to support the development of an effective EWS in Cambodia, it suffered from a design flaw due to the sequence of outcomes in the logic framework. Ideally, there is a need to upgrade hardware and software (organizational capacity development), followed by individual capacity development consistent with UNDP capacity development notes. The project's log-frame is composed of eleven outputs connected to the three outcomes.

The project indicator framework is clear and simple, with 2 objective indicators, and 8 outcome indicators. However, the indicators have some issues of relevance and timeframe as summarized in the below table (Table 2). One indicator is very hard to achieve as it does not have a baseline associated with it to measure progress. The LF also lacks mid-term targets- which are not mandatory – and contains only end-of-project targets. The indicator framework should have been reviewed, streamlined and made more efficient, realistic, and specific during the project IW.

Table 2: Overview of the Project's Log-frame

Criteria	TE comments
Specific	Indicators are specific in general. A few expectations exist, like 3 indicators under Outcome 1: "*Number and type of targeted institutions/individuals with increase capacity to assimilate and forecast climate and environmental information*", *"Number and type of training/learning tools on forecasting/modelling available for new hires or continued learning of staff*",

[26] SMART: Specific, Measurable, Achievable, Relevant, and Time-bound.

	and "*Number and type of targeted institutions with increased capacity to reduce risks of and response to climate variability*".
Measurable	Most of the results are linked to measurable indicators. However, a few are not measurable, making it challenging to assess whether they were achieved or not. One example is indicator 2 under Outcome 2: *% change in agriculture productivity in select communities (data disaggregated by gender*). This indicator is difficult to measure as there is no baseline study on agriculture productivity.
Achievable	Many of the results are achievable; however, some are not. Example, indicator 1 under Outcome 2: *Receipt of transboundary climate and weather-related data*. This is beyond the capacity of the project. Results must be within the capacity of the partners to achieve.
Relevant	Project's results contributed to national development policies and framework.
Time-bound	Some of the results are not well-linked to specific dates or timeframe of implementation. The expected results were defined in the project document, updated annually to Board Members and reflected in the end-of-date project target.

3.1.2 Assumptions and Risks

The ProDoc discussed some assumptions and risks under subsection 2.5: Key Indicators, Assumptions, and Risk Section. The review of the project's assumptions showed that some of these assumptions were not realistic. The ProDoc included **nine assumptions**[27], three assumed that the government, MOWRAM and participating ministries/departments were committed and would remain committed; two assumed that equipment and infrastructure provided by the project were compatible and standardized with existing hardware and software. While these might be correct to a certain level, there was no evidence provided to support these assumptions. Other key assumptions - sharing of climate data at the regional level - was a critical assumption that the project did not analyze, and became one of the major issues that might hinder the project's implementation.

The project identified **six risks** during the formulation stage[28] and included risks rating and mitigation strategy. One risk was rated as high level (H) risk - "Lack of effective early warning communication at the commune and village levels". Three risks were rated as medium level (M) risk - "failure of forecasting/modelling training programs to build institutional knowledge or adequately take into account high staff turnover, poor coordination between implementing and executing agencies, as well as development partners, and inadequate maintenance of meteorology, hydrology and hydro-met stations, resulting in hardware falling into disrepair", while the remaining two risks were considered low-level (L) risks - "climate products generated/distributed by MOWRAM do not meet the needs of stakeholders, and new equipment is not compatible or consistent with existing systems, making synthesis and analysis of information/data difficult". These risks were not classified in the ProDoc but can generally be classified as operational and technical risks. However, during the IW, project risks were discussed and updated. The total number of risks remained the same, however, risk levels were changed to reflect the progress of co-financing projects and new development[29] related to operational issues (procurement of equipment) as follows:

[27] UNDP GEF Project Document. Section 2.5.3. Assumptions. Page 49.

[28] UNDP GEF Project Document, Section 2.4 Key Indicators, Risks, and Assumptions. Pages 36-38.

[29] UNDP GEF IR. Page 8.

Key Risks	Level at Project Design	Level at IW
Failure of forecasting/modelling training programs to build institutional knowledge or adequately take into account high staff turnover	M	M
Climate products generated/distributed by MOWRAM do not meet the needs of stakeholders	L	L
Poor coordination between implementing and executing agencies, as well as development partners	M	M
Lack of effective early warning communication at the commune and village levels	H	**M**
Inadequate maintenance of meteorology, hydrology, and hydro-met stations, resulting in hardware falling into disrepair	M	**H**
New equipment is not compatible or consistent with existing systems, making synthesis and analysis of information/data difficult	L	**H**

Two risk-level ratings increased from medium- and low-level to high-level which reflect the severity of these risks and the need to take the needed mitigation measures. The only risk that was rated as high-level at the ProDoc design was changed to medium-level risk.

Project risks monitoring by the PMU and the UNDP CO varied and enhanced over time. Risks were not thoroughly examined and analyzed in 2016. The 2016 PIR did not list risks despite the delay in initiating the project activities. In 2017 PIR, two risks were listed, which clearly stated the status of the project and the reasons for the long delay in project implementation. The 2018 PIR stated one strategic risk related to the sustainability of the equipment installed in the project. Finally, 2019 PIR highlighted one operational critical risk related to the sustainability of the use and maintenance of stations after the project end.

The project's risks log was accessed by the TE consultant and reviewed. The status of risks and mitigation measures were updated by UNDP CO on ATLAS. The TE believes the management of the project's risks is satisfactory as risks were carefully identified and monitored with concrete mitigation measures and were updated on a quarterly basis with a robust follow-up plan on mitigation measures.

3.1.3 Lessons from Other Relevant Projects Incorporated into the Project Design

The ProDoc explicitly mentioned that lessons learned and best practices from other closed and ongoing initiatives were incorporated in the design[30], however, there were limited linkages to specific projects and how they have incorporated lessons learned from them.

The project made linkages and built on other ongoing projects but did not benefit from lessons learned and experiences gained from these projects and thus did not avoid some risks and issues that might have been easily addressed. For example, the ProDoc highlighted the importance of stakeholder in designing and implementing the project's initiatives. The CIDA-funded project on Promoting Climate-Resilient Water Management and Agricultural Practices in Rural Cambodia provided a good database through its agriculture/water use survey, which covered 300 households. It provided baseline information for this project on the perceived changes in climate and current agricultural practices. Yet, no evidence in the ProDoc shows that the project incorporated any lessons learned from the CIDA-funded project.

3.1.4 Planned stakeholder participation

The ProDoc stated the importance of stakeholder consultation throughout project preparation and implementation to ensure that best practices and lessons learned were captured in decision-making, and to ensure synergies of similar efforts.. In section 2.2.1: Stakeholders Baseline Analysis, a list of 20 organizations were named as stakeholders, with their proposed role in project implementation specified. The ProDoc highlighted the importance of consulting

[30] Project Document. Subsection 2.7: Sustainability.

ADB, JICA, and MRC, among others, for activities related to Outcome 3, while RIMES, TSC and ITC in addition to academic institutions, were to be consulted about activities under Outcome 1. MAFF should have also be consulted on Outcome 1 and 2. Annex G of the ProDoc provided a detailed stakeholder engagement plan in which potential stakeholder to be involved per year per output was listed. The stakeholder engagement plan was updated during the refinement process and reflected in the refinement report of August 2017.

In the project refinement report, 2 out of the 4 aspects that were considered in the redesign of the project strategy focused on partnerships with stakeholder as follows: 1) *Public-private partnerships in EWS development*, and 2) *Engagement of and collaboration with NGO's*.

The project was successful in engaging key stakeholders by involving them in the Project Board. The stakeholders not only provided strategic guidance to the Project but also supervised the actual implementation of the project by endorsing Annual Work Plans (AWPs), budgets, etc.

To the TE, and based on the discussion with key stakeholders, it seems that relationships with stakeholders were pleasant and strong, facilitated through the office hosted at MOWRAM. The project managed to establish several partnerships with governmental and non-governmental organizations, including discussions with private enterprises. The project was also successful in using social media to ensure proper engagement of all stakeholders and share the project's progress, success, lessons learned, etc. A series of messages, videos and information were posted on Twitter, Facebook, and UNDP project websites. Many followers are interacting with the project's team, including farmers and smallholders.

At the local level (provincial, district and community-level) stakeholder engagements were mostly taken care of by partners such as DCA and PIN, and the activities the project supported in the pilot provinces. Several awareness-raising activities were organized by the project as well as knowledge-sharing events. The total number reached (up until July 2020) **308** events. More than **11,800** locals have participated in these training programs, out of which around **36%** were females. Schools, farmers, community members, government officials at the federal and provincial level, women's organizations, community leaders, and school principals were involved in the training programs as detailed in the full list of these events organized and supported by the project in **Annex 7**.

In conclusion, the project was successful in involving many stakeholders, mainly vulnerable and marginal groups like schools, children, youth, women, and farmers, in project implementation and hence the stakeholders' participation has been planned sufficiently. Yet, the involvement and partnerships developed with the private sector should have been strengthened.

3.1.5 Replication Approach

The project's long-term results - increased institutional capacity to assimilate and forecast weather, hydrological, climate and environmental information; climate and weather information available and utilized for national, sectoral and sub-national planning, as well as for transboundary communication in the region; and strengthened institutional capacity to operate and maintain EWS and climate information infrastructure, both software and hardware, to monitor the weather and climate change - would ensure the sustainability of global environmental benefits and outcomes' replicability. There are various aspects of project design that facilitate replication:

1. The project strengthened the national institutional capacity to assimilate and forecast weather, hydrological, climate and environmental information and made them available for utilization at national, sectoral and sub-national planning, which will not only benefit the agriculture sector and reduce disasters risks but the information and data can also be used in other technical areas. Weather-related data could be used for tourist activities, education, infrastructure planning and development, etc.
2. The project's training programs that were conducted in association with existing training institutions operating in the country would help make these training models and program accessible to other areas, institutions, employees, and educational and research centers where there is interest in replicating the project approach. For many training programs, manuals (drought-resistant agriculture training: how to?

maintenance of weather and hydro stations, EWS 1294: phone-based early warning system) and guidance material were prepared in local and English languages.

3. The cooperation with the key research institutions and centers on transboundary early warning systems enhanced learning-by-doing and facilitated sharing knowledge among different stakeholders and beneficiaries.
4. The experience and knowledge generated by the project was shared with other LDCF countries to replicate the experience and benefits realized, particularly on how to avoid risks and barriers that hinder EWS project activities.

The project developed sets of documentation including manuals and guidance materials with key messages. The manuals were submitted to the MAFF, who are already using them. The maintenance manual is being used by MOWRAM.

3.1.6 UNDP Comparative Advantage

UNDP is the GEF Implementing Agency for this project, with the UNDP Country Office responsible for transparent practices, appropriate conduct, and professional auditing. UNDP comparative advantages lie in its global experience and local presence in integrating policy development, developing capacities, and providing technical support. At the global level, the project's focus on climate-resilient planning, and hence, it falls under Outcome 1 of the UNDP Strategic Plan 2014-2017: *Growth and development are inclusive and sustainable, incorporating productive capacities that create employment and livelihoods for the poor*[31]. The project is also part of UNDP's well-established program on strengthening climate information and early warning systems for climate-resilient development, through projects funded by LDCF, SCCF, the Adaptation Fund as well as bilateral donors. Thus, it benefited from UNDP's extensive experience, as well as the best practices and lessons learned from similar efforts in other countries, especially LDCs.

At the regional level, the project is in line with the Regional Programme Document for Asia and the Pacific 2014-2017, where it falls under Outcome 3: *Countries can reduce the likelihood of conflict, and lower the risks of natural disasters, including from climate change*. Technical backstopping is provided to the project by the Regional Technical Adviser at the UNDP Asia Pacific Regional Centre (APRC) in Bangkok and UNDP's network of global Senior and Principal Technical Advisors as necessary.

UNDP supported the project design, accessing the GEF funding, and implementing activities and provided overall assurance role in line with UNDP, GEF and the Government plans. The CO is resourced to provide the necessary oversight to support the government. Furthermore, UNDP CO in Cambodia is leading the implementation of several projects related to Climate Change, Resilience and Energy, hence, UNDP has substantial in-house technical expertise to support the government and fulfill an overall oversight assurance role as per the UNDP/GEF guidelines.

3.1.7 Linkages Between Project and Other Interventions Within Sector

The project has established several partnerships and was successful in building and maintaining key strategic partnerships, cooperating with important institutions, and building linkages with other projects/initiatives. The project collaborated with and built on the success of key initiatives funded by other development partners. Among those projects/partners:

- ***DanChurchAid***: on establishing a Drought Info Hub in Kampong Speu province,
- ***People in Need***: on implementation of EWS1294, phone-based EWS in Koh Kong and Sihanoukville,
- ***Save the Children***: on capacity building of climate knowledge and response in school children and staff in Koh Kong and Sihanoukville, and
- ***Regional Integrated Multi-Hazard Early Warning System for Asia and Africa (RIMES):*** on supporting MOWRAM regarding multi-hazard EWS in Cambodia through seasonal forecasting, SESAME program and activation of the Monsoon Forum in Cambodia. This cooperation with RIMES is on a co-financing basis where RIMES contributed to the development of forecasting tools and guidelines, translated from the

[31] Project Document. Page 26.

global climate model, suitable for Cambodia. This resulted from the RIMES' Council Annual Program Meeting in which the Capacity Development Plan for Cambodia was developed[32].

The project collaborated with various technical organizations to ensure smooth implementation of its technical components, including:

- Installing / modernizing climate infrastructure to make the climate data available. The technical capacity of MOWRAM in assimilating climate data for weather forecasting has been improved and as a result, seasonal forecasting for Cambodia was presented in the Monsoon Forum.
- Application of climate information in agriculture sectors has been rolled out at the community level, which is being duplicated in other provinces of Cambodia in line with MAFF's Climate Change Action Plan on the agriculture sector.
- The project works with NCDM in disseminating early warning through mobile phone networks, linking provincial and district level contingency plan and community-level actions.

In general, the project was active in cooperating with key ongoing and new initiatives and key institutions. This cooperation has affected the project's implementation and enhanced its visibility.

3.1.8 Management Arrangement

MOWRAM was designated as the Executing Agency (EA) and main beneficiary following a NIM implementation modality, with overall responsibility for the achievement of project results. In addition to MOWRAM, MAFF/GDA, MOA, MOE/CCD, NCDM, and GEF OFP were also senior beneficiaries. UNDP was designated as the Senior Supplier and the GEF Implementing Agency (IA) responsible for transparent practices and appropriate conduct until April 2017, at which point UNDP became the EA. Further, UNDP has also carried the Project Assurance role[33]. The project has a Project Management Unit (PMU) composed of a project management specialist, a part-time M&E officer, and a finance/administrative officer.

The project faced serious issues that led to delays in the implementation of major activities. The primary reason for stalled implementation is the failure in the part of the IP to establish the Project Board and assign a National Project Director (NPD). As a result, the project has undergone a refinement exercise, which was conducted in April 2017, and resulted in changing the implementation modality from NIM to DIM.

Below is a brief description of the adopted project management arrangement:

A ***Project Management Specialist (PMS)*** was hired to manage project execution on behalf of RGC and ensure its proper implementation. The PMS has the authority to run the project on a day-to-day basis within the constraints laid down by the Board. The PMS's prime responsibility was to ensure that the project produces the results specified in the project document to the required standard of quality and within the specified constraints of time and cost.

The ProDoc stated the need to establish a ***Project Board (PB)***. The PB was responsible for ensuring strategic direction to the project and making management decisions when guidance is required by the PMS. The PMS played a critical role in project monitoring and evaluations by reviewing the quality of project-level processes and products and using evaluations to guide policy decisions aimed at project level performance improvement, accountability, and learning. The PB ensured that the required resources are committed and arbitrates on any conflicts within the project or negotiates a solution to any problems with external bodies. It also approved the appointment and responsibilities of the Project Coordinator.

To date, only 3 PBs were organized to discuss and review the project's technical deliverables (7 May 2018, 26 September 2018, 22 March 2019), as no PB was established for the first 18 months of the project implementation (no board meetings in 2016 and 2017).

[32] Project PIR 2019. Pages 19-20.

[33] According to GEF, the Project Assurance role is meant to support the Project Board (PB) by carrying out independent and objective project monitoring and oversight functions

The ***Project Implementation Unit (PIU)*** is located at MOWRAM but also assists NCDM. The PIU was managed by the full-time PMS and the PA. The PIU was limited to only two-full time staff.

A UNDP Programme Officer was appointed as the ***Project Assurance***. UNDP's primary responsibility under this partnership was to render the Project Assurance function by providing independent feedback (through periodic monitoring, assessment, and evaluation) on how appropriate project milestones were managed and completed. This was the responsibility of the relevant program staff of UNDP Cambodia and the UNDP team at regional and HQ level.

A group of subject experts were hired by the project to provide all technical leadership and support for the project implementation, monitoring & evaluation, and adaptive management. 21 national and international experts were hired by the project **(Table 3)**. The project hired only 2 long-term staff to manage the project daily, the Project Management Specialist/Project Manager and a finance and admin officer. Two national consultants were hired on a short-term basis to support the team in specific technical issues as shown in **(Table 4)**.

Table 3: List of Experts Involved in Project implementation

Position in the Project	Sex	Origin
Private Sector Engagement	F	International
Communication Specialist	F	International
Final Evaluation	F	International
Results Monitoring	F	International
Disaster Information Management Coordinator	M	National
EWS Social Media for MOWRAM	F	International
Ground Water Management	M	National
Graphic Designer	F	International
Mid-Term Review	M	International
National Action Plan for Disaster Risk Reduction	M	International
Videographer	M	International
Standard Operating Procedures for Multi-Hazard EWS	M	National
National Action Plan for Disaster Risk Reduction	M	National
Drought Management Strategy	M	National
School Safety	F	National
Feasibility Study of Stung Preak Thnot	M	National
Post Disaster Needs Assessment Strategy	M	National
Refinement Strategy	M	International
Meteorologist	M	National
Hydrologist	M	National

Table 4. Project Team

Project's Position	Sex
Project Management Specialist/International	M
Finance & Operations Officer/National	F

3.2 Project Implementation

In line with UNDP/GEF TE guidelines, the following six areas of project implementation have been assessed: (1) adaptive management; (2) partnership arrangements; (3) feedback from M&E activities used for adaptive management; (4) project finance; (5) monitoring and evaluation; (6) design at entry and implementation, and UNDP and EA roles. A six-level scale was used to rate the achievements of project implementation and adaptive management in terms of the criteria above[34]. Ratings are summarized in the TE Ratings & Achievements in

[34] UNDP/GEF TE Guideline: Highly satisfactory (HS) - the project has no shortcomings; Satisfactory (S)- minor shortcomings; Moderately satisfactory (MS)- moderate shortcomings; Moderately unsatisfactory (MU) - significant shortcomings; Unsatisfactory (U)- major shortcomings; and Highly unsatisfactory (HU) - severe shortcomings

Table 1, Page 6. However, a narrative description of the complete evaluation and rating of the results is provided in the following paragraphs:

3.2.1 Adaptive Management

The project correctly applied adaptative management due to the complex operational situation during the inception phase. The project team, in collaboration with concerned government officials as well as with UNDP, were able to operate and implement the project despite the difficulties they faced on the ground.

