



# **MID-TERM REVIEW**

## **Final Report**

### **Promoting Climate-Resilient Water Management and Agricultural Practices in Rural Cambodia Project in Cambodia**

GLOBAL ENVIRONMENT FACILITY  
UNITED NATIONS DEVELOPMENT PROGRAMME

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# Acknowledgement

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# Table of Contents

<b>Executive Summary .....</b>	<b>5</b>
<b>Section 1: Introduction, Purpose and Methodology of the Review .....</b>	<b>10</b>
1.1 Background to the Review .....	10
1.2 Purpose and objectives of the evaluation .....	10
1.2.1 Purpose.....	10
1.2.2 Scope and objectives .....	10
1.3 Organisation of the Evaluation .....	11
1.4 Methodology .....	12
1.4.1 Methodological approach.....	12
1.4.2 Evaluation framework.....	12
1.4.3 Triangulation of data .....	14
1.5 Limitations .....	14
1.6 Format of the Report .....	15
<b>Section 2: Introduction to NAPA Follow Up Project Context and Content.....</b>	<b>16</b>
2.1 The Programme Context and Objectives .....	16
2.2 Implementation Modality and Management .....	18
2.3 Climate Change Adaptation and Mitigation – Programming Issues .....	19
2.4 Project Activities and Resources .....	20
<b>Section 3: Evaluation Findings on Planned Outcomes.....</b>	<b>22</b>
3.1 Outcome 1 - Improved Capacity to Manage Agricultural Water Resources:.....	22
3.1.1 Incorporating climate risks into provincial and commune development plans.....	23
3.1.2 Capacity of FWUCs and MoWRAM on climate-resilient irrigation design.....	24
3.1.3 Conflict management and resolution .....	24
3.1.4 Community-based early warning system .....	24
3.2 Demonstrate Locally Appropriate Adaptation Options: .....	25
3.2.1 Introduction of new varieties .....	25
3.2.2 Diversification of livelihoods .....	26
3.2.3 Household water supply .....	26
3.2.4 Biogas plants demonstration .....	27
3.2.5 FWUC and climate-resilient irrigation design .....	27
3.3 Lessons and Replicability .....	29
<b>Section 4: Assessment Against GEF Performance Indicators .....</b>	<b>31</b>
4.1 Achievement of Objectives, Planned Outputs and Results .....	31
4.2 Financial Planning and Cost Effectiveness .....	33
4.3 Coverage .....	34
4.4 Impact and Sustainability .....	35
4.5 Replicability .....	36
4.6 Implementation Approach .....	38
4.7 Stakeholder Participation, Country Ownership and Acceptability .....	39
4.8 Monitoring and Evaluation .....	41
<b>Section 5: Overall Summary, Lessons and Recommendations.....</b>	<b>42</b>
 <b>Annexes</b>	
Annex 1 Terms of Reference for Mid-term Review of NAPA Follow Up project	
Annex 2 Inception Report - Mid-term Review of NAPA Follow Up project	
Annex 3 List of People Interviewed and site visits made by review team	
Annex 4 List of key documents studied	
Annex 5 NAPA FU – Strategic Results Framework	

## Abbreviations

ADB	Asian Development Bank
CARDI	Cambodian Agricultural Research and Development Institute
CC	Climate Change
CCBAP	Cambodia Community Based Adaptation Programme
CCCA	Cambodia Climate Change Alliance
CCD	Climate Change Department
CIP	Commune Investment Plan
CO	Country Office (of UNDP)
CPAP	Country Programme Action Plan
Cu. Mtr	Cubic metre
EU	European Union
EW	Early Warning
EWS	Early Warning System
EXCOM	Executive Committee
FAO	Food and Agriculture Organisation
FGD	Focus Group Discussion
FU	Follow Up
FWUC	Farmer Water User Communities
GEF	Global Environment Facility
IFAD	International Fund for Agricultural Development
LDCF	Least Developed Countries' Fund
MAFF	Ministry of Agriculture, Forestry and Fisheries
MoEF	Ministry of Economy and Finance
MoP	Ministry of Planning
MoWA	Ministry of Women's Affairs
MoWRAM	Ministry of Water Resources and Meteorology
MTR	Mid-Term Review
NAPA	National Adaptation Programme of Action for Climate Change
NCDD	National Committee for Sub-National Democratic Development
NEX	National Execution
NIM	National Implementation
OFAT	On-Farm Adaptive Trial
PA	Provincial Administration
PDoA	Provincial Department of Agriculture
PDoWA	Provincial Department of Women's Affairs
PDoWRAM	Provincial Department for Water Resources and Meteorology
PIP	Provincial Investment Plan
PIR	Project Implementation Report
PPCR	Pilot Programme for Climate Resilience
PSU	Project Support Unit
RGC	Royal Government of Cambodia
RULIP	Rural Livelihoods Improvement Project
SCW	Save Cambodian Wildlife
SSI	Semi-Structured Interview
ToR	Terms of Reference
UNCDD	United Nations Convention to Combat Desertification
UNDAF	United Nations Development Assistance Framework
UNFCCC	United Nations Framework Convention on Climate Change
US\$	United States Dollar