The TE observed some adaptative management measures taken by the project:

- **Project's refinement exercise:** the Government and UNDP CO agreed to undertake a refinement process to assess the project situation, look for problems and issues that were hindering the project implementation, and come up with an adaptive management strategy to revive the project. The refinement developed recommendations, mainly involving changing the modality from NIM to DIM. However, some of the key recommendations were not fully utilized, such as enhancing engagement of the private sector. The project's refinement strategy highlighted the role of the private sector in supporting national and local efforts in EWS and CI. Nevertheless, the involvement of the private sector was not that strong as supposed to be. The project did not make use of the recommendations made by the refinement strategy.
- **Project's management team:** the hiring of a long-term international expert with a dual function - technical advisor and project manager - instead of hiring two people to undertake technical and managerial work supported the project and helped in moving it forward. This was done to provide the needed technical support to the team as well as to provide managerial support by an experienced international expert. This decision perfectly supported the project. The project also benefited from assigning a long-term M&E officer with international expertise, who was instrumental in providing the needed technical support to the project team and the Ministry's team.

To the TE consultant, the project implemented key adaptive management measures that enabled it to make good progress despite the issues faced by the project during its inception phase.

3.2.2 Partnership Arrangements (with Relevant Stakeholders Involved in Country/Region)

The project was successful in arranging partnerships with the main stakeholders for implementation of the project's activities. However, there were two main challenges to enhancing technical collaboration. The first challenge was related to the availability of historical data to be used as input for hydro-meteorological forecasting. The relatively new field of meteorology and hydrology in Cambodia makes the data hard to find. The second challenge was on the capacity of in-house meteorologists and hydrologists in use of updated forecasting technology. The project put in mechanisms to overcome these two challenges. It linked government officials to technical organizations that could impart new skills and technologies to adopt in Cambodia[35].

The main partnerships developed:

- ***Government meteorologists, hydrologists, and other staff under MOWRAM and MAFF***: included capacity building on maintaining climate data for provincial staffs of MOWRAM and MAFF. A collaboration was established with a technical institution to demonstrate real-time forecasting that integrates the data from Automatic Weather Stations (AWS) and Automatic Hydrological Stations (AHS).
- ***Cooperation with NGOs***: targeted to local communities and farmers who are dealing with the changing climate in their daily life. Many community members were not aware of where to get the information for their planning. Collaboration on Drought Info Hub works well in tackling this challenge.

[35] UNDP GEF Project PIR 2019

- ***National Committee for Disaster Management (NCDM)****:* empowered by the project through collaboration on the adoption of EWS1294 in Cambodia[36]. The use of early warning for the public is one of the mandates of NCDM and collaboration with an NGO establishing the system is an added value that the project contributes.
- News on the collaboration is promoted on the project's websites, and social media channels (mostly twitter) of UNDP Cambodia, UNDP Asia Pacific, and UNDP Climate:
  - ✓ EWS1294: https://www.adaptation-undp.org/node/5539
  - ✓ EWS and gender: https://www.adaptation-undp.org/node/5509
  - ✓ Cooperation with RIMES: https://www.adaptation-undp.org/node/5347
  - ✓ Agreement with Dan Church Aid on Drought Info Hub: https://www.adaptation-undp.org/node/5284
  - ✓ EWS1294 in Koh Kong and Sihanoukville Province: https://www.adaptation-undp.org/node/5007
  - ✓ Community-level training on EWS: https://www.adaptation-undp.org/node/5149
  - ✓ Cooperation with SERVIR-Mekong on the application of Early Warning System on Agriculture Sector: http://www.adaptation-undp.org/knowledge-everything-when-it-comes-early-warning

The project has established several partnerships including with DanChurchAid (on establishing Drought Info Hubs in a number of provinces), People in Need (on implementation of EWS1294), Save the Children (on capacity building of climate knowledge and response in school children and staff in Koh Kong and Sihanoukville) and Regional Integrated Multi-Hazard Early Warning System for Asia and Africa (RIMES) on supporting MOWRAM on Multi-Hazard Early Warning System in Cambodia through seasonal forecasting, SESAME program and activation of Monsoon Forum in Cambodia.

The project's refinement strategy made a clear recommendation on the engagement of the private sector. The project was able to develop some partnerships with ADCON Telemetry, SUTRON and BRL Ingenierie as follows:

- ***ADCON Telemetry***, on the installation of 24 automatic weather stations; and capacity building on operation and maintenance of automatic weather stations. http://110.74.207.107:8080/livedata/map.jsf?template=weather&units=metric
- ***SUTRON,*** on the installation of 24 automatic hydro stations for surface water and 5 automatic hydro stations for groundwater. The data is transmitted to the MOWRAM server to be available online.
- ***BRL Ingenierie, France*** https://www.brl.fr/en/ingenierie-de-l-eau-et-de-l-environnement-13.html on the development of hydro-meteorological information system in Cambodia. https://wimes-cambodia-undp.brl.fr/

To the TE consultant, the project has achieved all of the 'End of project target level' by developing critical partnerships with key and active partners to meet the project objective of '*Strengthening climate observing infrastructure and increase national capacity to utilize climate and environmental information to respond to climate hazards and support climate-resilient development planning and adaptation to climate change'*.

3.2.3 Feedback from M&E Activities Used for Adaptive Management

The quarterly and annual progress and implementation reports from the project team to the Project Board, as well as the PIRs, were used as the main instruments to evaluate project progress, identify issues and risks encountered during project implementation to determine adaptive management measures required. The UNDP CO and the BRH fielded several site visits and met regularly with the project team. As a result of the feedback from the M&E activities, several key adaptive measures were undertaken during project implementation, as described in 3.2.1 above.

[36] EWS1294: it warns people in advance of natural hazards occurring in Cambodia. When an event such as flooding is detected or predicted, a voice recording is sent to the mobile phones of registered users in the areas at risk.

3.2.4 Project Finance

The TE assessed the project's originally planned budget, actual expenditure, and the leveraged co-financing. As of July 2020, out of the 4,910,285 USD GEF cash support, **US$ 4,559,973.89** about **(93%)** of the project total budget, has been dispersed. Around ***US$ 163,828 about (12%)*** was committed, as presented in Table 5. This amount will be used to pay for the technical work for three main contracts.

As shown in the table below, the spending per outcome is very close to the GEF approved budget. Component 3 consumed the largest budget, yet the spending was only ***85%*** of the total approved budget. The spending under components 1 and 2 slightly exceeded the approved budget, with ***104%*** and ***109%***, respectively. The project management component consumed a lower budget than the originally planned and expenditure reached ***95%*** of the originally planned budget.

The project budget included more than ***US$ 20 million*** from the RGC as cash and in-kind contribution. However, after discussing the amount and nature of co-financing with the UNDP and the Government, they clarified that only around US$ 120 K was mobilized as an in-kind contribution to the project. UNDP injected around US$ 200,782 from its TRAC resources to support the project. As of July 2020, the confirmed project co-financing from the Government, MRC, JICA and UNDP has amounted to an estimated ***US$ 329,702***, around ***1.5%*** of the total in-kind and cash co-financing. Details are provided in **Table 6.**

UNDP Cambodia was audited in 2019, which covered EWS project. The expenditure and progress results of EWS project was counted / included under the expenditure that was audited.

Table 5: Project Budget and Expenditures (US$)

Project Component	Budget Approved (US$)	Expenditure as of July 2020								Outstanding Committed [July 2020]	Total Actual Exp plus Committed	Difference between Actual and Planned Budget
		2015	2016	2017	2018	2019	2020	Total spent	% of budget spent			
Component 1	**912,962**	**31**	**0**	**30,653**	**99,079**	**721,139**	**96,162**	**947,064**	**104%**	**0**	**947,064**	**34,102**
Component 2	779,000	40,468	0	0	281,932	388,664	140,078	851,143	109%	0	851,143	72,143
Component 3	**2,984,500**	**13,654**	**6,435**	**438,071**	**1,365,969**	**516,400**	**198,530**	**2,539,060**	**85%**	**178,805**	**2,717,865**	**266,635**
Project Management	233,823	52,078	76,759	100,861	-(51,713)	33,288	11,435	222,707	95%	110	222,817	11,006
TOTAL GEF	**4,910,285**	**106,233**	**83,194**	**569,584**	**1,695,267**	**1,659,490**	**446,205**	**4,559,974**	**93%**	**178,915**	**4,738,889**	**171,396**

Table 6: Co-financing of Project Partner (US$)

Source of co-financing	Name of Co-financer	Type of co-financing	Amount confirmed at the CEO endorsement (US$)	The actual amount contributed at the stage of TE (US$)	Actual % of Expected Amount
RGC	National Government	In-kind	20,812,540	128,920	**0,62 %**
Multilateral Agency	Mekong River Commission	In-kind	390,000	0	
Bilateral Aid Agency	JICA	In-kind	682,000	0	
GEF IP	UNDP	Cash	0	200,782	
TOTAL			**21,884,540**	**329,702**	**1.51%**

3.2.5 Monitoring and Evaluation: Design at Entry and Implementation (*)

M&E Design at Entry: the ProDoc contained an M&E plan and budget that would be conducted following established UNDP and GEF policies and procedures, in compliance with GEF indicators. M&E activities, lead responsible parties, budget and timeframe were identified in the M&E section of the ProDoc. The M&E Plan contained a detailed description of all UNDP/GEF M&E standard activities including the project's LF, indicators and targets, reports required to be prepared by the project such as the quarterly progress report (QPR), annual progress report (APR), project implementation report (PIR), the inception workshop and report, the mid-term review and the terminal evaluation report. The LF contained detailed indicators of achievement, means of verification, risks, and assumption in addition to the baseline that provide a milestone for measuring project implementation progress and performance. It also included quarterly, yearly, and at the end of the project activities. A total of **US$ 207,000**, about **4.2%** of the total GEF grant was allocated for the M&E activities. The actual cost of the M&E during implementation was **US$ 76,750**, which is around **1.7%** of the total project's expenditure excluding the costs of the MTR and TE.

Based on the above, the M&E design at project startup is rated as:

Highly Satisfactory (HS)	Satisfactory (S)	Moderately Satisfactory (MS)	Moderately Unsatisfactory (MU)	Unsatisfactory (U)	Highly Unsatisfactory (HU)
	S				

Implementation of M&E

Based on the TE review of the project M&E during the implementation of the project, the M&E activities followed the M&E plan:

- UNDP and UNDP/GEF roles have been correctly applied to this project, based on the following notes:
  - UNDP CO has followed the standard M&E activities based on UNDP/GEF standard procedures. The CO conducted several monitoring sites visits, attended, and facilitated the commission of the PB.
  - UNDP CO provided the needed operational, technical and financial support. UNDP CO has been active in finalizing project work plans, budget revision, convening the project committees and attending meetings.
  - UNDP CO committed significant resources in terms of staff time and travel by the responsible officers and associates to the project. The senior management was involved on several occasions to provide the needed high-level support.
  - The UNDP actively participates in the PB meetings including the participation of senior UNDP officials. UNDP provided assistance and technical guidance to the project through the regional technical advisor in charge of the climate change focal area.
  - Communication between the project's team, the project's governing bodies, and the UNDP is continuous and open.
  - Finally, project reports are reviewed by UNDP and include the agency's rating of implementation and risks affecting project implementation.
- The Project's IW: was organized on 28 May 2015 and an inception report (IR) was prepared and shared with concerned partners. However, the IR was lacking details of what has been discussed and agreed upon, and recommendations made.
- The Project Board Meetings (PBs): PB is the highest governing body for the project. To date, four PB meetings were convened and a well-documentation of the minutes of the meetings (7 May 2018, 26 September 2018, 22 March 2019, and 14 October 2019).
- UNDP Regional Unit in Bangkok, the UNDP Technical Advisor and assistant responsible for this project, and UNDP Cambodia's provisions of financial resources have also been following project norms, and within the timeframe.
- The UNDP CO has helped the project at technical and operational levels. It carried out the needed assurance role and helped the project in procuring critical services and hiring key consultants at national and international levels. The TE recognizes that UNDP has practiced its role in compliance with UNDP established procedures.
- Project Implementation Reports (PIR): PIRs are used as a critical analysis of the project's status and are submitted to the PB for review, discussion, and endorsement. The project prepared 4 PIRs (2016-2019). The project also prepared 5 APRs (2015-2019).

- Quarterly Progress Reports (QPRs): the QPRs were prepared mainly to report on progress. The TE noticed that these reports missed key information required for UNDP result-based management like the risks and issues logs, a detailed work plan for the next quarter, and its planned resources. 13 QPRs were shared with the TE consultant for review for years 2015-2019.
- Project Terminal Report (PTR): prepared during the last three months of the project implementation and to be discussed during the terminal review meeting. Ideally, this report should be prepared by the Project team who has overseen all project's operational issues since its inception. The draft report was shared with the TE consultant for review towards the end of the TE exercise.
- Terminal review meeting: A terminal reviewing meeting should be organized by the project team, with participation of its members before the project closure. The workshop is planned to take place during the second half of September.

It was noticed that the M&E framework could have been reinforced by putting more emphasis on the project's inception phase. However, based on the review of the project's QPRs, APRs, and PIRs, it was sensed that the project team was trying hard to focus on implementation and use the available M&E tools to enhance project management.

Based on the above, the implementation of the M&E plan is rated as:

Highly Satisfactory (HS)	Satisfactory (S)	Moderately Satisfactory (MS)	Moderately Unsatisfactory (MU)	Unsatisfactory (U)	Highly Unsatisfactory (HU)
	S				

3.2.6 UNDP and Implementing Partner Implementation/Execution, Coordination, and Operational Issues

UNDP and MOWRAM exercised quality management actions to ensure achievement of project outcomes and objectives promptly. UNDP as the Project Assurance provided support to the PB and carried out objective and independent project oversight and monitoring functions. The key features of UNDP implementation were as follows:

- UNDP followed up on the project's activities and carried out needed monitoring activities, reviewed project budgets and work plans and provided advice. They also provided financial resources following UNDP/GEF guidelines, as well as supporting the project, as requested, in recruiting national and international consultants and facilitating procurement. Furthermore, UNDP provided necessary and timely advice and guidance for AWPs' development, and through its high-level staff, provided needed political support, and facilitated the project's refinement exercise.
- MOWRAM as the Executing Agency and MAFF (co-executing agency) worked collaboratively with UNDP and other key stakeholders and exercised prudent guidance and support. Working together with UNDP, MOWRAM undertook adaptive management measures after the refinement exercise and provided the needed support to ensure proper implementation of the project. Collectively, an international technical advisor was hired to undertake the project coordinator and advisor roles to make it possible to move the project forward.
- MOWRAM needs to ensure the continuity of the annual budget allocation for the Operation and Maintenance (O&M) of the stations and installed equipment. Furthermore, based on the interviews with key stakeholders, incentives for staff at local and province level who are responsible for operating and maintaining the station and the direct surroundings of the monitoring equipment, are an important element to ensure stations' sustainability. This is particularly so for remote stations which require more effort and time of the local staff, therefore making these contributions critical.

Despite delay during the inception phase and in the operational completion of the project, for all their individual and collective efforts and strong support exercised throughout project implementation to successfully achieve the project results and ensure sustainability, the evaluator rates the IA and EA coordination and cooperation as:

Highly Satisfactory (HS)	Satisfactory (S)	Moderately Satisfactory (MS)	Moderately Unsatisfactory (MU)	Unsatisfactory (U)	Highly Unsatisfactory (HU)
	S				

3.3 Project Results

3.3.1 Overall Results (Attainment of Objectives)

The TE consultant evaluated the achievements of results in terms of attainment of the overall objective as well as identified project outcomes and outputs, according to the UNDP/GEF evaluation guidelines. For this, the performance by the outcome is analyzed by looking at three main aspects: general progress towards the established baseline level of the indicators; actual values of indicators by the end of the project vs. designed ones; and evidence of relevance, effectiveness, and efficiency of the results as well as how this evidence was documented.[37]

Based on observations, data collection and analyses, interviews, and review of the project's technical reports and progress reports, a detailed assessment at the outcome level is presented below (Table 7). Project activities had been effectively carried out to generate the achievement of the project objectives and outcomes, and as such, the rating is given by the evaluators for Overall Project Outcomes is **Satisfactory (S),** despite the delay in project operational completion.

GEF Tracking Tool: AMAT

Although the MTR made a specific recommendation on the use of the GEF Tracking Tool for Climate Change Adaptation, the Adaptation Monitoring and Assessment Tool or AMAT to assess progress toward the outcome, the project team did not utilize this valuable tool to assess progress (although the absence of this practice did not hinder the project implementation). The AMAT is used to provide a standardized approach to document and monitor progress and to quantify and disaggregate progress. The progress towards outcomes analysis in the GEF Tracking Tool at the baseline can be compared and analyzed with the situation at the TE. The AMAT was updated during the MTR then was updated again during the TE. The updated GEF tracking tool was reviewed and validated during the TE, attached in **Annex 8.**

Overall results of the Project are rated as:

Highly Satisfactory (HS)	Satisfactory (S)	Moderately Satisfactory (MS)	Moderately Unsatisfactory (MU)	Unsatisfactory (U)	Highly Unsatisfactory (HU)
	S				

[37] UNDP/GEF Terminal Evaluation Guide

Table 7: Matrix for rating the Achievement of Outcomes

The key is used for indicator assessment (Color Coding):

Green = Completed, the indicator shows achievement

Yellow = On target to be achieved by the end of the project

Red = Not on target to be achieved by project closure

Objective **To strengthen climate observing infrastructure and increase national capacity to utilize climate and environmental information to respond to climate hazards and support climate-resilient development planning and adaptation to climate change.**						
Description of Indicator	**Baseline Level**	**Midterm target level**	**End of the project target level**	**Progress since project start till July 2020**	**TE comments**	**Rating**
Indicator 1 Number of national, sectoral and sub-national plans informed by accurate and up-to-date climate information (AMAT 1.1.1.3)	Climate and weather information currently provided by MOWRAM, but the information is not sufficiently tailored to adequately inform planning	*(not set or not applicable)*	2 (MOWRAM and MAFF)	6 from MOWRAM, MAFF, and NCDM. The following national and sub-national plans (as well as sectoral plan) are supported by the project: 1. National Curriculum for Farmers Field School for MAFF/ Part of the Climate Change Action Plan of MAFF. 2. Disaster Risk Reduction Plan in Agriculture Sector of MAFF. 3. Drought Manual, to be used as a national reference for drought risk management. 4. Disaster Risk Reduction Plan 2019-2023 of National Committee for Disaster Management. 5. Standard Operational Procedure for EWS in Cambodia. 6. Common Alert Protocol for Early Warning System (EWS)1294 in Cambodia.	The indicator shows the achievement of target	**S**
Indicator 2 Effective and timely EW/climate information dissemination mechanism	Early warning messages are disseminated, but roles, responsibilities, and	*(not set or not applicable)*	SOP for the dissemination of early warnings designed and	Standard Operational Procedure for Early Warning System in Cambodia was developed in 2019. This SOP was developed building upon the existing SOP, which is more focused on floods early warning system. As the project strengthens the collaboration of key EWS stakeholders in the country (MOWRAM, MAFF and NCDM), the project	The indicator shows the achievement of target	**S**

established and functioning (AMAT 2.1.2.1)	accountability not clear. No SOP in place.		successfully tested.	developed an SOP that caters the wider need for climate information in Cambodia beyond floods.		
Outcome 1: The increased institutional capacity to assimilate and forecast weather, hydrological, climate and environmental information						
Indicator 1 Number and type of targeted institutions/individuals with increased capacity to assimilate and forecast climate and environmental information	9 forecasters at DOM (Staff do not currently serve as formal trainers, do not provide tailored products)	*(not set or not applicable)*	6 forecasters [(3 from DOM and 3 from DHRW) trained, which can also serve as trainers, to use information from monitoring stations in modelling, data quality control and forecasting climate information (on daily to seasonal as well as medium to long term timescales)]	The end-of-project target has been achieved. A total of 12 DOM and 12 DHRW staff members have been trained on advanced meteorological and hydrological forecasting. • Basics of seasonal forecasting in March 2019, involving 12 DOM staff. The training was on the fundamentals of seasonal forecasting and introduced large-scale drivers and their influence on seasonal variation of rainfall in South Asia and South East Asian regions, using various models used for seasonal forecasting. • Two specialized trainings for Cambodian meteorologists were carried out on weather and seasonal climate prediction using short-range numerical weather prediction (NWP) and long-range statistical modelling. One was focused on specialized seasonal forecast training using data from Cambodia. This involved 12 DOM staff while another training on river forecasting was conducted in August 2019. • A secondment involving 2 meteorologists from MOWRAM at RIMES. In addition, at least four training on operations and maintenance of climate infrastructure (Automatic Weather and Hydrological Stations) were provided in 2019, involving 54 MOWRAM and PDOWRAM officials from the 9 provinces where these AWS and AHS were installed. The training also introduced addVANTAGE software and system, developed by ADCON – the supplier of AWS installations. The staff trained on AWS/AHS operations and maintenance in turn served as trainers for provincial MOWRAM staff for O&M of the stations.	The indicator shows the achievement of targets	**S**