## Executive Summary

“Promoting Climate-Resilient Water Management and Agricultural Practices in Rural Cambodia” is a four-year project (2009-2013) – also called NAPA Follow Up project. It is funded by UNDP and GEF/LDC Fund (Global Environment Facility/Least Developed Countries Fund), and implemented by the Ministry of Agriculture, Forestry and Fisheries (MAFF). NAPA FU project was one of the first initiatives in Cambodia to translate adaptation agenda from policy level into practice at provincial and commune levels, following up to the ‘National Adaptation Programme of Action for Climate Change (NAPA)’ launched by the Royal Government of Cambodia (RGC) in 2006.

As per the monitoring and evaluation (M & E) plan of the project, an independent mid-term review (MTR) was due at the end of two years of project implementation. In fulfilment of this requirement, this evaluation<sup>1</sup> was undertaken during May and June 2012 by a team of two independent consultants to assess the effectiveness and results of the four-year project. The review assessed the overall performance against the following GEF performance indicators for climate change adaptation and attempted to analyse the external and internal factors that have contributed to or hindered the project implementation and outcome, and draw lessons from these.

The evaluation also used a balanced score card method to rate<sup>2</sup> the overall achievements on a scale of 1-5 (in descending order) against these indicators<sup>3</sup>:

- Achievement of objectives and attainment of outputs
- Financial planning and cost-effectiveness
- Coverage
- Impact and sustainability
- Replicability
- Implementation approach
- Stakeholder participation, country ownership, and acceptability
- Monitoring and evaluation

### Overall Findings:

In the two years since inception, the project has been well embedded in the government system, and is driven by the latter, with participation from key line Ministries. The project has succeeded in facilitating close working relationship at provincial level among key line departments.

The project has done well to create general awareness in the provinces and villages about climate change and how it affects communities, and has been instrumental in getting provincial investment programmes in Preah Vihear and Kratie, and commune investment programmes in at least ten communes incorporate climate change agenda.

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<sup>1</sup> The phrase ‘mid-term review’ and ‘evaluation’ are used in this document interchangeably

<sup>2</sup> Rating 1 (excellent) – Achievement 90-100%; Rating 2 (very good) – Achievement 75-90%; Rating 3 (good) Achievement 60-74%; Rating 4 (satisfactory) – Achievement 50-59%; and Rating 5 (unsatisfactory) – Achievement 49% or less.

<sup>3</sup> The GEF performance indicators have a total of 13 criteria (Terms of reference, Annex 1). However, some of these criteria have been merged together in this review as several of these were intricately linked – for example, GEF defines Stakeholder participation, Country ownership and Acceptability as three separate criteria, while in this evaluation these have been combined into one.

The approach taken by the project in defining roles and responsibilities of various implementing agencies was highly appropriate and in the long run sustainable. Integrating the project with provincial administration (PA) may have sometimes caused delays in implementation of the project. Going into the future, creative ways will have to be found to speed up decisions related to recruitments and procurements without undermining the integration with provincial administration, while the decentralisation/ deconcentration issues are resolved nationally.

The project has done well to create general awareness in the provinces and share lessons on climate change (CC) at a technical level. However, its ability to influence national debates and policies remain weak due to its preoccupation with implementing a large number of activities, not all of which generate relevant evidence-base for developing convincing policy messages.

### Key Lessons:

There are six key lessons that emerge from the findings of this review:

1. Social mobilisation: The project has targetted entire communities for several adaptation interventions like rice seed purification, awareness raising and communal irrigation projects which are making difference to the communities, albeit in a limited way, in finding adaptation solutions. However, in terms of participation of communities at the grassroots level, social mobilisation is currently weak and is driven primarily by needs of the project, rather than being internally driven by communities.
2. Limitations of spreading too thin: The potential impact the project could make has been constrained by how the project has gone about selecting certain activities and beneficiaries in a scattered manner that has militated against a consolidated impact. The project is currently spread too thinly and targets a handful of resource-rich farmers – especially for the household support - from several villages in each commune. Even successful interventions using this approach can only provide limited valid data which the entire community can relate to, compared to what could have been possible if an entire village community – albeit small – was taken as a unit of intervention. Through the latter approach, the project could enable a community to undertake a total village analysis – of their livelihood needs, resource requirements, bio-mass requirements, production and withdrawals from natural resources, vulnerability to climate changes, and development and adaptation needs. This would also help generate bottom-up adaptation solutions taking into account a community's multi-faceted needs.
3. Lessons shared at technical level: Being a pilot project, its key rationale lies in ability to systematically draw and disseminate lessons, and engage in dialogue with policy makers and planners at provincial and national level to ensure scaling and replication of successful 'models'. Towards these ends, the project is yet to grow beyond engagements at technical level. The project's ability to influence national debates and policies remain weak due to its preoccupation with implementing a large number of activities, not all of which generate relevant evidence-base for developing convincing policy messages.
4. Learning from earlier experiences: The early warning system (EWS) is a key element of adaptive strategy. However, given that previously installed EWS collapsed due to lack of financial support from the Government, unless the project is able to successfully lobby with provincial administrations for financial support after the project duration, the sustainability of the system will remain a question.

5. Diversification for adaptation: Introduction of new variety or rice and seed purification techniques has been successful adaptation interventions. These measures need to be supplemented by crop diversification which allow farmers to grow crops and trees which can withstand varying water regimes in the same growing season as insurance against total crop failure in the event of serious environmental shocks. Likewise, interventions towards diversification of livelihood options and demonstrating household water supply systems have been planned and implemented in an *ad hoc* way, with little coherent analysis of either the issues these were trying to address, or the value these models added to finding adaptation solutions, especially for the vulnerable sections of the rural community.

6. Irrigation structures: The main emphasis of the project so far has been on creating communal irrigation structures which are needed in the area anyway, and ought to be part of any on-going development work. Design, maintenance and utilisation issues which dogged irrigation structures in the country in the past remain to be addressed. While assured irrigation is one of the elements of CC adaptation, besides structures, an integrated approach involving efficient soil and water management, adjusting/diversifying cropping patterns and farming practices in response to climate changes are necessary to increase the resilience of farmers.

### Assessment against GEF Criteria:

Criteria	Finding	Rating
Achievement of objectives, planned outputs and results	<p>1. In the remaining duration of the project, it needs to review and re-design how activities like income generation, household water supply, communal irrigation structures are planned, with whom they are planned, clear analysis of who benefits and how it generates adaptation solutions, and how these are implemented.</p> <p>2. Implementing staff would require greater orientation to outcome-oriented planning, monitoring and implementation.</p>	4 (Satisfactory)
Financial planning and cost-effectiveness	<p>1. Implementation of the project suffers from delays, mainly due to complex array of unclear procedures at PA level, some of which are beyond the project's control.</p> <p>2. The project staff need to use cost-benefit and effectiveness measures in planning and implementing all activities.</p>	4 (Satisfactory)
Coverage	Geographically the project has selected appropriate area for its work. However, currently the project is spread too thinly and targets a handful of resource-rich farmers – especially for the household support - from several villages in each commune. Even successful interventions using this approach can only provide limited valid data which the entire community can relate to compared to what could have been possible if	3 (Good)

	an entire village community – albeit small – was taken as a unit of intervention.	
Impact and sustainability	The potential impact the project could make has been constrained by how the project has gone about selecting certain activities and beneficiaries in a scattered manner that has militated against a consolidated impact.	4 (Satisfactory)
Replicability	NAPA FU has been relatively (in comparison with implementation of activities on the ground) weak on systematic synthesis and dissemination of lessons emerging from the project. In order to generate evidence-based advocacy and communicate messages, the project needs to reorient some of its activities toward producing credible data to show how communities are generating adaptation solutions and increasing their resilience to climate change.	4 (Satisfactory)
Implementation approach	The approach taken by the project in defining roles and responsibilities was highly appropriate and in the long run sustainable. This may have sometimes caused inefficiency in implementation of the project. Going into the future, creative ways will have to be found to speed up decisions related to recruitments and procurements without undermining the integration with PA, while the decentralisation/ deconcentration issues are resolved nationally	2(Very good)
Stakeholder participation, country ownership and acceptability	In the two years of the project implementation, it has been well embedded in the government system, and is driven by it, with participation from key line Ministries. However, in terms of participation of communities at the grassroots level, social mobilisation is currently weak and is driven primarily by needs of the project, rather than being internally driven by communities.	3 (Good)
Monitoring & evaluation	The project is good on use of routine monitoring using tools, such as: output log, field visit, spot check, audit, Project Implementation Reports, quarterly and annual progress reports. However, capturing outcome through case studies and systematic evidence-based data needs strengthening.	4 (Satisfactory)