Indicator 2 Number and type of training/learning tools on forecasting/modelling available for new hires or continued learning for staff	Training is generally provided by outside parties and is short term in nature.	*(not set or not applicable)*	3 courses (1 hydrology, 1 meteorology, 1 applying risk maps and GIS data) developed and available to staff (i.e. online, at local learning institution and training program within MOWRAM) – course content and level should depend on MOWRAM staff needs.	The following training (with their corresponding course content and case studies, where applicable), have been implemented: • Basic and advance Meteorological forecasting • Basic and advance Hydrological forecasting • Operation and Maintenance of Automatic Weather Stations & advantage software system (for DOM) • Surface Water and Ground Water Monitoring Stations Software and Hardware Training (for DOHRW) • Integrated Water Resource Management System, GIS-based risk analysis from the data from the stations. • Drought Management Manual was developed following the request of Ministry of Agriculture, Forestry and Fisheries on the need for comprehensive drought training manual for agriculture extension officers and farmers, integrating climate / GIS / meteorological and hydrological information (in Khmer and English) • FARM field school curriculum/training manual was developed in 2019, to be used as a national standard for farmers field school, integrating climate information for drought management (in English, Khmer version available in August 2019) • Cambodia-specific training modules for meteorological forecasting were developed in May 2019 (English). The result of this module was presented on Monsoon Forum in April 2019.	The indicator shows the achievement of target	**S**
Indicator 3 Number and type of targeted institutions with increased capacity to reduce risks of and respond to climate variability (AMAT 2.2.1)	Forecast information is currently provided, but not tailored.	*(not set or not applicable)*	Products developed for various agro-ecological zones of the 7 priority provinces and provided to MAFF	The main targeted institutions with increased capacity on climate information, including the integration of variability, are MOWRAM, MAFF, and NCDM. The project has developed the climatic zone of Cambodia. The project has advanced the forecast products available for the entire country. Forecast for each province is also available from the drop-down menu of the Ministry's website listed below.	The indicator shows the achievement of target	**S**

				The current forecast is zone-based and caters to the needs of other stakeholders.		
Outcome 2: Climate and weather information available for national, sectoral and sub-national planning as well as for transboundary communication in the region						
Indicator 1 Receipt of transboundary climate and weather-related data	Information sharing not systematized	*(not set or not applicable)*	Communication plan to regularly share transboundary information (combined with ADB-supported SOP, or separate)	The communication plan under the SOP of EWS in Cambodia was completed in October 2019 and the project, together with MRC and People in Need hosted the transboundary regional workshop in December 2019. The conference had a specific focus on unveiling and discussing the key findings of the new regional study. With more stations installed in the country, MOWRAM's confidence in sharing country-level data to MRC as a regional initiative was boosted. MOWRAM shares the data (with more coverage to the country) to MRC and WMO as part of the transboundary climate and weather data sharing. The hydro-meteorological platform developed by the project also incorporates data from the stations under the ADB project as well as other stations in Cambodia. The project supported MRC in hosting one regional dialogue on transboundary climate information sharing and EWS, resulting in more action points to advance regional cooperation in this field.	The indicator shows the achievement of target	**S**
Indicator 2 % change in agriculture productivity in select communities (data disaggregated by gender)	Early warnings provided are not tailored sufficiently to inform planning at agriculture household level	*(not set or not applicable)*	Positive % change in agriculture productivity, particularly by female-headed households, resulting from behavior changes informed by climate information (see Annex F – Randomized Control Trials)	This is a complex and difficult target to achieve as there is no baseline study on agriculture productivity. Yet, the project implemented a series of activities to increase agricultural productivity as follows: The partnership established with Dan Church Aid on establishing Drought Info Hub trained 223 local agricultural co-operative leaders in drought-resistant agricultural techniques (such as water conservation and crop diversification) using a train-the-trainer methodology; and further trained 2,113 farmers (1,343 female) in drought-resistant agricultural techniques. This is an increase from the last reporting period. These activities were carried out to increase agricultural productivity. In 2019 the partnership also completed a study on the change behavior of farmers in the areas covered (and not covered) under Drought Info Hub.	A survey for farmers was conducted by the project to reflect on applied knowledge from training activities and it pointed to the fact that there is increased productivity in farming activity. a series of activities were implemented to increase agricultural productivity - as follows:	**MS**

				Supporting the effort described above, the cooperation with RIMES also resulted in the Farmers Field School Training of Trainers Manual, to be used by MAFF's extension officers. A study was conducted in the selected communities on the change of agriculture productivity and practices at the community level.	The partnership established with Dan Church Aid on establishing Drought Info Hub trained 223 local agricultural co-operative leaders in drought-resistant agricultural techniques (such as water conservation and crop diversification) using a train-the-trainer methodology; and further trained 2,113 farmers (1,343 female) in drought-resistant agricultural techniques. These activities were carried out to increase agricultural productivity. In 2019 the partnership completed a study on the change behavior of farmers in the areas covered under Drought Info Hub. The research conducted by UNDP and DCA examined DRAT implementation by farmers in Takeo, Kampong Chhang,	

					and Battambang Province to assess the uptake and impact of DRAT. A total of 72 farmers were employed as respondents (26 in Battambang, 23 in Kampong Chhnang and 23 in Takeo). Some key findings are presented below: - As members of Agriculture Cooperative (AC), these farmers received direct training from DCA who further became the Training of Trainers in their respective communities. They use the skills to train others in the future. The trainings they received were on chicken raising, dry compost, biochar, liquid compost, natural pest. There has been a notable change in livelihood diversification, particularly cabbage, kale, tomato, cucumber, and other essentials for salad, which are sold in	

					organic supermarket. This resulted in more livelihood options of farmers. - More than 70% respondents reported implementing DRAT practice, i.e. storing water, plant trees, change crops, and prepare more seeds. - The farmers reported increased chicken production as a result of enhanced knowledge on vaccinations, compost making, i.e. liquid compost, and natural pests.	
Outcome 3: Strengthened institutional capacity to operate and maintain EWS and climate information infrastructure, both software and hardware, to monitor weather and climate change						
Indicator 1 Number (national coverage) of automatic weather and climate monitoring network in Cambodia (AMAT 2.1.2.1)	12 fully functional hydrological stations 0 fully functional meteorological stations	*(not set or not applicable)*	67 functional hydrological stations (the 12 currently functional, plus the 55 as part of this project). Up to 25 functional meteorological stations	53 stations have been installed by the project: 24 meteorological stations and 29 hydrometeorological stations have been installed; 5 of which are hydrological stations for groundwater, and 24 of them are hydrological stations for surface water. The information from the installed climate infrastructures is housed online and available to the public. Additionally, 4 surface water-level sensors were installed under the agreement with PIN in 2018; and 14 have been installed under the agreement in 2019 and 2020.	The indicator shows the achievement of targets	**S**

Indicator 2 Number and type of targeted individuals with increased capacity to provide O&M training for EWS related infrastructure (AMAT 3.2.1.1)	Unclear as to the brand of equipment and related supplies that need to be procured	*(not set or not applicable)*	10 key staff from DOM (5) and DHRW (5) trained and can serve as trainers, in the operations and maintenance of equipment	Throughout the installation process (March - Dec. 2018), 5 staff of DOM and 5 staff of DHRW were trained on installation, operations and maintenance of AWS and AHS. In June 2018, 47 officials from MOWRAM and PDOWRAM of 9 provinces - where these stations are installed - attended the training on operations and maintenance of weather stations. The training also introduced addVANTAGE software and system, which is developed by ADCON, the supplier for AWS installation. Further in February 2020, 43 officials of MOWRAM and PDOWRAM attended the same training. In December 2018, 12 staff (5 hydrologists and 7 staffs) of Department of Hydrology and River Works of MOWRAM were trained on the operation of automatic hydro stations for surface water and ground water, including on software and hardware. In April 2019, five staff of DOM were trained on O&M of AWS In May 2020, 5 staff of DHRW were provided an advanced Training of Trainers for AHS O&M.	The indicator shows the achievement of targets	**S**
Indicator 3 % of financing plan funded for hardware and software operations and maintenance	Currently, O&M is funded by the MOWRAM budget, however, this is insufficient. A financing plan is needed for the longer-term sustainability of the network. This does not currently exist.	*(not set or not applicable)*	Financing plan with committed resources sufficient to operate and maintain equipment for at least 5 years (including 2 years after the completion of project)	Beyond 2018, the government has secured around USD 40,000 for operation and maintenance of AWS and AHS. Advocating this aspect (inclusion/allocation of more government budget with Ministry of Finance) is an ongoing initiative between the project and MOWRAM. The official handover of stations from the project to MOWRAM was used as a basis for building a case of more budget allocation for AWS and AHS maintenance. The project has also mapped out potential private sectors to be engaged in climate information. A private sector engagement strategy has been developed, to be used by MOWRAM as one of the instruments for future O&M of the stations.	The target was partially achieved as the project and MOWRAM developed private sectors engagement strategy to support MOWRAM in mobilizing needed resources for future O&M costs.	**MS**

3.3.2 Relevance (*)

The project was considered highly relevant to Cambodia at the time of design and development in 2014 and is currently considered very relevant to the RGC's global environmental obligations. The Project supported the RGC in achieving its Climate Change Strategic Plan for Water Resources and Meteorology, 2013-2017, The National Strategic Plan on Green Growth, 2013-2030, and the Strategic National Action Plan for Disaster Risk Reduction 2008-2013.

The project was in line with the United Nations Development Assistance Framework (UNDAF) for Cambodia (2011-2015) mainly ***Outcome 1.1*** *Sustainably developed agriculture sector promoting equitable physical and economic access to an increased number of safe and nutritious food and agriculture products.* It also aligned with the Country Programme Action Plan (CPAP 2011-2015), mainly ***Outcome 2:*** *By 2015, national and local authorities, communities and private sector are better able to sustainably manage ecosystems goods and services and respond to climate change.*

At the global level, the project contributed to GEF/LDCF Strategic Objective and Programme: CCA-1: *Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional and global level, CCA-2: Increasing Adaptive Capacity: Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional and global level,* and *CCA-3: Adaptation Technology Transfer: Promote transfer and adoption of adaptation technology.*

The project successfully linked the intended project's outcomes to the Millennium Development Goals (MDGs) as the project complied with the NAPA-identified urgent needs. All of the NAPA-needs are relevant for supporting national development priorities and for achieving the MDGs, including specifically MDGs 1, 3 and 7 on eradicating extreme poverty and hunger, promoting gender equality and empowering women, and ensuring environmental sustainability by integrating the principles of disaster risk reduction and sustainable development into country policies and programs. Although the project was developed before the Sustainable Development Goals (SDGs), it directly contributes to several SDGs including SDG 1: No poverty, SDG 2: Zero Hunger, SDG3: Good Health and Well-Being, SDG5: Gender Equality, SDG 11: Sustainable Cities and Communities, SDG 13: Climate Action, SDG 15: Life on Land, and SDG 17: Partnerships for the Goals.

Based on the abovementioned the Relevance is rated as Relevant (R).

Relevant (R)	Not Relevant (NR)
R	

3.3.3 Effectiveness and Efficiency (*)

The project was impacted by some operational issues. These issues affected the speed of implementation. Nevertheless, the project was able to design and effectively utilize key adaptive management measures to continue the work to achieve its main goal. The project objective and main outputs have been achieved; most of the established targets have been met. However, most target achievement was delayed as implementation was affected by the outbreak of COVID19.

The project has achieved the following:

- Effective and timely early warning/climate information dissemination mechanism established and functioning;
- Capacity to assimilate and forecast climate and environmental information enhanced;
- Training and learning tools on forecasting and modelling are available for new hires and continued learning of staff;
- Institutions' capacity to reduce risks of and respond to climate variability enhanced;
- Climate and weather information is available for national, sectoral, land, and sub-national planning; and
- Institutional capacity to operate and maintain EWS and climate information to monitor weather and climate strengthened.

Considering the above-mentioned facts, Effectiveness was rated **Satisfactory**.

Based on the above mentioned the Effectiveness is rated:

Highly Satisfactory (HS)	Satisfactory (S)	Moderately Satisfactory (MS)	Moderately Unsatisfactory (MU)	Unsatisfactory (U)	Highly Unsatisfactory (HU)
	S				

Efficiency

Project efficiency is considered **Satisfactory (S)** for the following reasons:

- Considering the challenges faced during the inception phase, the compliance and flexibility of the project partners and project team have been enough to alter the project's status to achieve the objectives.
- The cost-effectiveness of the project is considered **Satisfactory (S).** The hiring of a technical specialist who provided the project with a needed technical and managerial push enhanced the project's efficiency and facilitated work at a minimal cost. It helped the project in achieving many results with limited allocations.
- The M&E of the project was undertaking according to UNDP and GEF procedures and it is rated as **Satisfactory (S),** however some aspects could have been enhanced such as the quality of the project's reports.
- Risks and issues identification and management is rated as **Satisfactory (S).** Risks were captured in the QPRs and APR/AIRs and most critical risks were identified with appropriate risk ratings and management responses identified and formulated.
- Project capacity to build needed partnerships during the project's implementation phase is rated as **Satisfactory (S).**
- The involvement of men and women equally into project activities as well as mainstreaming gender in the project's activities are rated as **Satisfactory (S).**
- Project capacity and efforts to mobilize the agreed-upon co-financing is rated as **Unsatisfactory (US)**.

Because of the above-listed actions that led to the achievement of the project objectives and outcomes, it is the opinion of the TE consultant that a Satisfactory rating for Efficiency is warranted although project operational completion was delayed 23 months. The evaluator also considered that the main reasons for the delay was due to external factors that were not easily controllable by actions of the project teams, even though better anticipation would have likely reduced the length of delay in project completion.

Based on the above mentioned the Efficiency is rated:

Highly Satisfactory (HS)	Satisfactory (S)	Moderately Satisfactory (MS)	Moderately Unsatisfactory (MU)	Unsatisfactory (U)	Highly Unsatisfactory (HU)
	S				

3.3.4 Country Ownership

The project design and objectives were relevant to the national development priorities and the priorities identified in Cambodia's national climate change strategies and plans, the Climate Change Strategic Plan for Water Resources and Meteorology 2013-2017, the National Strategic Plan on Green Growth 2013-2030, and the Strategic National Action Plan for Disaster Risk Reduction 2008-2013 (as well as the Strategy National Action Plan for Disaster Risk Reduction 2014-2019). The Government of Cambodia is fully committed to meeting its obligation under the UNFCCC.

Country ownership was evident during the project formulation stage as mentioned in the ProDoc; furthermore, it was reiterated during project implementation, which is evident in the strong interest and participation of senior government officials in virtual interviews organized as part of the TE. The project linked to other national climate change adaptation initiatives.

3.3.5 Mainstreaming

The project was able to positively mainstream RGC and several UNDP priorities. Specifically:

✓ Due to the project's efforts in enhancing EWS, environment and human health will be improved in local communities, thus contributing to the well-being of the public, and in

particular disadvantaged groups, and would ultimately contribute towards poverty eradication.

- ✓ The project contributed directly to the achievement of certain UNDAF's outcomes and outputs.
- ✓ UNDP and RGC project-related team included both women and men. The project's international and national consultants included both women and men as around 25% of the consultants were women.
- ✓ The project targeted both women and men in their capacity building and public awareness components. It was successful in improving women's capacity in EWS, Disaster Management and Climate Change Adaptation (CCA) actions.
- ✓ The project managed to increase women's voices and demands on EWS, DRR and CCA issues as well as selecting, training and linking local women as 'Women Champions' with skills in community-based disaster risk reduction, hazard, vulnerability and capacity assessments, and leadership and advocacy. This intervention also developed a Women's Resilience Index for Cambodia. The Women's Resilience Index is a global tool to assess a gender-related capacity in early warning, DRR and CCA, to which the needs of women are being integrated into national resilience-building efforts. Women and youth were trained in data collection and entry, with analysis supported by UNDP and implementing partner.
- ✓ The project produced and promoted a women's 'Charter of Demands for Disaster Risk Reduction and Climate Change Adaptation'. The Charter was developed based on data and consultative workshops, as well as input from 'Women Champions' from the three provinces. The Charter provided the basis for advocacy at the sub-national and national levels, seeking action on priority areas.
- ✓ The project actively promoted disaggregated data by gender. This led to strengthening gender analysis and mainstreaming in EWS, DRR and CCA practices as presented in **Annex 7.**
- ✓ In its capacity-building activities, the project was successful in including 4,019 women (around 36% of the total number of participants). Lists of all project's activities indicating the total number of women and men and the name of the training courses are included in **Annex 7**.

- ✓ <u>Economic development and poverty alleviation:</u> The project was not designed to address poverty alleviation, yet resilient communities and sustainable use of natural resources are fundamental signs to poverty alleviation. Integration of resilience to climate change-induced natural hazards (drought and floods) in national and sectoral planning increases economic productivity in key sectors like agriculture, fisheries and forestry activities, enhances communities' livelihood, decreases spending on food, materials losses, and contributes to the well-being of the affected population. For example, planning informed by climate information can help mitigate the risks of climate change. The saving resulted from the long-term reductions in adverse financial and humanitarian impacts related to climate change, its induced natural hazards and associated extreme weather events would allow for greater investment in key development initiatives such as building new canals to divert excess water flows in flood-prone areas, introducing irrigation systems to lessen agriculture's reliance on seasonal rain, etc.

- ✓ <u>Enhancing and facilitating organizational changes for sustainable development and the achievement of SDGs:</u> The project strengthened the governance structure relating to climate-resilient planning and emergency response. It strengthened institutions and coordination frameworks for EWS as well as strengthened capacity at national, sub-national and community levels. For example, the project developed risk maps and vulnerability assessments for selected areas, enhanced national capacity to integrate this information into forecasts and models, and generated and shared early warning messages to affected communities. Not only that, but the project also utilized its EWS to reach out to targeted communities to deliver COVID-19 messages.

- ✓ <u>Developing the national capacity to analyze climate data to enhance climate-resilient and strengthen emergency response capacity</u>: the project improved national capacity for CI generation and sharing. The project supported the installation of equipment in a different location, training the government staff on O&M, and enhanced the capacity of concerned staff on data collection and analyses.

3.3.6 Sustainability (*)

UNDP/GEF TE guidelines define Sustainability as "*the likelihood of continued benefits after the project ends."* The assessment of sustainability considers the risks that are likely to affect continuation of project outcomes.

Below is the detailed assessment of the four main risks categories:

Financial risks

For financial sustainability, a financial sustainability strategy should be prepared before the official operational closure of the project. MOWRAM needs financial support to ensure work continuity. The Ministry currently has some spare parts like sensors, extended cables, expendable parts, etc. however, these will be used this year, but for following year(s), it is not guaranteed that the government will secure the needed budget to cover the cost of these spare parts. MOWRAM requested Ministry of Finance to provide support and ensure continuation of the stations for next year and beyond, but no confirmed plans have been made yet. The government of Cambodia utilized their funding of USD 40,000 for O&M of AWS and AHS in 2019, but more funds are still needed for to cover the full O&M costs.

According to the project's refinement strategy, the private sector should be mobilized to support national efforts in EWS. However, this is a governmental role as there should be a regular government budget for O&M of stations and equipment. Yet, overall O&M budget availability remains a certain risk.

Based on the above discussion, the financial risks are evident, and sustainability is rated as:

Likely (L)	Moderately Likely (ML)	Moderately Unlikely (MUL)	Unlikely (U)
		MUL	

Socio-economic risks

A continuous effort will be required to sustain and increase public interest and awareness of the use of EWS and CI. Additional training is needed to reach more farmers, although the project has managed to reach more than 11,800 beneficiaries on the ground as of July 2020[38]. The socio-economic risks associated with the project are considered negligible.

Based on the above-mentioned Socio-economic Risk, risks are negligible and thus the sustainability is rated as:

Likely (L)	Moderately Likely (ML)	Moderately Unlikely (MUL)	Unlikely (U)
L			

Institutional framework and governance risks

To ensure that the work will continue, more support from the Government is needed. NCDM and interested donors are trying to sustain the work in order to improve the resilience of people and their lives in disaster-prone areas. According to the work plan, UNDP and PIN handed over the EWS1294 to NCDM with an exit strategy, including manuals, and training. The AWS and AHS stations were handed over to MOWRAM. The system needs to coordinate its work and share data with other beneficiaries in the countries, and other countries in the region.

Based on previous experience, MOWRAM was unable to sustain the work required for installed stations and equipment. JICA installed different equipment/stations prior to this project, but MOWRAM failed to maintain these stations and there is a large risk that the stations and equipment installed by this project will suffer from the same issue (weak capacity in maintaining and repairing stations and equipment).

Three main risks were identified during the project's inception phase: the effectiveness of management arrangements, coordination issues, and institutional knowledge. All were given a

[38] Training continued until the end of the project in October 2020, however numbers only represent training until 31st July 2020.

medium-level risk. These risks affected the project progress greatly during the first two years. The inability of the Government to convene the PB resulted in very slow and bad performance of the project initially. However, the refinement strategy helped the team to revive the project and provided a set of key recommendations to redefine the key risks and issues that hindered project implementation. The project was also active in addressing the institutional knowledge risk by providing intensive and well-designed capacity development training for meteorologists and hydrologists.

Another issue to look at when reviewing institutional sustainability is the suitability of equipment purchased and the ability of the Ministry's staff to operate and maintain. According to the project team and interviewed stakeholders, the equipment purchased was compatible and consistent with existent systems and international standards. An O&M plan was also developed in close consultation with stakeholders. The presence of the equipment along with an O&M plan combined with a long-term warranty of the supplier, including extended technical assistance and extra investment in spare parts, lowered these institutional risks.

The issues of institutional sustainability were considered as only moderately likely as the risks are reduced.

The Institutional framework and governance risks are medium, and sustainability is:

Likely (L)	Moderately Likely (ML)	Moderately Unlikely (MU)	Unlikely (U)
	ML		

Environmental risks to sustainability

No activities implemented by the project posed any environmental threats to the sustainability of the project's outcomes.

The Environmental risks are negligible, and the sustainability is:

Likely (L)	Moderately Likely (ML)	Moderately Unlikely (MS)	Unlikely (U)
L			

Based on the assessment of the categories above, and the presence of medium risks, the overall sustainability rating is:

Likely (L)	Moderately Likely (ML)	Moderately Unlikely (MS)	Unlikely (U)
	ML		

3.3.7 Impact

To assess the project in terms of its "impact," the TE reviewed whether the project has demonstrated:

- Increased institutional capacity to assimilate and forecast weather, hydrological, climate and environmental information.
- Climate and weather information available and utilized for national, sectoral, and sub-national planning as well as for transboundary communication in the region.
- Strengthened institutional capacity to operate and maintain EWS and CI infrastructure, both software and hardware, to monitor weather and climate change.

The project implemented all project activities that contributed to the achievement of the objective of the Project, and successfully achieved the project outcome and outputs stipulated.

For Outcome 1: The project was able to achieve more than the planned target. 12 DOM staff have been trained on forecasting, and 12 staffs from DHRW have been trained on hydrological forecasting. This is beyond the end of the project target level, which is 3 of each department. Various training tools have been developed and tested regarding the use of CI in response to climate variability. The Drought Manual for Cambodia, which includes the adoption of drought resistance agriculture training, was developed. FARM field school curriculum, a local-level advisory guidance for farmers on integrating adapting to climate change and variability into the agriculture sector, was also developed.

For Outcome 2: the project has managed to advance the availability of climate data from the installed stations. The National Climate Outlook Forum (Monsoon Forum) was activated as a periodic mechanism of sharing climate and weather information (real-time and seasonal) to stakeholders in Cambodia, with information then shared to the public.

For Outcome 3: all targets have been achieved. The project managed to complete installation of AWS and AHS and handed these over to government officials during the PB meeting in the first quarter of 2019. The project has developed an O&M plan for AWS and AHS with MOWRAM, and schedule of maintenance with respective MOWRAM departments. Also, the project installed an additional 18 water sensors under the fast-onset Early Warning System.

In summary, the following have been achieved:

- All targets of installation of climate infrastructure.
- Data is available online.
- Continued capacity building programs are ensured, with training programs developed for use by staff for continued learning as well as newly hires.
- Technical capacity of MOWRAM in assimilating climate data for weather forecasting has been improved,
- Cambodia presented several Monsoon Forums. This allowed Cambodia to benefit from best practices and lessons as well as to share its experiences.
- Application of CI on agriculture sectors has been rolled out at community level in line with MAFF's Climate Change Action Plan on the agriculture sector.

4. Conclusions, Recommendations & Lessons

According to project documentation and interviews with stakeholders (project progress reports, refined implementation plan), the project did not make the progress expected between its official launch in May 2015 until mid-2018, although support from national and sub-national technical stakeholders towards the project was high. The main reasons behind the delay in the implementation were discussed and summarized in the Project Refinement Report, as follows:

- The implementing agency took approximately a year after project approval to establish a project decision-making body;
- Possible overlap with investments from a new Asian Development Bank (ADB) supported hydro-meteorological strengthening project. The final design of the ADB project suggested potential overlap between the two projects in terms of the investment in AWS/AHS infrastructure and a risk of inadequate maintenance of assets after project completion.

Despite the unforeseeable operational issues that set back project implementation, the project managed to deliver considerable results by the end of its implementation. The overall conclusions of the TE of this project are:

- 2019 earmarked significant achievements of the project, with the Automatic Weather and Hydro Stations officially handed over to the RGC. Also, data from the installed stations was made online, real-time, and available to the public.
- The project was able to enhance the forecasting capacity of DOM and DHRW with MOWRAM, including in the use of various climate models for conducting short, medium, and long-term forecasting. The Standard Operating Procedures (SOPs) on multi-hazard EWS in Cambodia have been developed. Several technical studies on drought risk assessment and status of groundwater in Cambodia have been commissioned by the project.
- Application of Climate Information (CI) in development sectors has been achieved mainly in the agriculture sector. Cambodia's FARM curriculum was developed, which provided guidelines for imparting CI at local level. Development of guidelines of Drought Resistance Agriculture and the use of guidelines for enhancing farmers and agriculture leaders' capacity is another key highlight in promotion of local-level adaptation measures.
- The expansion of phone-based EWS to national coverage (of which the project supported 11) was also achieved. The system has proven to be very effective. A gender-focused field-level activity was achieved by the project as intensive training to women groups took place in coastal provinces in Cambodia, resulting in enhancing 21 Women Champion's capacity at the provincial level.
- The project managed to host a regional event, consistent with the ProDoc as part of contributing to the regional Early Warning mechanism. The Lower Mekong Early Warning Conference was hosted by the project, attended by representatives from Mekong River Commission's five member countries (i.e. Cambodia, Thailand, Vietnam, and Lao PDR and Myanmar).

The project success has been very much dependent on close consultation and coordination, and hard work from the project team, beneficiary communities, executing, and implementing partners and the RGC. The project reports and meetings with key stakeholders indicated that the project was able to achieve the project's objective and outcome but with a considerable delay. Hence, and based on the review and assessment and taking into consideration the difficulties the project team faced during the project launching phase, the overall rating on the achievement of results is **Satisfactory**.

The project was very much acknowledged by the RGC, and very relevant to UNDP, GEF/LDCF, and the Government's plans. With the confirmed interest and support provided by the UNDP and the RGC risks reduced and prospects for sustainability possible, the overall sustainability is considered **moderately likely**.

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

The project design was relevant to the priorities identified in Cambodia's Climate Change Strategic Plan for Water Resources and Meteorology, The National Strategic Plan on Green Growth, and the Strategic National Action Plan for Disaster Risk Reduction as well as other national development priorities, and continues to be of relevance to the current national development strategy. Adaptive management measures were taken during project implementation to avoid further delays in project implementation.

For Design

Corrective Action 1: Management arrangement should be intensively discussed and agreed upon by all stakeholders. The micro- and macro-assessments should be elaborated upon to support the team in defining the best implementation modality.

Corrective Action 2: Implementation plan should incorporate lessons learned from the previous project. There was no evidence shown in the ProDoc. The CIDA-funded project on Promoting Climate-Resilient Water Management and Agricultural Practices in Rural Cambodia provided a good database through its agriculture/water use survey, which covered 300 households. It provided baseline information for this project on the perceived changes in climate and current agricultural practices.

For Implementation

Corrective Action 3: Inception phase and workshop are key monitoring tools which should be utilized to update the project context (baseline, indicators and targets, if needed), confirm the project management structure and governance, the implementation modality, define the first annual work plan and agree on the budget. The IW is a key to ensure that the project design is still responding to the national context and needs by reviewing and updating the project's outputs, indicators, targets, and management arrangement.

Corrective Action 4: Adaptive management measures need to constitute part of the project implementation review. For example, the team has greatly benefited from the refinement strategy, which resulted in better implementation. The regular board meetings are used to monitor the project implementation.

For Monitoring and Evaluation

Correction Action 5: Project monitoring and evaluation tools are critical to ensure smooth implementation of the project. Project reports (QPRs, PIRs, terminal reports) are essential and should include all qualitative and quantitative analysis and provide essential information. An exit strategy and sustainability plan that are discussed and agreed upon are also very important and would be developed during project implementation.

4.2 Actions to Follow Up or Reinforce the Initial Benefits of Project

The TE recognizes the considerable achievements of the project, particularly in achieving and preparing key deliverables and documentation, despite the delay encountered during project implementation. The TE is focusing to a large extent on the areas of the project that have not performed as well as was anticipated in the project's design. The TE wishes that this does not detract from the successes of the project and the hard work and commitment of all those who have been involved in it. As a TE, there is little the project itself can do. Hence, the TE would like to make the following recommendation to ensure there is a clear set of actions to follow up or reinforce the initial benefits of the project:

- ***Recommendation 1:*** An exit strategy and sustainability plan to be developed, discussed among key stakeholders, and approved by the Project Board before the operational closure of the project. The project should hold a workshop with stakeholders to adopt the comprehensive exit strategy and ensure the project's results are sustainable. The vision should provide a clear statement that work on EWS and CI is crucial to protect human

lives, enhance community resilience, and ensure the sustainability of the project's impacts. (**UNDP/ MOWRAM**).

- ***Recommendation 2:*** Continuous financial support from the government, e.g. through dedicating a budget line for equipment' O&M cost, and efforts to promote learning and enhancing knowledge sharing to improve participation in CI and EWS is required. An urgent and clear plan of action needs to be developed to ensure the maintenance of the equipment after 2020 is completed (**MOWRAM, UNDP**).
- ***Recommendation 3***: Ensure project impacts sustainability by institutionalizing the project's results and work. The project should investigate establishing a specialized EWS/CI Unit or a Directorate at the national government level through existing planning mechanisms and link it to regional/provincial departments. The possibility of linking the work of this Unit/Directorate to all line ministries and directorate should be investigated to utilize functional existed mechanisms **(MOWRAM, UNDP)**.
- ***Recommendation 4:*** In addition to the use of EWS and CI in the agriculture sector to ensure food security, the Government (with the support of UNDP) must investigate possibilities for community-based and private enterprise-based sustainable use of EWS/CI in other sectors like health, water resources management, disaster risk reductions etc., with a focus on the role of women (**UNDP, MOWRAM, RGC**).
- ***Recommendation 5:*** The project has managed to produce a set of valuable documentation including public awareness products, training manuals, technical notes, Facebook pages, that contain a lot of important information for farmers, local beneficiaries, etc. It is recommended to develop a dissemination plan for these tools to ensure that future initiatives build on the project activities and results and incorporate the project's products in its work (**UNDP, MOWRAM)**.
- ***Recommendation 6:*** Capture lessons learned from this project, particularly on the role of the private sector in EWS and supporting DRR work, and share at the national/regional/global level (**UNDP CO**).
- ***Recommendation 7:*** MOWRAM to encourage and attract active participation of the private sector in use of EWS/CI to enhance national and local climate resilience and adaptation. Through private-public-partnership, dedicate a certain percentage of the Corporate Social Responsibility (CSR) fund to finance better environment/climate change adaptation measures and tools through effective communication.
- ***Recommendation 8:*** MOWRAM, in coordination with other government entities, undertakes intensive and periodic inspection on the installed stations and provide the needed maintenance to ensure the long-term use of the installed stations.

4.3 Proposal for Future Directions Underlining Main Objectives

A potential future direction is to establish a unit or a directorate to take over the work and continue what the project started in cooperation with all government agencies and with the support from donor communities and private sector. The knowledge generated by the project, databases, and training materials are crucial Cambodia taking concrete steps towards the protection of human lives and enhancing community resilience against climate change impacts such as droughts and floods.

4.4 Best and Worst Practices in Addressing Issues Relating to Relevance, Performance, and Success

A summary of the lessons learned is outlined below. Lessons learned are concluded based on review of project documents, interviews with key stakeholders, and analysis of data/information collected during the TE. Some of the lessons to be learned are:

- Project design and inception phases are crucial to ensure that all national aspects are taken into consideration in project design. The project design phase needs to be more detailed, with discussion on the management arrangement and agreement on the project's governance structure. This will help in launching the project with no delay. It was noted that many projects, not only this one, suffer from weak project management

designs that do not take the local context and capacity of government partners into consideration.

- The TE recognizes the dedicated commitment and efforts of all actors, in particular MOWRAM, NCDM, UNDP, and international and national non-governmental organizations' teams in achieving the project results despite the complex situation and critical risks the project faced during its inception phase.
- The TE recognizes the interest of the government in implementing timely adaptive management measures during project implementation to avoid further implementation delays. The government accepted the altered project implementation modality to DIM to accelerate the implementation process. However, government ownership is key for projects' successful implementation.
- Good planning is essential to ensure timely project inputs so that project outcomes can be achieved. The project experienced a 23-month delay in operationalizing implementation due to several reasons. However, conducting a refinement exercise, and developing and reviewing adaptive management measures supported the project's implementation and ensured its smooth operation afterwards.
- A wide representation from government organizations, private sector, institutions, and NGOs in project implementation is a contributing factor to the achievement of the project objectives.
- Strong technical inputs and relevant experience is a key factor to successful project design and implementation. The presence of an international technical expert with managerial background, supported by several national and international technical experts working collaboratively to provide sound technical guidance, inputs and work, ensured the implementation of project's activities by the closure of the project.
- Building on previous projects' experiences and results is crucial to ensure the smooth implementation of new projects and build on existing capacities. The CIDA-funded project mentioned in the project proposal provided baseline information for the EWS project on the perceived changes in climate and current agricultural practices. Yet, no evidence in the ProDoc shows that the project incorporated any lessons learned.

5. Annexes

Annex 1. Consultancy ToR

Terminal Evaluation of UNDP/GEF Project

"Strengthening Climate Information and Early Warning System in Cambodia to Support Climate Resilient Development and Adaptation to Climate Change"

BASIC INFORMATION

Assignment Title	Terminal Evaluation of UNDP/GEF Project "Strengthening Climate Information and Early Warning System in Cambodia to Support Climate Resilient Development and Adaptation to Climate Change"
Location:	Home based with mission to Cambodia
Application Deadline:	
Type of Contract:	Individual Contract
Post Level:	International Consultant
Languages Required:	English; proficiency in Khmer would be an advantage
Expected starting Date:	20 February 2020 Expected
Duration of Assignment:	30 working days total from 20 February to 15 April 2020, including 10 days mission in Phnom Penh and other two provinces in Cambodia.

Background and Project Description

Cambodia is facing mounting development challenges due to climate change. Damage related to the October 2013 flooding alone, caused by heavy rain and the seasonal swell of the Mekong River, is estimated at $356 million, has affected 20 out of 24 provinces[39] and 1.7 million people; 297,600 hectares of rice paddies were inundated and more than 28,100 hectares of rice were immediately destroyed[40]. Climate change is resulting in longer dry seasons and shorter, more intense rainy seasons. This impacts both the frequency and severity of natural hazards such as floods and droughts, as well as agricultural production which is dependent on seasonal rainfall. Recovery from such events puts a strain on the least developed country's (LDC's) limited resources and forces shifts in development priorities - hindering Cambodia's ability to progress and to achieve its development goals.

The Royal Government of Cambodia's (RGC) preferred situation is to implement an effective early warning system (EWS). The purpose of an EWS is to monitor climate and environmental data on a real-time basis, detect adverse trends and make reliable predictions of possible impacts in the form of early warning information. An early warning, therefore, refers not only to

[39] 1 As of 31 December 2013, the total number of provinces in Cambodia changed from 24 to 25.

[40] http://www.undp.org/content/cambodia/en/home/presscenter/articles/2013/10/18/cambodia_s-first-disaster-database-system-unveiled/

advisories in emergencies but also to information related to the changing climatic trends revealed after tracking and analyzing climate and weather data over time. An effective EWS would thus enable timely response to natural hazards and extreme weather events, as well as informed planning in light of changing climate trends.