## Recommendations:

- R1: UNDP needs to support the implementing agencies at provincial and district level in participatory processes and social mobilisation, especially with regard to understanding of local vulnerability, community power dynamics, household economy and participation of poor in development activities.
- R2: In the remaining duration of the project, the project needs to review and re-design how activities like income generation, household water supply, communal irrigation structures are planned, with whom they are planned, clear analysis of who benefits and how these generate adaptation solutions, and how these are implemented.
- R3: In order to generate evidence-based advocacy and communicate messages, the project needs to reorient some of its activities toward producing credible data to show how communities are generating adaptation solutions and increasing their resilience to climate change. One approach would be to take an entire village community – albeit small – as a unit of intervention. Through the latter approach, the project could enable a community to undertake a total village analysis – of their livelihood needs, resource requirements, bio-mass requirements, production and withdrawals from natural resources, vulnerability to climate changes, and development and adaptation needs. This would also help generate bottom-up adaptation solutions taking into account a community's multi-faceted needs.
- R4: In order to address the delays caused by complex array of unclear procedures at PA level, the project needs to have regular dialogue with the office of the provincial Governors at senior level and resolve bottlenecks that arise.
- R5: Implementing staff would require greater orientation to outcome-oriented planning, monitoring and implementation. The project staff need to use cost-benefit and effectiveness measures in planning and implementing all activities.

## Section 1

# Introduction, Purpose and Methodology of the Review

### 1.1 Background to the Review:

Cambodia is one of the top ten most-vulnerable countries to climate-changed induced factors in dealing with its water resources and their effects on peoples' lives and livelihoods which are predominantly based on subsistence farming. There is increasing evidence that increased frequency and severity of floods, dry spell and droughts are affecting Cambodia's predominantly rural-based livelihoods and food security systems. The impact of climate change on Cambodian agriculture, particularly on rice cultivation, is predicted to adversely affect food production and food security in rural areas.

"Promoting Climate-Resilient Water Management and Agricultural Practices in Rural Cambodia" is a four-year project (2009-2013) funded by UNDP and GEF/LDC Fund (Global Environment Facility/Least Developed Countries Fund)<sup>4</sup> and implemented by the Ministry of Agriculture, Forestry and Fisheries (MAFF). This is the first project following up to the 'National Adaptation Programme of Action for Climate Change (NAPA)' launched by the Royal Government of Cambodia (RGC) in 2006. As per the monitoring and evaluation (M & E) plan of the project, an independent mid-term review (MTR) is due at the end of two years of project implementation. In fulfilment of this requirement, this evaluation<sup>5</sup> was undertaken during May and June 2012 by a team of two independent consultants, one international and one national.

This report presents findings and conclusions from the MTR.

### 1.2 Purpose and Objectives of the Evaluation:

#### 1.2.1 Purpose

As outlined in the terms of reference (Annex 1), this evaluation is a mid-term review (MTR) to assess the effectiveness and results of a four-year NAPA Follow-up (FU) project. While examining results of the project, the evaluation will particularly assess how the project outcomes contributed to the higher level UNDAF (United Nations Development Assistance Framework) outcomes and UNDP's Country Programme Action Plan (CPAP) outcomes, and based on the lessons and findings from the evaluation, comment on future direction of this programme.

#### 1.2.2 Scope and objectives

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<sup>4</sup> With contributions from RGC

<sup>5</sup> The phrase 'mid-term review' and 'evaluation' are used in this document interchangeably

The evaluation concentrated on the first two years<sup>6</sup> of project implementation. The geographical scope of the evaluation covered two provinces namely, Preah Vihear and Kratie where the project is being implemented. As the NAPA FU project was designed as a pilot project to test and develop models for adaptation that can be replicated widely, work was carried out in one district in each of these provinces (Choam Khsan in Preah Vihear and Chet Borei in Kratie), and the evaluation covered work in both these geographical areas.

In order to achieve the above purpose, the MTR focused on the following objectives:

The specific objectives of the review were as follows:

1. examine the project design and assess its relevance and appropriateness in the context of Cambodia in terms of addressing climate change issues;
2. assess the progress of the project vis-a-vis the original plan and logframe and suggest any course correction that may be necessary;
3. assess the function and role of the project board in providing guidance, coordination and oversight in implementation of the project, and examine the technical assistance provided to the project by partners including UNDP;
4. examine the management and administration of the project by Ministry of Agriculture, Forestry and Fisheries (MAFF) and Ministry of Water Resources and Meteorology (MoWRAM) at national and sub-national level;
5. analyse the extent of participation of local institutions and stakeholders in the project, and assess the institutional cooperation and cross-sectoral synergies created by the project;
6. assess the administration and operational management of the project; and
7. comment on the sustainability of the project and its demonstrative effect and replicability – what lessons can be drawn from the project for future?