The RGC faces several challenges in realizing its preferred situation. With few working climate and weather observation stations, there is insufficient data to refine predictions and forecasts based on sector, geographic areas, or vulnerability. Further, limited human resources and high staff turnover make it difficult for institutions such as the Ministry of Water Resources and Meteorology (MOWRAM) to develop capacity and maintain qualified forecasters and modelers. Appropriate dissemination of information is also a challenge. MOWRAM is responsible for providing climate and weather information to the planning, line ministries to inform climate-resilient planning, and for the communication of natural hazards and extreme weather events for disaster risk reduction. However, the information is often not presented in a manner that can be easily understood or applied and standard operating procedures (SOPs) defining roles, responsibilities, and accountability are lacking. MOWRAM is also responsible for maintaining the EWS infrastructure such as automated weather stations and water gauge stations. Urgent needs to improve the national EWS infrastructure considering imminent climate risks have prompted some donors to assist the Government in rehabilitating old or installing new weather stations. However, there is a significant risk of the unsustainability of the newly built infrastructure due to limited financial resources to cover all the O&M requirements.

The project “Strengthening climate information and early warning systems in Cambodia to support climate-resilient development and adaptation to climate change” (henceforth “the EWS project”) has been implemented to help the Government overcome these gaps and challenges. Funding of approximately US$4.9 million was approved by the Least Developed Countries Fund Council in October 2014 and the project was officially launched in May 2015. The project seeks to address the current barriers through three complementary outcomes:

1. Increased institutional capacity to assimilate and forecast weather, hydrological, climate and environmental information.
2. Climate and weather information available and utilized for national, sectoral and sub-national planning as well as for transboundary communication in the region.
3. Strengthened institutional capacity to operate and maintain EWS and climate information infrastructure, both software and hardware, to monitor weather and climate change.

To meet the above three outcomes, the approach adopted by the project is to 1) invest in early warning infrastructure – hydro and meteorology stations nationwide; 2) mobilize technical expertise to enhance the capacity of national entities (namely MOWRAM, NCDM, and MAFF) in making use of the information; and 3) ensure the smooth flow of information sharing both at the national level and between national and provincial level.

With close collaboration with national stakeholders, the project has been in its final implementation stage and made steady progress in line with the agreed project work plan. The project is currently looking for an International Consultant to conduct the Terminal Evaluation for the project.

Objective and Scope

This terminal evaluation will be conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the UNDP evaluation guidance for GEF financed projects. The terminal evaluation should start in February 2020 and be carried out until Mid-April 2020. The objectives of the terminal evaluation are to assess the achievement of project results and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming. The terminal evaluation will be carried out by an international consultant supported by UNDP Country Office in Cambodia.

Following UNDP and GEF policies and procedures, all full and medium-sized UNDP- GEF projects are required to undergo a terminal evaluation upon completion of implementation. These terms of reference set out the expectations for a terminal evaluation of the project “Strengthening Climate Information and Early Warning System in Cambodia to Support Climate Resilient Development and Adaptation to Climate Change” (PIMS #5235).

Evaluation Approach and Method

An overall approach and method[41] for conducting project terminal evaluations of UNDP supported GEF financed projects has developed over time. The evaluation will be carried out by a lead international consultant and

supported by the project team at UNDP Cambodia. The final evaluation should include a mixed methodology of document review, interviews, and observations from project site visits, at minimum, and the evaluators should try to triangulate information. The evaluator is expected to frame the evaluation effort using the criteria of relevance, effectiveness, efficiency, sustainability, and impact, as defined and explained in the UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects. A set of questions covering each of these criteria have been drafted and are included with this TOR (Annex C). The evaluator is expected to amend, complete and submit this matrix as part of the evaluation inception report, and shall include it as an annex to the final report.

The evaluation must provide evidence-based information that is credible, reliable and useful. The evaluator is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, the GEF operational focal point, Project Manager, UNDP Project Consultant Team (Monitoring, Evaluation and Reporting as well as Communication Specialist), UNDP Programme Result Team, UNDP GEF Technical Adviser based in Bangkok, Thailand and other key stakeholders.

Field Mission

The international evaluator is expected to conduct a field mission of 8 days (not including travel days) to the project sites and Phnom Penh. The 8 working days mission should include at a minimum 3-4 working days based in Phnom Penh, and 4 working days in the provinces. The international evaluator will be accompanied by the Project Team who arranges all meetings and field mission. A list of persons and organizations for interviews will be proposed by the project team and should be agreed before the mission to Cambodia. The international evaluator can request additional meetings/interviews as required. UNDP should be informed of additional interviews/meetings required by the evaluator, and the dialogue with the evaluated party should be handled inclusively and transparently. The international evaluator will review all relevant sources of information, such as project document, project reports – including Annual APR/PIR, project budget revisions, midterm review, progress reports, project files, national documents and any other materials that the evaluator considers useful for this evidence-based assessment. A list of documents will be provided by the project team after signing the contract.

Duties and Responsibilities

Evaluation Criteria and Ratings

An assessment of project performance will be carried out against expectations set out in the Project Logical Framework/Results Framework (see Annex A), which provides performance and impact indicators for project implementation along with their corresponding means of verification. The evaluation will at a minimum cover the criteria of **relevance, effectiveness, efficiency, sustainability and impact**. Ratings must be provided on the following performance criteria:

1. Monitoring and Evaluation (M&E design at entry, M&E Plan Implementation, Overall quality of M&E); 2. IA& EA Execution (Quality of UNDP Implementation, Quality of Execution - Executing Agency, Overall quality of Implementation / Execution);
2. Assessment of Outcomes (Relevance, Effectiveness, Efficiency, Overall Project Outcome Rating);
3. Sustainability (Financial resources, Socio-political, Institutional framework and governance, Environmental, Overall likelihood of sustainability).

[41] For additional information on methods, see the Handbook on Planning, Monitoring and Evaluating for Development Results, Chapter 7, pg. 163

The completed table must be included in the evaluation executive summary. The obligatory rating scales are included in Annex D.

Project Finance / Co-Finance

The Evaluation will assess the key financial aspects of the project, including the extent of co-financing planned and realized. Project cost and funding data will be required, including annual expenditures. Variances between planned and actual expenditures will need to be assessed and explained. Results from recent financial audits, as available, should be taken into consideration. The evaluator(s) will receive assistance from the Country Office and Project Team to obtain financial data to complete the required co-financing table, which will be included in the terminal evaluation report.

Mainstreaming

UNDP supported GEF financed projects are key components in UNDP country programming, as well as regional and global programs. The evaluation will assess the extent to which the project was successfully mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender.

Impact

The evaluators will assess the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluations include whether the project has demonstrated: a) verifiable improvements in ecological status, b) verifiable reductions in stress on ecological systems, and/or c) demonstrated progress towards these impact achievements[42].

Conclusions, Recommendations and Lessons

The evaluation report must include a chapter providing a set of conclusions, recommendations and lessons learned. Conclusions should build on findings and be based on evidence. Recommendations should be prioritized, specific, relevant, and targeted, with suggested implementers of the recommendations. Lessons should have wider applicability to other initiatives across the region, the area of intervention, and for the future.

Implementation Arrangements

The principal responsibility for managing this evaluation resides with the UNDP CO in Cambodia The UNDP CO will contract the evaluator(s) and ensure the timely provision of per diems and travel arrangements within the country for the evaluation team. The Project Team will be responsible for liaising with the Evaluators team to set up stakeholder interviews, arrange field visits, coordinate with the Government etc.

Evaluation Timeframe

The total duration of the evaluation will be 30 working days during the calendar period of 20 February – 15 April 2020. The following tentative timetable is recommended for the evaluation; however, the final schedule will be agreed upon at the beginning of the assignment:

- Preparation - 3 days in February 2020;
- Evaluation Mission - 8 w/days in late February– early March 2020;
- Travel Days – 2 working days for travel to and from Cambodia
- Draft Evaluation Report - 10 days, completed by end of March 2020;
- Final Report - 7 days, completed by mid-April 2020.

Deliverables

The International Consultant/evaluator is expected to deliver the following:

[42] A useful tool for gauging progress to impact is the Review of Outcomes to Impacts (ROtI) method developed by the GEF Evaluation Office: ROTI Handbook 2009

- Inception Report: Evaluator provides clarifications on timing and method; Evaluator submits to UNDP CO no later than 1 week before the evaluation mission
- Presentation of Initial Findings: Evaluator submits to project management and UNDP CO at the end of the evaluation mission
- Draft Final Report: Full report (per template provided in TE Guidance) with annexes, Evaluator submits to CO within 3 weeks of the evaluation mission, reviewed by RTA, PCU, GEF OFPs
- Final Report: Revised report, Evaluator submits to CO within 1 week of receiving UNDP comments on the draft

*When submitting the final evaluation report, the evaluator is required also to provide an 'audit trail', detailing how all received comments have (and have not) been addressed in the final evaluation report.

Payment Modalities and Specifications

The consultant will be paid on a lump sum basis (all-inclusive of expense related to the above assignment including travels outside and inside the duty station and any tax obligation) under the following instalments.

- 10%- at submission and approval of inception report: 25th February 2020
- 40%- Following submission and approval of the 1st draft terminal evaluation report: 30 March 2020
- 50%- Following submission and approval (UNDP-CO and UNDP RTA) of the final terminal evaluation report: 20 April 2020

Competencies

Corporate competencies

- Demonstrates integrity by modelling the UN's values and ethical standards;
- Promotes the vision, mission and strategic goals of UN/UNDP;
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability;

Functional competencies

- Ability to lead strategic planning, results-based management and reporting;
- Builds strong relationships with clients, focuses on impact and result for the client and responds positively to feedback;
- Consistently approaches work with energy and a positive, constructive attitude;
- Demonstrates good oral and written communication skills;
- Demonstrates ability to manage complexities and work under pressure, as well as conflict resolution skills.
- Capability to work effectively under deadline pressure and to take on a range of responsibilities;
- Ability to work in a team, good decision-making skills, communication and writing skills.

Evaluation consultants will be held to the highest ethical standards and are required to sign a Code of Conduct upon acceptance of the assignment. UNDP evaluations are conducted following the principles outlined in the UNEG 'Ethical Guideline for Evaluations.'

Required Skills and Experience

Education	A Master's degree in natural resource management, agricultural development, climatology/meteorology, water resources management, environmental sciences, disaster management or related field, or another closely related field.

Experience	Minimum 7 years of experience in evaluating development projects and GEF funded project. Experience working in the UN system is a strong asset - Minimum of 7 years of relevant professional experience in relevant technical areas of Early Warning System. - Demonstrated understanding of issues related to gender and climate-resilient development and adaption to climate change; experience in gender-sensitive evaluation and analysis - Experience working for development projects, with multi-stakeholders including government agencies, development agencies, and UN agencies - Knowledge of UNDP and GEF monitoring and evaluation policies - Previous experience with results-based monitoring and evaluation methodologies, application of SMART indicators and reconstructing or validating baseline scenarios
Language requirement	High proficiency in English, knowledge of Khmer would be an advantage.

Conflict of interest:

To ensure impartiality and objectivity of the evaluation, as well as to avoid the conflict of interest, UNDP will not consider the applications from the candidates that have had prior involvement in the design, formulation, implementation or evaluation of the above-indicated project.

Application process

Qualified candidates are requested to apply online via this website. The application should contain:

Completed letter of confirmation of interest and availability. Please paste the letter into the "Resume and Motivation" section of the electronic application.

a) CV or a UNDP Personal History Form (P11) available at http://procurementnotices.undp.org/view_notice.cfm?notice_id=63033, indicating all experience, as well as the contact details (email and telephone number) of the candidate and three professional references;
b) Financial proposal that indicates the all-inclusive fixed total contract price, supported by the breakdown of costs. The breakdown should contain the professional fee for home-based work (number of working days), the professional fee for work on a mission (number of working days), travel costs (international/local travel and per diems). Per diems cannot exceed maximum UN daily allowance rates (http://icsc.un.org) and consultants are encouraged to bid a lower amount to make their offers more competitive.

Please note that the professional fee is all-inclusive and shall take into account various expenses incurred by the consultant/contractor during the contract period (e.g. fee, health insurance, vaccination and any other relevant expenses related to the performance of service, etc.). All envisaged international travel costs must be included in the financial proposal.

If an applicant is employed by an organization/company/institution, and he/she expects his/her employer to charge a management fee in the process of releasing him/her to UNDP under the reimbursable loan agreement (RLA), the applicant must indicate at this point and ensure that all such costs are duly incorporated in the financial proposal submitted to UNDP.

Incomplete applications will not be considered. Please make sure you have provided all requested materials.

Payments will be made only upon confirmation of UNDP on satisfactorily delivering on the contract obligations.

Individual consultants are responsible for ensuring they have vaccinations/inoculations when travelling to certain countries, as designated by the UN Medical Director. Consultants are also required to comply with the UN security directives set forth under dss.un.org

General terms and conditions, as well as other related documents, can be found under http://on.undp.org/t7fJs.

Qualified women and members of minorities are encouraged to apply. Due to the large number of applications we receive, we can inform only the successful candidates about the outcome or status of the selection process.

Criteria for Evaluation

Only applications which are responsive and compliant will be evaluated. Offers will be evaluated according to the Combined Scoring method – where the educational background and experience on similar assignments will be weighted at 70% and the price proposal will weigh as 30% of the total scoring. The applicant receiving the Highest Combined Score that has also accepted UNDP's General Terms and Conditions will be awarded the contract. Detail component of technical evaluation criteria is presented below:

Technical Evaluation Criteria	Obtainable Score
Minimum 7 years of experience in evaluating development projects and GEF funded project. Experience working in the UN system is a strong asset;	30
Minimum of 7 years of relevant professional experience in relevant technical areas of Climate Information and Early Warning System.	15
Demonstrated understanding of issues related to gender and climate-resilient development and adaption to climate change; experience in gender sensitive evaluation and analysis	10
Experience working for development projects, with multi-stakeholders including government agencies, development agencies, and UN agencies	10
Knowledge of UNDP and GEF monitoring and evaluation policies	15
Previous experience with results-based monitoring and evaluation methodologies, application of SMART indicators and reconstructing or validating baseline scenarios	20
Total Obtainable Score	100

Evaluation of Ethics

Evaluation consultant will be held to the highest ethical standards and is required to sign a Code of Conduct (Annex E) upon acceptance of the assignment. UNDP evaluations are conducted following the principles outlined in the UNEG 'Ethical Guidelines for Evaluations'

Annex 2. List of Documents Reviewed

The TE consultant reviewed the following documents related to the project:

1. Annual Work Plans for 2015, 2016, 2016, 2018, 2019 and 2020.
2. Project Board Meetings for March 2019, October 2019, May 2018, and September 2018.
3. CDRs for 2015-2020.
4. Co-financing Arrangement; List of Co-Finance; Tables of Co-funding- In-kind.
5. Technical Deliverable: SOP-WES.
6. Technical Deliverable: WRI English.
7. Technical Deliverable: Climate Information Services Private Sector Engagement.
8. Technical Deliverable: Climate Zone Report.
9. Technical Deliverable: Drought Management Manual.
10. Technical Deliverable: Drought Studies in Cambodia.
11. Technical Deliverable: EWS Manual Book.
12. Technical Deliverable: EWS Cambodia Social Media Analysis.
13. Technical Deliverable: EWS 1294 CAP implementation.
14. Technical Deliverable: FARM school.
15. Technical Deliverable: Groundwater Management in Cambodia.
16. Technical Deliverable: Lower Mekong EWS Conference Minutes report.
17. Technical Deliverable: NAP-DRR report.
18. Technical Deliverable: Prek Thnot Feasibility Study.
19. Technical Deliverable: Water Resources Adaptation Proposed Targets.
20. Project Annual Progress Reports for 2015-2019.
21. Project Implementation Reports for 2016-2019.
22. Quarterly Reports: 13 reports. Quarterly for 2015-2019.
23. Mid-Term Review Report
24. Mid-Term Review Management Response
25. Minutes of Meetings for the Project (UNDP and MOWRAM), 4 Meetings.
26. UNDP Project Document.
27. Project Inception Report.
28. Project Brief and Infographic.
29. Project Request for Extension.
30. Project Refinement Final Report
31. Project Refine Stakeholder Engagement Plan.
32. Project Refinement Meetings Minutes.
33. Adjustment Project Implementation Strategy.
34. Project Training Plans: Training Events, Names, Themes, Locations, Target Groups, Implemented Partners, etc.
35. List of EWS Contract Information.
36. List of Agreements.
37. List of Consultants.
38. List of Technical Deliverables.
39. Tracking Tools for PIMS 5235 AMAT Cambodia.
40. Project Social Media: Facebook, Twitter, UNDP-related websites.
41. Project Videos.