While examining the project in the above areas, the review also assessed the overall performance against GEF performance indicators for climate change adaptation and attempted to identify and analyse the external and internal factors that have contributed to or hindered the project implementation and outcome, and draw lessons from these.

### 1.3 Organisation of the Evaluation:

The evaluation was commissioned by the UNDP country office (CO) in Cambodia and managed by a Programme Analyst who oversees the NAPA FU project. Through an international recruitment process two independent consultants were selected and tasked to carry out the evaluation. The field visit for the evaluation took place during 27 May to 12 June 2012. The NAPA FU team provided support in arranging meetings and interviews, field visits and ensured that the MTR team had access to necessary documents.

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<sup>6</sup> The project was launched on 1 September 2009 and it had an inception phase till February 2010, with actual implementation of project activities starting from March 2010.

The evaluators and declaration of any bias:

Abhijit Bhattacharjee is an independent evaluation and strategy expert with over twenty-nine years of senior management and consulting experience in international organisations in various parts of the world. With extensive experience in NGOs, the United Nations, Government aid agencies and Red Cross/Red Crescent Movement, he has carried out short-term consulting assignments for UNDP (and other UN agencies) from time to time, but has never sought or occupied any full- or part-time staff position in any of the UN agencies, and had not worked in Cambodia previously for any agency.

Mr. Chun Nimul, a Cambodian national, is a Monitoring and Evaluation Specialist with a background in agricultural engineering. Mr. Nimul has worked for a number of organisations, including: the Royal University of Agriculture, World Vision International Cambodia, UNDP, Economic Institute of Cambodia, European Commission, International Child Support, NGO Forum, ADB, Social Promotion of the Culture Foundation (FPSC) and Netherlands Development Organisation (SNV). He has never occupied any staff position with UNDP.

Following an initial briefing in Phnom Penh and prior to the commencement of fieldwork, the MTR team produced an inception report<sup>7</sup> outlining key elements of the evaluation approach, framework and methodology which were agreed with the CO. In the fieldwork phase, the evaluators travelled to the two provinces to gather data from an extensive range of sources, including provincial and district government authorities, commune councils, beneficiary communities and NAPA FU project staff. A full itinerary of the evaluators is given at Annex 5. At the end of the field visit an exit debrief was conducted in Phnom Penh with key officials of NAPA FU Programme Support Unit (PSU) and UNDP Programme Analyst where the team presented preliminary findings, following which draft reports were circulated for comments and further validation before the report was finalised.

## 1.4 Methodology:

### 1.4.1 Methodological approach

The overall methodology was based on both inductive and deductive approaches using qualitative data gathered through a mixed-method approach from a carefully selected range of sources as indicated below.

The data collection for this evaluation was mainly done through purposively selected key informant interviews (KIIs), semi-structured discussions (SSI), documents research, specific data points requested of UNDP/MAFF-PSU, case studies and carefully structured focus group discussions (FGD) with communities in the two provinces (Kratie and Preah Vihear) which were visited during the evaluation. The evaluation also used the data from documents made available by UNDP.

### 1.4.2 Evaluation framework

The evaluation used GEF's performance indicators as below to answer the key evaluation questions detailed in the ToR. The evaluation also used a balanced score card method to rate<sup>8</sup> the overall achievements on a scale of 1-5 (in descending order) against these indicators:

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<sup>7</sup> Attached as Annex 2

<sup>8</sup> Rating 1 (excellent) - Achievement 90-100%; Rating 2 (very good) – Achievement 75-90%; Rating 3 (good) – Achievement 60-74%; Rating 4 (satisfactory) – Achievement 50-59%; and rating 5 (unsatisfactory) – Achievement 49% or less.

- Achievement of objectives and planned results
- Attainment of outputs and planned activities
- Cost-effectiveness
- Coverage
- Impact
- Sustainability
- Replicability
- Implementation approach
- Stakeholder participation
- Country ownership
- Acceptability
- Financial planning
- Monitoring and evaluation

In presenting the report against the above criteria, some of these were merged together (section 4) as several of these had overlapping dimensions and data available made it difficult to disaggregate because of their inter-connectedness.

## Key methods and sources of data

### 1. Semi-structured interviews, focus group discussions and site visits

The review conducted key informant interviews, semi-structured interviews (SSI) and focus group discussions (FGD) with the stakeholders – senior and mid-level government officials, commune councils, beneficiary communities, Farmers' Water User Committees (FWUC), individual farmers.

Overall, the MTR team met with 50 government officials (MAFF, MoEF, MoE, Provincial Departments and Administration, district and commune officials), 11 UNDP/NAPA FU staff, 20 individuals who were direct beneficiaries of income generating activities/household water projects, and conducted FGDs in 5 locations/groups (early warning volunteers, animal feed group, agricultural improvement group, seed multiplication group). All total, 76 individuals were interviewed through a semi-structured process, besides several others (individual beneficiaries) who were randomly spoken to without any structured process. The following table shows the breakdown of primary data sources (key informants, FGDs, semi-structured interviews and site visits) in different locations during the fieldwork:

Table 1: Details of interviews and site visits conducted by the MTR team

Primary data sources	Preah Vihear	Kratie	Phnom Penh
UNDP staff	1	1	9
MAFF-PSU staff	0	0	4
MAFF/PDoA	6	5	1
Other Ministries/Departments/PA	8	11	7
District/Commune officials	2	6	0
Donor Agencies	0	0	3
NGOs/CARDI	0	0	5
Farmers/beneficiaries	12	8	0
FGDs with groups	3	2	0

## 2. Documents

Key documents were also used to supplement data gathered through case studies, SSIs and FGDs. Some of the vital documents which were examined by the MTR are as follows:

- NAPA FU Project documents
- CPAP document
- UNDAF document
- Provincial strategic development plans (2), provincial investment plans (2) and commune investment programme documents (10)
- Financial data showing breakdown of expenses on different activities/ interventions in the project
- UNFCCC (United Nations Framework Convention on Climate Change) documents
- Financial data showing breakdown between management/administrative costs and programme costs.

A detailed list of the key documents consulted is attached as Annex 4.

## 3. Research questions based on the evaluation framework

Based on the objectives and evaluation framework, specific questions for research were developed and used during the inception phase. These are provided as Annex 5 and formed the reference point for data gathering and analysis.

### 1.4.3 Triangulation of data

Triangulation is a core principle in mixed-method data collection as it ensures that results are linked up into a coherent and credible evidence base. This evaluation relied mainly on:

- Source triangulation. The consultants compared information from different sources, i.e. at various management levels in different functional units and organisations (UNDP CO, MAFF-PSU, MoWRAM, MoWA, PDoWRAM, PDoWA, PDoA), commune councils, community-based organisations (FWUC, women's groups, farmers' groups) and data available from various reports;
- Method triangulation. The consultants compared information collected by different methods, e.g. interviews, focus group discussion, document review; and
- Oral presentation of preliminary findings and conclusions to MAFF-PSU and NAPA FU stakeholders (UNDP, MoWRAM, MoWA) in Phnom Penh as part of the validation process.

## 1.5 Limitations:

As per the ToR, the MTR was expected to review the work plan of the project for the remainder of the project duration. The MTR has not attempted to undertake this as it needs to be a

separate exercise to follow management action on this report. Given that some of the findings and recommendations of this review, if accepted, may lead to major revisions to how the project is implemented in future, a revision of the work plan ought to follow this assimilation process.

### 1.6 Format of the Report:

The report is presented in five sections. Section 2 gives a brief introduction to the context of the NAPA FU project, followed by presentation of key findings in section 3. Section 4 draws conclusions based on the criteria for evaluation as per the ToR and evaluation framework. In sections 3 and 4, wherever relevant, the report draws conclusions and makes recommendations at the end of each sub-section. In the final section (section 5), the report summarises the overall findings and presents recommendations for future.

## Section 2

# Introduction to NAPA Follow Up Project Context and Content

## 2.1 The Programme Context and Objectives:

Cambodia has reduced its nation-wide poverty from 47% in 1993 to 30 % in 2007. However, a third of Cambodians still live below the national poverty line.<sup>9</sup> Poverty in Cambodia is overwhelmingly a rural phenomenon. Of the country's total number of poor, 4.4 million (93.4%) live in rural areas while 0.3 million (6.6%) live in urban areas. Most of them depend on agriculture for their livelihood, but at least 12 per cent of poor people are landless.<sup>10</sup> Small-scale farmers practice agriculture at the subsistence level, using traditional methods with low productivity. Rice is the principal crop occupying at least 82% of the cultivated agricultural land, with corn and cassava jointly accounting for a further 8%.<sup>11</sup> Of the total rice crop, 87% (2.2 million hectares) is grown in the wet season. The Food and Agriculture Organisation (FAO) estimated<sup>12</sup> that only about 17% of the rice crop is fully irrigated,<sup>13</sup> with rest relying on rainfall – that means about 83% of rice of the rice crop is entirely or largely dependent on rainfall.