Annex 3: Virtual Meetings Timetable

Date	Timing	Name/title	Organization
6-Mar	2:00 PM	Muhibuddin Usamah	Project MU
25-Mar	2:00 PM	Muhibuddin Usamah	PM
		Kelsea Clingeleffer	M&E
26-Mar	2:00 PM	Yusuke Taishi	RTA - UNDP RO
		Karma Rapten	RTA - UNDP RO
18-Jun	2:00 PM	Dr. Nyda Chhinh	RUPP
19-Jun	2:00 PM	Mr. Ly Hon	MOWRAM
		Mr. Lim Hak	MOWRAM
22-Jun	3:00 PM	Mr. Mao Hak	TONLE SAP AUTHORITY (TSA), MOWRAM
23-Jun	2:00 PM	Mr. Hun Sothy	MOWRAM
	3:00 PM	Mr. Am Phirum	MAFF
	4:00 PM	H.E. Khun Sokha	NCDM
25-Jun	2:00 PM	Mr. Nop Polin	DCA
	3:30 PM	Mr. Federico Barreras	PIN
26-Jun	2:00 PM	Mr. Oum Ryna	MoWRAM
	3:00 PM	Ms. Carlyne Yu	RIMES
30-Jun	11:00 AM	Atiq Ahmed	Refinement strategy consultant
	1:00 PM	Ms. Somountha Mith	AAC
	2:00 PM	Ms. Rany Pen	UNDP
		Mr. Nick Beresford	UNDP
		Mrs. Sonali Dayaratne	UNDP
		Ratana Norng	UNDP

Annex 4. List of Persons Interviewed

Name/title	Organization
Muhibuddin Usamah	Project MU
Kelsea Clingeleffer	M&E
Yusuke Taishi	RTA - UNDP RO
Karma Rapten	RTA - UNDP RO
Nyda Chhinh	RUPP
Ly Hon	MoWRAM
Lim Hak	MoWRAM
Mao Hak	TONLE SAP AUTHORITY (TSA), MoWRAM
Hun Sothy	MoWRAM
Am Phirum	MAFF
H.E. Khun Sokha	NCDM
Nop Polin	DCA
Federico Barrearas	PIN
Oum Ryna	MoWRAM
Carlyne Ye	RIMES
Atiq Ahmed	Refinement strategy consultant
Somountha Mith	AAC
Rany Pen	UNDP
Nick Beresford	UNDP
Sonali Dayaratne	UNDP
Ratana Norng	UNDP

Annex 5. Evaluative Question Matrix

Evaluation Criteria Questions	**Evaluation Indicators**	**Sources**	**Methodology**
Overall project assessment, lessons learned and recommendations			
What do you perceive as the project's most significant achievements thus far?	Project achievements	Interviews Project documentation	Interviews Review of project documentation
Please comment on any lessons learned thus far through this project.	Lessons learned	Project reports Interviews	Review of project documentation Interviews
What issues, if any, are impeding project progress and how might these be addressed?	Obstacles to progress	Interviews Project reports	Interviews Review of project documentation
Do you have any recommendations to strengthen project execution and delivery?	Recommendations	Interviews Project reports	Interviews Review of project documentation
Do you have any recommendations to maximize project impact and sustainability?	Recommendations	Interviews Project reports	Interviews\ Review of project documentation

Evaluation Criteria Questions	Evaluation Indicators	Sources	Methodology
Relevance: How does the project relate to the main objectives of the GEF focal area (climate change) and the environment and development priorities at local, regional, and national levels?			
To what extent does the project correspond to local and national development priorities and organizational policies in Cambodia?	Level of consistency between project objectives, achievements and national priorities	ProDoc GEF strategy documents	Review of documentation Interviews
To what extent is the project in line with GEF Operational Programs or the strategic priorities under which the project was funded (is the project relevant to GEF climate change focal area)?	Level of consistency between project objectives, achievements, and strategic priorities and programs of GEF	ProDoc GEF strategy documents	Review of project and Redocumentation
Are the objectives of the project still appropriate given the changed circumstances since the project was designed?	Level of fit between project objectives and socioeconomic/ environmental and political context	Interviews Project reports	Interviews Review of project documentation
What is the level of country ownership of the project?	Level of country ownership	Interviews Project reports	Interviews Review of project documentation

Have the relevant representatives from government and civil society been involved in project implementation, including as part of the project board meetings?	Level of participation of key stakeholders in project implementation	Project documentation (e.g. PIRs, list of Board meetings)	Review of project documentation
Has the government enacted legislation and/or developed policies and regulations in line with the project's objectives?	Draft or enacted legislation, policies or regulations that are consistent with the project	Project documentation (e.g. PIRs, list of board members)	Interviews Review of project documentation
Is the project relevant to UNFCCC, and other international convention objectives?	Alignment between project and relevant international conventions objectives	Project documents	Project document PIF

Evaluation Criteria Questions	Evaluation Indicators	Sources	Methodology
Effectiveness: to what extent have the expected outcomes and objectives of the project been achieved			
To what extent were each of the project outcomes and project objectives achieved thus far?	Log-frame indicators at the objective and outcome levels	PIRs, progress reports, consultancy reports Interviews	Interviews Review of project documentation
How is risk and risk mitigation being managed?	Risks identified and clear set of mitigation measures identified and taken	Risks log	Review of project documentation
What lessons can be drawn regarding effectiveness for other similar projects in the future?	Lessons learned generated and shared	Lessons Learned Report Progress reports	Review of project documentation Interviews

Evaluation Criteria Questions	Evaluation Indicators	Sources	Methodology
Efficiency: Was the project implemented efficiently, in line with international and national norms and standards?			
To what extent have the results been delivered with the least costly resources possible?	Total amount spent compared to budget Amount spent per output and outcome compared to budget Total amount of co-financing secured	PIRs (particularly summaries of project expenses) Interviews	Review of project documentation Interviews

How efficient are partnership arrangements for the project?	Several partnerships established.	Progress reports	Review of project documentation Interviews
Did the project efficiently utilize local capacity in implementation?	Several local experts and staff engaged in project implementation	Project HR documents	Review of project documentation Interviews
What lessons can be drawn regarding efficiency for other similar projects in the future?		Project financial reports and progress reports	Review of project documentation Interviews

Evaluation Criteria Questions	Evaluation Indicators	Sources	Methodology
Sustainability			
Are there financial risks that may jeopardize the sustainability of project outcomes?	Amount of funding available after project termination to support project objectives	Interviews	Interviews
Has a mechanism been installed to ensure financial and economic sustainability once GEF assistance ends?	Financial commitments/arrangements established to secure resources for post-project activities that are consistent with project objectives	Project reports Interviews	Review of project documentation Interviews
Is there enough stakeholder awareness and ownership of the project's long-term objectives?	Level of stakeholder support for project objectives	Project reports including surveys Interviews	Project reports including surveys Interviews
Do the legal frameworks, policies, and governance structures and processes within which the project operates pose risks that may jeopardize the sustainability of project benefits?	Existence of legal and policy frameworks and governance structures to enable sustainability of project benefits	Project reports Interviews	Review of Project documentation Interviews
Are required systems for accountability and transparency, and required technical know-how, in place?	Level of capacity, accountability and transparency to facilitate sustainability of project achievements	Project reports Interviews	Review of Project documentation Interviews
Are there ongoing activities that may pose an environmental threat to the sustainability of project outcomes?	Presence of environmental threats to project sustainability	Project reports Interviews	Review of Project documentation Interviews

Evaluation Criteria Questions	Evaluation Indicators	Sources	Methodology
Project Design			

Are there any aspects of the project design that should be modified at this point to maximize project impact or better reflect the project reality?	Design changes required	Interviews Project documentation	Interviews Review of project documentation
Were the project's objectives and components clear, practicable and feasible within its time frame?	Content of log-frame	Log-frame Interviews	Review of log-frame Interviews
Were the main project assumptions and risks identified?	Project assumptions and risks	Log-frame Interviews	Review of log-frame Interviews
Were the capacities and resources of the executing institution and counterparts properly considered when the project was designed?	Capacity and resources of EA and counterparts at project entry	Interviews ProDoc	Interviews Review of ProDoc
Were the management arrangements and roles and responsibilities properly identified before project approval?	Detail and clarity of management arrangements	ProDoc	Review of ProDoc
Were partnership arrangements negotiated before project approval?	Agreements with partners on project implementation at project entry	Interviews ProDoc	Interviews Review of ProDoc
To what extent did stakeholders participate in the project formulation process?	Level of stakeholder participation in project design	Interviews ProDoc	Interviews Review of ProDoc
Were lessons from other relevant projects properly incorporated in the project design?	Project design reflecting previous lessons learned	Interviews	Interviews

Evaluation Criteria Questions	Evaluation Indicators	Sources	Methodology
Impact			
What are the main positive and negative impacts of the project thus far?	Project impacts (capacity, enabling framework, etc.)	Project reports Interviews	Review of project documentation Interviews
Has the project led to global environmental benefits or reductions in stress to ecological systems, or is there evidence the project has put in place processes that will lead to such an impact?	Levels of land degradation Systems, structures, and capacity expected to lead to changes in levels of land degradation	Project reports Interviews	Review of project documentation Interviews

Evaluation Criteria Questions	Evaluation Indicators	Sources	Methodology
Project Implementation			
Has Implementing Agency & Executing Agency supervision and support been adequate so far?	EA and IA level of supervision and support	Interviews Project reports (PIRs,	Interviews Review of project documentation

		progress reports)	
Has there been an appropriate focus on results by the IA and EA?	EA and IA monitoring results	Interviews Project reports (PIRs, progress reports)	Interviews Review of project documentation
Are managing parties responsive to significant implementation problems (if any) and project risks?	Response to implementation problems and risks	Project reports Interviews	Review of project documentation Interviews
Does the M&E plan include all necessary elements to permit monitoring of results and identify M&E roles and responsibilities?	M&E Plan	ProDoc	Review of ProDoc
Was the M&E Plan sufficiently budgeted and funded during project preparation and implementation?	Amount of funding designated and utilized for M&E	ProDoc Interviews Project reports detailing expenses	Review of ProDoc Interviews Review of project expenses
Is the project log-frame effectively being used as a management tool to measure progress and performance?	Use of log-frame	Project reports including PIRs Interviews	Review of project reports Interviews
Are progress and financial reporting requirements/schedules complied with, including the timely delivery of well-developed monitoring reports (PIRs)?	Content and submission dates of project reports	Interviews Project reports	Interviews Review of project documentation
Are follow-up actions and/or adaptive management taken in response to M&E activities (e.g., in response to PIRs, and steering committee meetings)?	Responses to M&E activities	Project reports Interviews	Interviews Review of project documentation
If changes in planned project outputs, activities or implementation methodology were made, were these adequately justified and approved by the project steering committee?	Explanations provided for changes during project implementation	Steering committee minutes Project reports	Review of steering committee minutes and project documentation

Evaluation Criteria Questions	Evaluation Indicators	Sources	Methodology
Stakeholders			
Is the project involving relevant stakeholders through information sharing and consultation and by seeking their active participation in project implementation and M&E?	Level of participation of stakeholders in project implementation	Project reports Interviews	Review of project documentation Interviews

Evaluation Criteria Questions	Evaluation Indicators	Sources	Methodology
Project Finance			

Is there enough clarity in the reported co-financing and leveraged resources to substantiate in-kind and cash co-financing from all listed sources?	Table specifying co-financing and leveraged resources secured and sources thereof	Project reports Interviews	Review of project documentation Interviews
Have the reasons for differences in level of expected and actual co-financing been made clear and are the reasons compelling?	Explanation of the difference between expected and actual co-financing	Project reports including 2012 PIR with co-financing figures	Review of project documentation Interviews
Are externally funded project components well integrated into GEF supported components?	Components funded by co-financing	Project reports Interviews	Review of project documentation Interviews
Is the extent of materialization of co-financing influencing project outcomes and/or sustainability?	Total co-financing secured Level of achievement of project outcomes Perceived project sustainability	Project reports Interviews	Review of project documentation Interviews

Evaluation Criteria Questions	Evaluation Indicators	Sources	Methodology
Mainstreaming			
Is it possible to identify and define positive or negative effects of the project on local populations?	Employment generated as a result of the project Impact of the project on income levels, food security, etc.	PIR Interviews	Review of PIRs Interviews
Do the project objectives conform to agreed priorities in the UNDP CPD, CPAP, and UNDAF?	Consistency of project with CPD, CPAP, and UNDAF	ProDoc, CPD, CPAP, UNDAF	Review of ProDoc, CPD, CPAP, and UNDAF
Have gender issues been considered in project implementation? If so, how and to what extent?	Level and nature of participation of women in project implementation	PIRs Interviews	Review of PIRs Interviews

Annex 6. Questionnaire Used for Interviews

Many of the below questions were used in the virtual interviews. Not all questions were asked of each interviewee. The questions were used to make sure that all aspects are covered, and the needed information is requested to complete the review exercise and a guide to preparing the semi-structured interviews.

I. Relevance - How does the project relate to the main objectives of the GEF and the environment and development priorities?

1. Is the project relevant to GEF objectives?
2. Is the project relevant to UNDP objectives?
3. Is the project relevant to the country development objectives?
4. Does the project address the needs of target beneficiaries?
5. Is the project internally coherent in its design?
6. How is the project relevant considering other donors?
7. What lessons have been learned and what changes could have been made to the project to strengthen the alignment between the project and the partners' priorities and areas of focus?
8. How could the project better target and address the priorities and development challenges of targeted beneficiaries?

II. **Effectiveness** – To what extent are the expected outcomes of the project being achieved?

1. How is the project effective in achieving its expected outcomes?
2. How is risk and risk mitigation being managed?

III. **Efficiency -** How efficiently is the project implemented?

1. Was the adaptive management used or needed to ensure efficient resource use?
2. Did the project logical framework and work plan and any changes made to them use as management tools during implementation?
3. Were the accounting and financial systems in place adequate for project management and producing accurate and timely financial information?
4. Were progress reports produced accurately, timely and respond to reporting requirements including adaptive management changes?
5. Was project implementation as cost-effective as originally proposed (planned vs. actual)? Was the leveraging of funds (co-financing) happening as planned? Were financial resources utilized efficiently?
6. Could financial resources have been used more efficiently?
7. Were there institutionalized or informal feedback or dissemination mechanism to ensure that findings, lessons learned and recommendations about project design and implementation effectiveness were shared among project stakeholders, UNDP and GEF Staff and other relevant organizations for ongoing project adjustment and improvement? Did the project mainstream gender considerations into its implementation?
8. To what extent were partnerships/ linkages between institutions/ organizations encouraged and supported?
9. Which partnerships/linkages were facilitated? Which one can be considered sustainable?
10. What was the level of efficiency of cooperation and collaboration arrangements? (between local actors, UNDP/GEF and relevant government entities)

11. Was an appropriate balance struck between utilization of international expertise as well as local capacity?
12. Did the project consider local capacity in the design and implementation of the project?

IV. **Impacts** - What are the potential and realized impacts of activities carried out in the context of the project?

1. Will the project achieve its objective, that is to improve fiscal measures for collecting, managing, and allocating revenues for global environmental management?
2. How is the project impacting the local environment such as impacts or likely impacts on the local environment; on poverty; and, on other socio-economic issues?

V. **Sustainability** - Are the initiatives and results of the project allowing for continued benefits?

1. Are sustainability issues adequately integrated into project design?
2. Did the project adequately address financial and economic sustainability issues?
3. Is there evidence that project partners will continue their activities beyond project support?
4. Are laws, policies, and frameworks being addressed through the project, to address the sustainability of key initiatives and reforms?
5. Is capacity in place at the national and local levels adequate to ensure the sustainability of the results achieved to date?
6. Did the project contribute to key building blocks for social and political sustainability?
7. Are project activities and results being replicated elsewhere and/or scaled up?
8. What are the main challenges that may hinder the sustainability of efforts?

Annex 7: List of Project's Key Events

Note: List is only current until 31st July. More training events were completed until the end of the project in October 2020.

Start date	End Date	Training Name	Target Audience	Implemented By	Location	Participants	Male	Female
Thursday, 28 May 2015	Thursday, 28 May 2015	Inception workshop	National and international agencies relevant to project	Project team		80	80	0
Tuesday, 18 August 2015	Thursday, 20 August 2015	Training-workshop on AHS and AWS site selection standard, operation experiences, and past challenges of PDOWRAMs	PDoWRAM	Project team	Siem Reap	22	18	4
Monday, 28 September 2015	Wednesday, 30 September 2015	Training-workshop on AHS and AWS site selection standard, operation experiences, and past challenges of PDOWRAMs	PDoWRAM	Project team	Battambang town	24	21	3
Tuesday, 27 October 2015	Thursday, 29 October 2015	Training-workshop on AHS and AWS site selection standard, operation experiences, and past challenges of PDOWRAMs	PDoWRAM	Project team	Sihanouk Ville	22	16	6
Tuesday, 17 November 2015	Thursday, 19 November 2015	Training-workshop on AHS and AWS site selection standard, operation experiences, and past challenges of PDOWRAMs	PDoWRAM	Project team	Kratie town	23	20	3
Monday, 14 December 2015	Wednesday, 16 December 2015	Training-workshop on AHS and AWS site selection standard, operation experiences, and past challenges of PDOWRAMs	PDoWRAM	Project team	Prey Veng town	25	22	3
Friday, 9 June 2017	Friday, 9 June 2017	Technical Group Discussion	Key stakeholders (RIMES, UNDP, Smart, PIN)	UNDP	Phnom Penh	12	7	5
Monday, 15 January 2018	Friday, 19 January 2018	PDNA & DRF	Relevant stakeholders	UNDP	Siem Reap	43	31	12
Tuesday, 6 February 2018	Tuesday, 6 February 2018	Inception meeting for Automatic Weather Stations	ADCON, MoWRAM, UNDP Copenhagen	UNDP	Phnom Penh	10	8	2
Tuesday, 13 February 2018	Tuesday, 13 February 2018	Inception workshop for Hydrological Software Solution for EWS in Cambodia	BRL, MoWRAM, UNDP Copenhagen	UNDP	Phnom Penh	12	9	3
Monday, 7 May 2018	Monday, 7 May 2018	Stakeholders Consultation Meeting	MOWRAM, UNDP	UNDP	Phnom Penh	10	8	2

Wednesday, 6 June 2018	Wednesday, 6 June 2018	Consultative workshop on adoption of climate information in agriculture sector in Cambodia	MAFF (Ministry of Agriculture, Forestry and Fisheries)	UNDP	Phnom Penh	38	29	9
Wednesday, 27 June 2018	Friday, 29 June 2018	Installation, Operation and Maintenance of AWS & addVANTAGE software system	PDoWRaM & MoWRAM	UNDP/ADCON	Siem Reap	47	42	5
Friday, 20 July 2018	Friday, 20 July 2018	National consultative meeting on Sendai Framework for DRR in Cambodia	Relevant stakeholders	UNDP	Phnom Penh	62	43	19
Monday, 23 July 2018	Tuesday, 24 July 2018	Collaborative discussion on capacity building with RIMES	MoWRAM, RIMES	UNDP	Bangkok	8	7	1
Saturday, 4 August 2018	Sunday, 5 August 2018	Field Mission for Prek Thnot River Study	PDowRAM, commune chief	UNDP	Kandal	27	22	5
Monday, 1 October 2018	*Monday, 1 October 2018*	*Cambodia-focused Workshop for Meteorological Capacity Building with RIMES*			*Bangkok*			
Wednesday, 17 October 2018	Wednesday, 17 October 2018	EWS 1294	PCDM	PIN	Preah Sihanouk	4	4	0
Friday, 19 October 2018	Friday, 19 October 2018	EWS 1294	PCDM	PIN	Koh Kong	4	4	0
Wednesday, 24 October 2018	Thursday, 25 October 2018	EWS 1294	CCDM	PIN	Koh Kong	38	27	11
Thursday, 1 November 2018	Thursday, 1 November 2018	EWS 1294	CCDM (teacher,student)	PIN	Preah Sihanouk	37	12	25
Thursday, 1 November 2018	Tuesday, 6 November 2018	EWS 1294	DCDM	PIN	Koh Kong	160	119	41
Thursday, 8 November 2018	Thursday, 8 November 2018	Meeting with Swiss Development Cooperation	DoM, DHRW PIN, StC, SDC	UNDP	Phnom Penh	12	12	0
Sunday, 11 November 2018	Thursday, 15 November 2018	Development of capacity building plan with RIMES	MoWRAM, RIMES	UNDP	Bangkok	4	4	0
Tuesday, 13 November 2018	Thursday, 15 November 2018	EWS 1294	VDMG	PIN	Koh Kong	46	29	17
Tuesday, 27 November 2018	Thursday, 29 November 2018	EWS 1294	DCDM	PIN	Preah Sihanouk	217	204	13
Tuesday, 4 December 2018	Friday, 7 December 2018	PDNA	Government departments & NCDM	UNDP	Siem Reap	31	23	8
Friday, 7 December 2018	Saturday, 8 December 2018	EWS 1294	VDMG	PIN	Preah Sihanouk	36	29	7
Wednesday, 12 December 2018	Monday, 17 December 2018	Surface Water and Ground Water Monitoring Stations Software and Hardware Training	DHRW	UNDP	Phnom Penh	12	9	3

Saturday, 15 December 2018	Saturday, 15 December 2018	AC Leaders Meeting	AC Leaders	DCA	Kampong Thom	9	7	2
Sunday, 16 December 2018	Sunday, 16 December 2018	AC Leaders Meeting	AC Leaders	DCA	Takeo	19	15	4
Thursday, 20 December 2018	Thursday, 20 December 2018	PCDM Meeting	PCDM	DCA	Kampong Thom	7	7	0
Friday, 4 January 2019	Friday, 4 January 2019	PCDM Meeting	PCDM	DCA	Takeo	7	6	1
Tuesday, 22 January 2019	Thursday, 24 January 2019	Training workshop on drought management	PCDM officials of Kampong Speu, Takeo and Kampot	DCA	Kampong Speu	25	25	0
Friday, 25 January 2019	Friday, 25 January 2019	Exchange Visit	PCDM	DCA	Kampong Thom + Takeo	25	25	0
Friday, 1 February 2019	Sunday, 3 February 2019	Training of Trainer for AC Leaders	AC Leaders	DCA	Kampot	23	13	10
Thursday, 21 February 2019	Thursday, 21 February 2019	Consultation on Drought Trigger Points	NCDM, PCDM, DCDM	DCA	Kampong Thom	35	26	9
Friday, 22 February 2019	Friday, 22 February 2019	Cascade Training on DRAT	AC members	DCA -> AC leaders	Kampot	54	12	42
Saturday, 23 February 2019	Saturday, 23 February 2019	Cascade Training on DRAT	AC members	DCA -> AC leaders	Kampot	32	13	19
Sunday, 24 February 2019	Sunday, 24 February 2019	Cascade Training on DRAT	AC members	DCA -> AC leaders	Kampot	43	17	26
Monday, 25 February 2019	Monday, 25 February 2019	Cascade Training on DRAT	AC members	DCA -> AC leaders	Kampot	39	16	23
Tuesday, 26 February 2019	Tuesday, 26 February 2019	Cascade Training on DRAT	AC members	DCA -> AC leaders	Kampot	41	28	13
Wednesday, 27 February 2019	Wednesday, 27 February 2019	Cascade Training on DRAT	AC members	DCA -> AC leaders	Kampot	34	7	27
Friday, 1 March 2019	Sunday, 3 March 2019	Training of Trainer for AC Leaders	AC Leaders	DCA	Takeo	30	22	8
Monday, 4 March 2019	Monday, 4 March 2019	DRAT training	PCDM officials of Kampot & Takeo	DCA	Takeo	17	17	0
Tuesday, 5 March 2019	Tuesday, 5 March 2019	Consultation on Drought Trigger Points	NCDM, PCDM, DCDM	DCA	Takeo	36	34	2
Monday, 11 March 2019	Monday, 11 March 2019	Inception meeting of joint work with RIMES	DOM, DHRW, GDA, UNDP & RIMES	DoM	Phnom Penh	18	18	0
Wednesday, 13 March 2019	Friday, 15 March 2019	Basics of Seasonal Forecasting	DOM technical staff	RIMES	Phnom Penh	12	9	3
Tuesday, 26 March 2019	Tuesday, 26 March 2019	EWS 1294	PCDM	PIN	Kampong Cham	2	1	1
Wednesday, 27 March 2019	Wednesday, 27 March 2019	Cascade Training on DRAT	AC members	DCA -> AC leaders	Takeo	31	12	19

Thursday, 28 March 2019	Thursday, 28 March 2019	Cascade Training on DRAT	AC members	DCA -> AC leaders	Takeo	32	6	26
Friday, 29 March 2019	Friday, 29 March 2019	Cascade Training on DRAT	AC members	DCA -> AC leaders	Takeo	36	28	8
Saturday, 30 March 2019	Saturday, 30 March 2019	Cascade Training on DRAT	AC members	DCA -> AC leaders	Takeo	35	18	17
Tuesday, 2 April 2019	Friday, 5 April 2019	Specialized Training on Operationalization and Maintenance of AWS	DoM focal points	ADCON	Phnom Penh + field visits	4	4	0
Friday, 5 April 2019	Friday, 5 April 2019	Consultative workshop on Strategic National Action Plan for Disaster Risk Reduction (2019-2023)	National and sub-national authorities, relevant NGO & development partners	UNDP	Phnom Penh	84	65	19
Saturday, 6 April 2019	Saturday, 6 April 2019	Cascade Training on DRAT	AC members	DCA -> AC leaders	Takeo	36	14	22
Sunday, 7 April 2019	Sunday, 7 April 2019	Cascade Training on DRAT	AC members	DCA -> AC leaders	Takeo	36	18	18
Monday, 8 April 2019	Monday, 8 April 2019	Cascade Training on DRAT	AC members	DCA -> AC leaders	Takeo	35	27	8
Tuesday, 9 April 2019	Tuesday, 9 April 2019	Cascade Training on DRAT	AC members	DCA -> AC leaders	Takeo	35	19	16
Tuesday, 9 April 2019	Thursday, 11 April 2019	Discussion on capacity building and relationship establishment	DALRM, RUPP	RIMES/SERVIR-Mekong	Bangkok	9		
Wednesday, 10 April 2019	Wednesday, 10 April 2019	Cascade Training on DRAT	AC members	DCA -> AC leaders	Takeo	37	22	15
Monday, 22 April 2019	Monday, 22 April 2019	EWS 1294	DCDM	PIN	Kampong Cham	123	104	19
Tuesday, 23 April 2019	Tuesday, 23 April 2019	EWS 1294	DCDM	PIN	Kampong Cham	121	95	26
Wednesday, 24 April 2019	Wednesday, 24 April 2019	EWS 1294	DCDM	PIN	Kampong Cham	131	103	28
Thursday, 25 April 2019	Thursday, 25 April 2019	EWS 1294	DCDM	PIN	Kampong Cham	130	114	16
Friday, 26 April 2019	Friday, 26 April 2019	EWS 1294	DCDM	PIN	Kampong Cham	58	53	5
Friday, 26 April 2019	Friday, 26 April 2019	EWS 1294	DCDM	PIN	Kampong Cham	70	60	10
Monday, 29 April 2019	Monday, 29 April 2019	EWS 1294	CCDM	PIN	Kampong Cham	56	52	4
Monday, 29 April 2019	Monday, 29 April 2019	EWS 1294	VDMG	PIN	Kampong Cham	44	35	9
Monday, 29 April 2019	Friday, 10 May 2019	Secondment Training on 'Seasonal Forecast Customization System'	DOM meteorologists	RIMES	Bangkok	2	1	1
Tuesday, 30 April 2019	Tuesday, 30 April 2019	EWS 1294	VDMG	PIN	Kampong Cham	9	6	3

Tuesday, 7 May 2019	Thursday, 9 May 2019	Workshop on current Standard Operating Procedures	NCDM, PCDM, RUPP, MoWRAM, other relevant ministries	UNDP	Siem Reap	81	73	8
Thursday, 9 May 2019	Saturday, 11 May 2019	Exchange Visit	AC Leaders	DCA	Kampong & Takeo	19	16	3
Friday, 24 May 2019	Friday, 24 May 2019	Drought Risk Monitoring	Academia (RUPP), development actors, MAFF	UNDP	Phnom Penh	13	11	2
Tuesday, 28 May 2019	Tuesday, 28 May 2019	EWS 1294	Community	PIN	Kampong Cham	153	65	88
Wednesday, 29 May 2019	Friday, 31 May 2019	Drought InfoHub Launch	NCDM, PCDM, DCDM, AC Leaders	DCA	Kampong Thom, Takeo	54	48	6
Wednesday, 29 May 2019	Wednesday, 29 May 2019	EWS 1294	Community	PIN	Kampong Cham	153	59	94
Monday, 3 June 2019	Tuesday, 4 June 2019	7th National Monsoon Forum	DOM, DOH, NCDM, MoEYS, IO's, MAFF, GDA, Climate Change Department, MoRD, development partners, local NGO	DoM & RIMES	Phnom Penh	61	50	11
Tuesday, 11 June 2019	Tuesday, 11 June 2019	EWS 1294	Community	PIN	Tboung Khmum	250	100	150
Wednesday, 12 June 2019	Wednesday, 12 June 2019	EWS 1294	Community	PIN	Tboung Khmum	130	46	84
Wednesday, 12 June 2019	Wednesday, 12 June 2019	EWS 1294	PCDM	PIN	Tboung Khmum	2	2	0
Thursday, 13 June 2019	Thursday, 13 June 2019	EWS 1294	PCDM	PIN	Prey Veng town	3	2	1
Friday, 14 June 2019	Friday, 14 June 2019	EWS 1294	PCDM	PIN	Svay Rieng	2	2	0
Wednesday, 19 June 2019	Wednesday, 19 June 2019	EWS 1294	Community	PIN	Prey Veng	87	52	35
Thursday, 20 June 2019	Thursday, 20 June 2019	EWS 1294	Community	PIN	Prey Veng	142	70	72
Tuesday, 25 June 2019	Tuesday, 25 June 2019	Consultation on Smart Farming App	Key stakeholders (DCA, RUA, RUPP)	UNDP	Phnom Penh	11	7	4
Monday, 1 July 2019	Monday, 1 July 2019	EWS 1294	CCDM	PIN	Tboung Khmum	44	32	12
Monday, 1 July 2019	Monday, 1 July 2019	EWS 1294	VDMG	PIN	Tboung Khmum	13	4	9
Wednesday, 3 July 2019	Wednesday, 3 July 2019	EWS 1294	CCDM	PIN	Prey Veng	15	12	3
Thursday, 4 July 2019	Thursday, 4 July 2019	EWS 1294	CCDM	PIN	Prey Veng	14	13	1
Thursday, 4 July 2019	Thursday, 4 July 2019	EWS 1294	VDMG	PIN	Prey Veng	16	12	4
Friday, 5 July 2019	Friday, 5 July 2019	EWS 1294	VDMG	PIN	Prey Veng	23	16	7
Thursday, 11 July 2019	Thursday, 11 July 2019	CSO Consultation on SOP-EWS and NAP-DRR	Relevant stakeholders	UNDP	Phonm Penh	24	19	5

Tuesday, 16 July 2019	Tuesday, 16 July 2019	ActionAid Gender Equality CBDRR Launch Event	Gov. officials and key stakeholders	ActionAid	Koh Kong	34	18	16
Tuesday, 16 July 2019	Tuesday, 16 July 2019	EWS 1294	CCDM	PIN	Svay Rieng	19	18	1
Wednesday, 17 July 2019	Wednesday, 17 July 2019	EWS 1294	VDMG	PIN	Svay Rieng	31	15	16
Thursday, 18 July 2019	Thursday, 18 July 2019	EWS 1294	CCDM	PIN	Svay Rieng	13	9	4
Thursday, 18 July 2019	Thursday, 18 July 2019	EWS 1294	Community	PIN	Svay Rieng	67	37	30
Friday, 19 July 2019	Friday, 19 July 2019	EWS 1294	Community	PIN	Svay Rieng	48	26	22
Friday, 19 July 2019	Friday, 19 July 2019	EWS 1294	VDMG	PIN	Svay Rieng	18	10	8
Tuesday, 23 July 2019	Tuesday, 23 July 2019	EWS 1294	DCDM	PIN	Prey Veng	79	76	3
Thursday, 25 July 2019	Thursday, 25 July 2019	EWS 1294	DCDM	PIN	Prey Veng	100	87	13
Friday, 26 July 2019	Friday, 26 July 2019	EWS 1294	DCDM	PIN	Prey Veng	103	92	11
Monday, 29 July 2019	Monday, 29 July 2019	EWS 1294	DCDM	PIN	Prey Veng	59	54	5
Tuesday, 30 July 2019	Tuesday, 30 July 2019	EWS 1294	DCDM	PIN	Prey Veng	70	65	5
Wednesday, 31 July 2019	Wednesday, 31 July 2019	EWS 1294	DCDM	PIN	Prey Veng	117	112	5
Thursday, 1 August 2019	Friday, 2 August 2019	Gender Equality in Community Based Disaster Risk Reduction	Disaster Management Committee members (village to provinicial)	ActionAid	Koh Kong	36	21	15
Monday, 5 August 2019	Friday, 9 August 2019	Training on Mesoscale Weather Forecasting System	DoM	RIMES	Phnom Penh	12	7	5
Tuesday, 6 August 2019	Thursday, 8 August 2019	Hydrological Forecasting Training	DoH	RIMES	Phnom Penh	12	7	5
Tuesday, 13 August 2019	Tuesday, 13 August 2019	EWS 1294	District government, school principals and teachers	PIN	Tboung Khmum	66	55	11
Tuesday, 13 August 2019	Tuesday, 13 August 2019	Meeting PCDM	PCDM	DCA	Battambang	10	9	1
Tuesday, 13 August 2019	Tuesday, 13 August 2019	Meeting PCDM	PCDM	DCA	Pursat	7	7	0
Wednesday, 14 August 2019	Wednesday, 14 August 2019	EWS 1294	DCDM, CCDM, School principals	PIN	Tboung Khmum	40	37	3
Wednesday, 14 August 2019	Wednesday, 14 August 2019	Meeting with AC leaders & partners	AC leaders + partners	DCA	Battambang	21	10	11
Thursday, 15 August 2019	Thursday, 15 August 2019	EWS 1294	DCDM, CCDM, School principals	PIN	Tboung Khmum	76	70	6
Thursday, 15 August 2019	Thursday, 15 August 2019	Meeting PCDM	PCDM	DCA	Kampong Chnnang	9	7	2

Thursday, 15 August 2019	Thursday, 15 August 2019	Meeting with AC leaders & partners	AC leaders + partners	DCA	Pursat	15	10	5
Friday, 16 August 2019	Friday, 16 August 2019	EWS 1294	DCDM, CCDM, School principals	PIN	Tboung Khmum	68	65	3
Friday, 16 August 2019	Friday, 16 August 2019	Meeting with AC leaders & partners	AC leaders + partners	DCA	Kampong Chhnang	12	7	5
Monday, 19 August 2019	Tuesday, 20 August 2019	FARM Training of Trainers	GDA, RUA, PDAFF	RIMES	Siem Reap	19	13	6
Thursday, 22 August 2019	Friday, 23 August 2019	Gender Mainsteaming and Women's Leadership in DRR and Climate Change	Potential women candidates + selection capacity	ActionAid	Srae Ambel, Koh Kong	44	5	39
Thursday, 22 August 2019	Friday, 23 August 2019	SESAME Training	GDA	RIMES	Phnom Penh	13	10	3
Saturday, 24 August 2019	Saturday, 24 August 2019	EWS 1294	DCDM	PIN	Prey Veng	58	50	8
Tuesday, 27 August 2019	Tuesday, 27 August 2019	EWS 1294	DCDM, CCDM, School principals	PIN	Svay Rieng	79	71	8
Tuesday, 27 August 2019	Monday, 2 September 2019	Public commune forums	Commune councils	ActionAid -> WC	Pursat	331	225	106
Wednesday, 28 August 2019	Friday, 30 August 2019	DRAT ToT	AC leaders + partners	DCA	Battambang	33	23	10
Wednesday, 28 August 2019	Wednesday, 28 August 2019	EWS 1294	DCDM, CCDM, School principals	PIN	Svay Rieng	40	36	4
Thursday, 29 August 2019	Thursday, 29 August 2019	EWS 1294	DCDM, CCDM, School principals	PIN	Svay Rieng	76	74	2
Friday, 30 August 2019	Friday, 30 August 2019	EWS 1294	DCDM, CCDM, School principals	PIN	Svay Rieng	22	21	1
Tuesday, 3 September 2019	Thursday, 5 September 2019	DRAT Training	PCDM	DCA -> AC Leaders	Siem Reap	33	31	2
Tuesday, 3 September 2019	Friday, 6 September 2019	Drought Management (SPI) training	AC leaders + partners	DCA	?	33	31	2
Wednesday, 4 September 2019	Friday, 6 September 2019	FARM ToT	Farmers	RIMES	Kampong Speu	20	20	
Tuesday, 10 September 2019	Thursday, 12 September 2019	DRAT ToT	AC leaders + partners	DCA	Pursat	16	11	5
Tuesday, 10 September 2019	Thursday, 12 September 2019	Gender Champion Training	Gender champions	ActionAid	Phnom Penh	39	3	36
Monday, 16 September 2019	Monday, 16 September 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Bour	30	15	15
Tuesday, 17 September 2019	Tuesday, 17 September 2019	Cascade Training on DRAT	Farmers	DCA -> AC leaders	Pich Chenda	22	9	13
Wednesday, 18 September 2019	Wednesday, 18 September 2019	Cascade Training on DRAT	Farmers	DCA -> AC leaders	Apil Pram Deum	32	14	18

Thursday, 19 September 2019	Thursday, 19 September 2019	Cascade Training on DRAT	Farmers	DCA -> AC leaders	Apil Pram Deum	14	8	6
Thursday, 19 September 2019	Monday, 23 September 2019	Disaster Awareness Raising	Communities	ActionAid -> WC	Kampot	68	8	60
Thursday, 3 October 2019	Friday, 4 October 2019	Women's Charter of Demands consultation meeting	Relevant stakeholders	ActionAid	Phnom Penh	34	1	33
Tuesday, 8 October 2019	Thursday, 10 October 2019	DRAT ToT	AC leaders + partners	DCA	Kampong Chnnang	29	18	11
Tuesday, 15 October 2019	Tuesday, 15 October 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Battambang	29	8	21
Wednesday, 16 October 2019	Wednesday, 16 October 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Battambang	38	5	33
Thursday, 17 October 2019	Thursday, 17 October 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Battambang	30	16	14
Friday, 18 October 2019	Friday, 18 October 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Battambang	25	17	8
Tuesday, 22 October 2019	Tuesday, 22 October 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Pursat	35	15	20
Tuesday, 22 October 2019	Friday, 25 October 2019	Consultative workshop on drought trigger points	MOWRAM, PCDM, AC, CSO partners	DCA	Battambang, Pursat, Kampong Chhnang	103	80	23
Wednesday, 23 October 2019	Wednesday, 23 October 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Pursat	30	8	22
Thursday, 24 October 2019	Thursday, 24 October 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Pursat	30	9	21
Friday, 25 October 2019	Friday, 25 October 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Pursat	29	6	23
Saturday, 26 October 2019	Saturday, 26 October 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Pursat	33	8	25
Sunday, 27 October 2019	Sunday, 27 October 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Pursat	15	7	8
Monday, 28 October 2019	Tuesday, 29 October 2019	Women's Exchange Visit	Gender champions + local authorities	ActionAid	Siem Reap	44	12	32
Monday, 18 November 2019	Wednesday, 20 November 2019	BRL Training on HydroMet Software	MOWRAM	BRL	Phnom Penh	13	9	4
Monday, 18 November 2019	Monday, 18 November 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Battambang	43	19	24
Tuesday, 19 November 2019	Tuesday, 19 November 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Battambang	33	25	8