The combination of high poverty levels and high dependence on rain-fed agriculture which is based on predominantly a one-crop-farming system renders Cambodia's rural economy highly vulnerable to seasonality shocks due to climatic factors. The 2008 climate change profile for Cambodia projected that the mean annual temperature will increase by 0.7 to 2.7°C by the 2060s, and a further 1.4 to 4.3 degrees by the 2090s.<sup>14</sup> Rainfall is expected to increase in June-August and September-November, and decrease in the dry season (December-February), according to the same document. The proportion of total rainfall that falls in heavy rainstorms is projected to increase. Already there is emerging evidence that agriculture-based livelihoods and overall food security in Cambodia are being affected by increasing frequently and severity of floods, dry spells and drought events.<sup>15</sup>

In response to the issues discussed above and in line with the priority interventions outlined in the Cambodian National Adaptation Programme for Actions (NAPA) to climate change, the United Nations Development Programme (UNDP) supported the Ministry of Agriculture, Forestry and Fisheries (MAFF) in designing the project 'Promoting Climate-

<sup>9</sup> UNDP Cambodia. Key facts about poverty reduction in Cambodia (<http://www.un.org.kh/undp/what-we-do/poverty-reduction/poverty-reduction>; date accessed: 12 June 2012)

<sup>10</sup> IFAD (undated). *Enabling the rural poor to overcome poverty in Cambodia*

<sup>11</sup> UNDP Cambodia. *Climate Resilience Through Water Management Capacity*, Julian Abrams, September 2011

<sup>12</sup> Cited in UNDP Cambodia. *Climate Resilience Through Water Management Capacity*, Julian Abrams, September 2011

<sup>13</sup> MoWRAM estimate a rather larger area under irrigation of about 417,000 ha of dry season rice and about 629,000 ha of wet season rice in 2007; however these figures include recession crops and wet season crops with only partially effective supplementary irrigation.

<sup>14</sup> UNDP Cambodia. *Capacities to conserve bio-diversity and to respond to climate change. OUTCOME EVALUATION 2006-2010 FINAL* 05.11.2010

<sup>15</sup> UNDP Cambodia. *Inception Report – Promoting Climate-resilient Water Management and Agricultural Practices in Rural Cambodia*. March 2010



Resilient Water Management and Agricultural Practices in Rural Cambodia’ which was partly funded by GEF through its LDCF. The project focuses on piloting climate change-resilient agricultural water management in two provinces, Preah Vihear province in Choam Khsan district and Kratie Province in Chit Borey district.

The objective of the project is to contribute to reducing the vulnerability of Cambodia’s agricultural sector to climate-induced changes to water resource availability. As part of Cambodia’s climate change (CC) adaptation programme, the NAPA FU was one of the first projects to have been initiated to address immediate needs and concerns of people at the grassroots level for adaptation in key sectors such as agricultural water resources. This follow up project consolidates the progress made in the NAPA project through practical actions at sub-national (provincial, district and commune) level, to achieve the following outcomes:

Outcome 1: Improved capacity of local institutions to manage agricultural water resources in a changing climate;

Outcome 2: Locally appropriate adaptation options demonstrated to reduce exposure to climate change-induced risks; and

Outcome 3: Lessons learned in project pilot sites replicated in other vulnerable areas of Cambodia.

The key outputs that are to be delivered against each outcome are summarised in Table 2 below:

Table 2: Key outputs against the three outcomes targetted by the project

Outcomes	Outputs
Outcome 1: Improved capacity of local institutions	1.1 Commune council plans and budgets address inherent climate risks in target districts.
	1.2 FWUCs and MoWRAM engineers trained in climate-resilient irrigation design
	1.3 Conflict potential in areas prone to climate-induced water shortages assessed and conflict prevention measures supported.
	1.4 A community-based climate information system on flooding and drought events established.
Outcome 2: Locally appropriate adaptation options	2.1 Improved rainwater harvesting facilities demonstrated in 20 villages.
	2.2 Resilient farming methods to climate-induced changes in rainfall intensity and distribution demonstrated.
	2.3 Resilient design and management of reservoirs, irrigation canals, ponds and dykes demonstrated.
Outcome 3: Lessons learned and replication	3.1 Increased public awareness and environmental education programmes on climate risk reduction designed and implemented.
	3.2 Learning networks for climate-resilient farming practices established.
	3.3 Media supported (TV, radio) dissemination of project lessons
	3.4 Review of national policies on CC adaptation based on lessons generated by the project.