Wednesday, 20 November 2019	Wednesday, 20 November 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Battambang	25	11	14
Thursday, 21 November 2019	Thursday, 21 November 2019	8th Monsoon Forum	MOWRAM, relevant stakeholders	RIMES	Phnom Penh	56	42	14
Friday, 22 November 2019	Friday, 22 November 2019	DRAT Training	PCDM	DCA	Kampong Speu	22	19	3
Friday, 22 November 2019	Friday, 22 November 2019	Ground Water Management Training	Department of Meteorology (MOWRAM)	UNDP	Phnom Penh	34	27	7
Monday, 25 November 2019	Monday, 25 November 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Chhnang	27	11	16
Tuesday, 26 November 2019	Tuesday, 26 November 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Chhnang	18	9	9
Tuesday, 26 November 2019	Wednesday, 25 December 2019	Disaster Awareness Training	Communities	ActionAid -> WC	Pursat	308	56	252
Wednesday, 27 November 2019	Wednesday, 27 November 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Chhnang	19	8	11
Thursday, 28 November 2019	Thursday, 28 November 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Chhnang	28	8	20
Friday, 29 November 2019	Friday, 29 November 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Chhnang	32	13	19
Saturday, 30 November 2019	Saturday, 30 November 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Chhnang	26	12	14
Tuesday, 3 December 2019	Tuesday, 3 December 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Chhnang	34	23	11
Tuesday, 3 December 2019	Wednesday, 4 December 2019	Lower Mekong Early Warning System Conference	Regional government, NGO, INGO, IO	UNDP & PIN	Phnom Penh		0	
Wednesday, 4 December 2019	Wednesday, 4 December 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Chhnang	21	9	12
Thursday, 5 December 2019	Thursday, 5 December 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Chhnang	33	13	20
Friday, 6 December 2019	Friday, 6 December 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Chhnang	21	7	14
Wednesday, 11 December 2019	Wednesday, 11 December 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Chhnang	30	10	20
Thursday, 12 December 2019	Thursday, 12 December 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Chhnang	24	4	20
Friday, 13 December 2019	Friday, 13 December 2019	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Chhnang	35	13	22
Tuesday, 17 December 2019	Tuesday, 17 December 2019	Launch workshop on Drought Monitoring InfoHub	PCDM, DPDoWRAM, PDRD, PDAFF, district officials	DCA	Battambang	51	46	5

Wednesday, 18 December 2019	Wednesday, 18 December 2019	Launch workshop on Drought Monitoring InfoHub	PCDM, DPDoWRAM, PDRD, PDAFF, district officials	DCA	Pursat	32	24	8
Saturday, 21 December 2019	Saturday, 21 December 2019	Exchange Visit	AC Leaders	DCA	Takeo	27	17	10
Tuesday, 24 December 2019	Thursday, 26 December 2019	GIS Training	PCDM	DCA	Phnom Penh	19	16	3
Sunday, 29 December 2019	Sunday, 29 December 2019	Launch workshop on Drought Monitoring InfoHub	PCDM, DPDoWRAM, PDRD, PDAFF, district officials	DCA	Kampong Chnnang	31	23	8
Wednesday, 8 January 2020	Wednesday, 8 January 2020	Meeting	AC leaders + partners	DCA	Kampong Cham	6	5	1
Wednesday, 8 January 2020	Wednesday, 8 January 2020	Meeting	PCDM	DCA	Kampong Cham	7	6	1
Thursday, 9 January 2020	Thursday, 9 January 2020	Meeting	AC leaders + partners	DCA	Kampong Thom	27	13	14
Thursday, 9 January 2020	Thursday, 9 January 2020	Meeting	PCDM	DCA	Kampong Thom	9	7	2
Friday, 10 January 2020	Friday, 10 January 2020	Meeting	AC leaders + partners	DCA	Siem Reap	23	3	20
Friday, 10 January 2020	Friday, 10 January 2020	Meeting	PCDM	DCA	Siem Reap	9	8	1
Thursday, 16 January 2020	Thursday, 16 January 2020	EWS 1294	DCDM	PIN	Kep	52	44	8
Thursday, 16 January 2020	Thursday, 16 January 2020	EWS 1294	PCDM	PIN	Kep	2	0	2
Thursday, 16 January 2020	Thursday, 16 January 2020	EWS 1294	PCDM	PIN	Kep	2	2	0
Tuesday, 28 January 2020	Friday, 31 January 2020	Drought Management (SPI) training	PCDM	DCA	Kampong Cham/Kampong Thom/Siem Reap	30	28	2
Friday, 31 January 2020	Friday, 31 January 2020	EWS 1294	DCDM, CCDM, School principals	PIN	Pailin	135	109	26
Friday, 31 January 2020	Friday, 31 January 2020	EWS 1294	PCDM	PIN	Pailin	2	2	0
Monday, 3 February 2020	Thursday, 6 February 2020	Field Assessment for Solar Pumping	Women Champions	ActionAid	Pursat	27	14	13
Tuesday, 4 February 2020	Thursday, 6 February 2020	DRAT Training	AC leaders + partners	DCA	Kampong Cham	6	6	0
Tuesday, 4 February 2020	Thursday, 6 February 2020	DRAT Training	AC leaders + partners	DCA	Kampong Thom	28	15	13
Thursday, 6 February 2020	Thursday, 6 February 2020	EWS 1294	PCDM	PIN	Takeo	2	2	0
Tuesday, 11 February 2020	Thursday, 13 February 2020	DRAT Training	AC leaders + partners	DCA	Siem Reap	23	4	19

Wednesday, 12 February 2020	Wednesday, 12 February 2020	EWS 1294	VDMG	PIN	Pailin	16	3	13
Wednesday, 12 February 2020	Wednesday, 12 February 2020	EWS 1294	CCDM	PIN	Pailin	22	20	2
Thursday, 13 February 2020	Thursday, 13 February 2020	EWS 1294	PCDM	PIN	Kandal	2	1	1
Friday, 14 February 2020	Friday, 14 February 2020	EWS 1294	PCDM	PIN	Phnom Penh	2	1	1
Monday, 17 February 2020	Monday, 17 February 2020	EWS 1294	DCDM, CCDM, School principals	PIN	Takeo	32	0	32
Monday, 17 February 2020	Monday, 17 February 2020	EWS 1294	DCDM, CCDM, School principals	PIN	Takeo	19	18	1
Tuesday, 18 February 2020	Tuesday, 18 February 2020	Consultative workshop on drought monitoring Infohubs	PCDM, DCDM	DCA	Kampong Cham	29	25	4
Tuesday, 18 February 2020	Tuesday, 18 February 2020	EWS 1294	DCDM, CCDM, School principals	PIN	Takeo	135	123	12
Tuesday, 18 February 2020	Friday, 21 February 2020	Field Assessment for Solar Pumping	Women Champions	ActionAid	Koh Kong	11	5	6
Wednesday, 19 February 2020	Wednesday, 19 February 2020	Consultative workshop on drought monitoring Infohubs	PCDM, DCDM	DCA	Kampong Thom	22	19	3
Wednesday, 19 February 2020	Wednesday, 19 February 2020	EWS 1294	DCDM, CCDM, School principals	PIN	Takeo	66	57	9
Thursday, 20 February 2020	Thursday, 20 February 2020	Consultative workshop on drought monitoring Infohubs	PCDM, DCDM	DCA	Siem Reap	27	22	5
Thursday, 20 February 2020	Thursday, 20 February 2020	EWS 1294	DCDM, CCDM, School principals	PIN	Takeo	63	60	3
Thursday, 20 February 2020	Thursday, 20 February 2020	EWS 1294	DCDM, CCDM, School principals	PIN	Takeo	60	56	4
Friday, 21 February 2020	Friday, 21 February 2020	EWS 1294	DCDM, CCDM, School principals	PIN	Takeo	32	30	2
Monday, 24 February 2020	Friday, 28 February 2020	ADCON O&M training	MoWRAM, PDOWRAM	UNDP	Kampong Cham	43	34	9
Monday, 24 February 2020	Wednesday, 26 February 2020	CIP/CDP	PCDM, women champions, local development partners	ActionAid	Srae Ambel, Koh Kong	35	5	30
Monday, 24 February 2020	Thursday, 27 February 2020	Field Assessment for Solar Pumping	Women Champions	ActionAid	Kampot	13	6	7
Monday, 24 February 2020	Monday, 24 February 2020	Groundwater Management Strategy Consultation	Department of Water Supply and Sanitation	UNDP	Phnom Penh	25	18	7
Tuesday, 25 February 2020	Tuesday, 25 February 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Thom	33	5	28
Tuesday, 25 February 2020	Tuesday, 25 February 2020	EWS 1294	VDMG	PIN	Preah Sihanouk	15	8	7

Tuesday, 25 February 2020	Tuesday, 25 February 2020	EWS 1294	CCDM	PIN	Preah Sihanouk	15	11	4
Wednesday, 26 February 2020	Wednesday, 26 February 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Thom	29	12	17
Wednesday, 26 February 2020	Wednesday, 26 February 2020	EWS 1294	VDMG	PIN	Preah Sihanouk	23	5	18
Wednesday, 26 February 2020	Wednesday, 26 February 2020	EWS 1294	CCDM	PIN	Preah Sihanouk	18	15	3
Thursday, 27 February 2020	Thursday, 27 February 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Thom	26	3	23
Friday, 28 February 2020	Friday, 28 February 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Thom	24	7	17
Tuesday, 3 March 2020	Tuesday, 3 March 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Cham	21	9	12
Tuesday, 3 March 2020	Tuesday, 3 March 2020	Mangrove Planting Campaign	Community, schools, women champions, government	ActionAid	Kampot	332	206	126
Wednesday, 4 March 2020	Wednesday, 4 March 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Cham	16	9	7
Thursday, 5 March 2020	Thursday, 5 March 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Cham	42	25	17
Tuesday, 10 March 2020	Tuesday, 10 March 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Thom	39	4	35
Wednesday, 11 March 2020	Wednesday, 11 March 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Thom	41	0	41
Wednesday, 11 March 2020	Wednesday, 11 March 2020	EWS 1294	VDMG	PIN	Kep	13	6	7
Wednesday, 11 March 2020	Wednesday, 11 March 2020	EWS 1294	CCDM	PIN	Kep	26	21	5
Thursday, 12 March 2020	Thursday, 12 March 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Thom	35	16	19
Thursday, 12 March 2020	Thursday, 12 March 2020	EWS 1294	DCDM	PIN	Kandal	46	36	10
Thursday, 12 March 2020	Thursday, 12 March 2020	EWS 1294	DCDM	PIN	Kandal	65	55	10
Thursday, 12 March 2020	Thursday, 12 March 2020	EWS 1294	School	PIN	Kep	139	59	80
Friday, 13 March 2020	Friday, 13 March 2020	EWS 1294	DCDM	PIN	Kandal	74	60	14
Friday, 13 March 2020	Friday, 13 March 2020	EWS 1294	DCDM	PIN	Kandal	46	36	10
Monday, 16 March 2020	Monday, 16 March 2020	EWS 1294	DCDM	PIN	Kandal	49	42	7
Monday, 16 March 2020	Monday, 16 March 2020	EWS 1294	DCDM	PIN	Kandal	53	45	8

Tuesday, 17 March 2020	Tuesday, 17 March 2020	EWS 1294	DCDM	PIN	Kandal	32	26	6
Wednesday, 18 March 2020	Wednesday, 18 March 2020	EWS 1294	DCDM	PIN	Kandal	49	34	15
Wednesday, 18 March 2020	Wednesday, 18 March 2020	EWS 1294	DCDM	PIN	Kandal	72	57	15
Thursday, 19 March 2020	Thursday, 19 March 2020	EWS 1294	DCDM	PIN	Kandal	40	32	8
Thursday, 19 March 2020	Thursday, 19 March 2020	EWS 1294	DCDM, CCDM, School principals	PIN	Takeo	75	68	7
Friday, 20 March 2020	Friday, 20 March 2020	EWS 1294	DCDM	PIN	Kandal	45	46	9
Thursday, 9 April 2020	Thursday, 9 April 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Siem Reap	21	3	18
Wednesday, 22 April 2020	Wednesday, 22 April 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Siem Reap	16	0	16
Thursday, 23 April 2020	Thursday, 23 April 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Siem Reap	24	7	17
Tuesday, 12 May 2020	Tuesday, 12 May 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Siem Reap	20	6	14
Monday, 25 May 2020	Saturday, 30 May 2020	Advanced AWS O&M	DOM	ADCON	Phnom Penh	4	4	0
Monday, 1 June 2020	Monday, 1 June 2020	EWS 1294	CCDM	PIN	Takeo	14	12	2
Monday, 1 June 2020	Monday, 1 June 2020	EWS 1294	VDMG	PIN	Takeo	10	10	0
Tuesday, 2 June 2020	Tuesday, 2 June 2020	EWS 1294	CCDM	PIN	Takeo	16	13	3
Tuesday, 2 June 2020	Tuesday, 2 June 2020	EWS 1294	VDMG	PIN	Takeo	9	4	5
Wednesday, 3 June 2020	Wednesday, 3 June 2020	EWS 1294	CCDM	PIN	Takeo	20	17	3
Wednesday, 3 June 2020	Wednesday, 3 June 2020	EWS 1294	VDMG	PIN	Takeo	12	8	4
Thursday, 4 June 2020	Thursday, 4 June 2020	EWS 1294	CCDM	PIN	Takeo	20	19	1
Thursday, 4 June 2020	Thursday, 4 June 2020	EWS 1294	VDMG	PIN	Takeo	23	3	20
Friday, 5 June 2020	Friday, 5 June 2020	EWS 1294	School	PIN	Takeo	5	0	0
Friday, 5 June 2020	Friday, 5 June 2020	EWS 1294	School	PIN	Takeo	9	3	6
Saturday, 6 June 2020	Saturday, 6 June 2020	EWS 1294	Kouk Pou commune	PIN	Takeo	15	12	3
Saturday, 6 June 2020	Saturday, 6 June 2020	EWS 1294	School	PIN	Takeo	9	0	9
Tuesday, 16 June 2020	Tuesday, 16 June 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Thom	20	4	16

Wednesday, 17 June 2020	Wednesday, 17 June 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Thom	23	4	19
Thursday, 18 June 2020	Thursday, 18 June 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Thom	19	4	15
Friday, 19 June 2020	Friday, 19 June 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Thom	19	2	17
Friday, 19 June 2020	Friday, 19 June 2020	EWS 1294	School	PIN	Sihanoukville	87	52	35
Saturday, 20 June 2020	Saturday, 20 June 2020	EWS 1294	School	PIN	Phnom Penh	100	50	50
Monday, 22 June 2020	Monday, 22 June 2020	EWS 1294	School	PIN	Kandal	24	9	15
Tuesday, 23 June 2020	Tuesday, 23 June 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Kampong Thom	25	9	16
Tuesday, 23 June 2020	Tuesday, 23 June 2020	EWS 1294	CCDM	PIN	Kandal	23	23	0
Tuesday, 23 June 2020	Tuesday, 23 June 2020	EWS 1294	VDMG	PIN	Kandal	12	8	4
Wednesday, 24 June 2020	Wednesday, 24 June 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Siem Reap	24	6	18
Wednesday, 24 June 2020	Wednesday, 24 June 2020	EWS 1294	CCDM	PIN	Kandal	14	14	0
Thursday, 25 June 2020	Thursday, 25 June 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Siem Reap	17	1	16
Thursday, 25 June 2020	Thursday, 25 June 2020	EWS 1294	CCDM	PIN	Kandal	20	16	4
Thursday, 25 June 2020	Thursday, 25 June 2020	EWS 1294	VDMG	PIN	Kandal	20	14	6
Friday, 26 June 2020	Friday, 26 June 2020	EWS 1294	School	PIN	Kandal	15	11	4
Friday, 26 June 2020	Friday, 26 June 2020	EWS 1294	School	PIN	Kandal	27	17	10
Saturday, 27 June 2020	Saturday, 27 June 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Siem Reap	17	0	17
Saturday, 27 June 2020	Saturday, 27 June 2020	EWS 1294	CCDM	PIN	Kandal	8	8	0
Saturday, 27 June 2020	Saturday, 27 June 2020	EWS 1294	VDMG	PIN	Kandal	19	12	7
Tuesday, 30 June 2020	Tuesday, 30 June 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Siem Reap	18	9	9
Wednesday, 1 July 2020	Wednesday, 1 July 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Siem Reap	18	2	16
Friday, 3 July 2020	Friday, 3 July 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Siem Reap	25	6	19
Saturday, 4 July 2020	Saturday, 4 July 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Siem Reap	25	5	20

Sunday, 5 July 2020	Sunday, 5 July 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Siem Reap	24	7	17
Monday, 6 July 2020	Monday, 6 July 2020	EWS 1294	DCDM	PIN	Phnom Penh	35	31	4
Tuesday, 7 July 2020	Tuesday, 7 July 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Siem Reap	27	6	21
Tuesday, 7 July 2020	Tuesday, 7 July 2020	EWS 1294	DCDM	PIN	Phnom Penh	20	19	1
Tuesday, 7 July 2020	Tuesday, 7 July 2020	EWS 1294	DCDM	PIN	Phnom Penh	22	19	3
Wednesday, 8 July 2020	Wednesday, 8 July 2020	Cascade Training on DRAT	Farmers	DCA -> AC Leaders	Siem Reap	28	2	26
Wednesday, 8 July 2020	Wednesday, 8 July 2020	EWS 1294	DCDM	PIN	Phnom Penh	32	30	2
Wednesday, 8 July 2020	Wednesday, 8 July 2020	EWS 1294	DCDM	PIN	Phnom Penh	37	35	2
Thursday, 9 July 2020	Thursday, 9 July 2020	EWS 1294	DCDM	PIN	Phnom Penh	32	23	9
Thursday, 9 July 2020	Thursday, 9 July 2020	EWS 1294	DCDM	PIN	Phnom Penh	52	46	2
Friday, 10 July 2020	Friday, 10 July 2020	EWS 1294	DCDM	PIN	Phnom Penh	40	29	11
Friday, 10 July 2020	Friday, 10 July 2020	EWS 1294	DCDM	PIN	Phnom Penh	36	34	2
Monday, 13 July 2020	Monday, 13 July 2020	EWS 1294	DCDM	PIN	Phnom Penh	29	24	5
Monday, 13 July 2020	Monday, 13 July 2020	EWS 1294	DCDM	PIN	Phnom Penh	24	19	5
Tuesday, 14 July 2020	Tuesday, 14 July 2020	EWS 1294	DCDM	PIN	Phnom Penh	33	27	6
Tuesday, 14 July 2020	Tuesday, 14 July 2020	EWS 1294	DCDM	PIN	Phnom Penh	23	21	2
Wednesday, 15 July 2020	Wednesday, 15 July 2020	EWS 1294	DCDM	PIN	Phnom Penh	30	29	1
Sunday, 19 July 2020	Sunday, 19 July 2020	EWS 1294	School	PIN	Phnom Penh	97		
Tuesday, 28 July 2020	Tuesday, 28 July 2020	Exchange Visit	Farmers	DCA	Kampong Chhnang	28	13	15
Thursday, 30 July 2020	Thursday, 30 July 2020	DRAT Training	PCDM	DCA	Kampong Speu	16	16	0
		Stakeholders Consultation Meeting	Stakeholders	UNDP	Phnom Penh	12	12	0
	Ongoing Q3 2016	SAGE 50 accounting software	MoWRAM	Project team?	Phnom Penh	2	0	2
						11,868	7,300	4,019
Note:							**64.09%**	**35.91%**

Annex 8: Updated Tracking Tool

Annex 9: Evaluation Consultant Agreement Form

Evaluators/Consultants:

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

Terminal Evaluation Consultant Agreement Form

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

Name of Consultant:

Name of Consultancy Organization (where relevant): INDIVIDUAL CONSULTANT

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

Signed at (Jordan) on (August 2020)

Signature: 

Annex 10: Evaluation Report Clearance Form

(to be completed by CO and UNDP GEF Technical Adviser based in the region and included in the final document)

Evaluation Report Reviewed and Cleared by
UNDP Country Office

Name: _Rany Pen_____

Signature: _____ _____ Date: ___15 October 2020____

UNDP GEF RTA
Name: Karma Lodey Rapten

Signature: ____ _____ Date: _19 Oct 2020

Annex 11: Annexed in a separate file - TE Audit Trail