## 2.2 Implementation Modality and Management:

Within UNDP, the project comes under what is called National Implementation modality (NIM or NEX<sup>16</sup>) whereby the primary ownership of the project and responsibility for implementation lies with the national government, and funds are channelled by UNDP through the government agencies. MAFF Project Support Unit (PSU) is primarily responsible for the overall management of project activities, reporting, accounting, monitoring and evaluation of the project, supervision of the implementing agents and financial management of UNDP/LDCF resources. MAFF PSU is accountable to the Government and to UNDP/GEF for the production of outputs and for the achievement of project objectives.<sup>17</sup>

At the national level, the project is overseen by a Project Board which is responsible for its governance. The Board meets twice a year and is headed by a Secretary of State in the MAFF who is also the Project Director for the NAPA FU project, and includes the following members:

- Representatives from MoWRAM, MoWA, Ministry of Environment (MoE) and Governors of two provinces
- IFAD representative
- UNDP representatives

The implementing agencies include the following government institutions and non-governmental organisations (NGOs) which provide technical services and carry out project activities:

- MAFF-PSU provides technical services for the delivery of results related to agricultural development. At the national level, the project activities are executed by MAFF PSU.
- MoWRAM is responsible for the water and irrigation related activities, as it has the mandate in water resources planning. At the provincial level, water resource management related activities is implemented by the Provincial Departments of Water Resources and Meteorology (PDoWRAM). MoWRAM also sits on the project board as a senior beneficiary.
- MoE/GEF focal point sits on the project board. MoE/CCD provides also technical support in building understanding of project stakeholders and beneficiaries on climate change issues.
- Ministry of Women's Affairs (MoWA). This Ministry, particularly its Gender Climate Change Committee,<sup>18</sup> joined the project board in 2011 and is actively involved in coordinating the project activities with its line department.
- At the sub-national level, Executive Committee (ExCom) is one of the implementing agencies. Since mid-2011, the structure has been replaced by the Provincial Administration (PA) carrying out a coordination role for the provincial line departments involved in the project activities, namely the Provincial Department of Agriculture

<sup>16</sup> National Execution

<sup>17</sup>UNDP – PROJECT (Promoting Climate Resilient Water Management and Agriculture Practice in Rural Cambodia) PROGRAM ASSESSMENT

<sup>18</sup> Established in September 2011

(PDoA), Provincial Department of Water Resources and Meteorology (PDoWRAM) and Provincial Department of Women's Affairs (PDoWA). The Provincial Administration oversees the financial management of the project funds channelled through the decentralisation and deconcentration system. It consolidates the provincial line department reports and submits the quarterly/annual progress and monthly financial reports to MAFF PSU.

- Cambodian Agricultural Research and Development Institute (CARDI) which is a semi-autonomous Government institution that has been contracted to provide specific technical services in building capacity of provincial and district agriculture staff and farmers, coordination in conducting On-Farm Adapted Trials (OFAT) for drought and submergence tolerance of rice varieties and to promote the adoption of such varieties by farmers for use in the targeted villages of project.
- Save Cambodia Wildlife (SCW) is a local non-governmental organisation (NGO). SCW was hired in December 2010 to design and implement an evidence-based public awareness and outreach initiative, which is responsive to the project focus areas. SCW is responsible for facilitating awareness campaigns and environmental education on climate risk reduction in the target areas.

Additionally, UNDP leverages the already established IFAD-MAFF programme which is administered through another UNDP/IFAD project (RULIP).<sup>19</sup> The UNDP/IFAD project has three main roles vis-a-vis the NAPA FU: (1) provides technical support in mainstreaming lessons from NAPA follow-up project into policy development in collaboration with MAFF at the national and sub-national level; (2) plays a key role in coordinating the RULIP and the NAPA joint activities; and (3) ensures that future MAFF and IFAD agricultural development programmes reflect the impacts of climate change. There is one combined PSU for both RULIP and NAPA FU project.

## 2.3 Climate Change Adaptation and Mitigation – Programming Issues:

In climate change response programming, there is often confusion as to what constitutes adaptation and how it is distinguished from mitigation. The Intergovernmental Panel on Climate Change (IPCC) defined adaptation as adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects to moderate harm or exploits beneficial opportunities. Adaptation is crucial to reducing vulnerability to climate change. Mitigation constitutes any human intervention to reduce the sources or enhance the sinks of greenhouse gases. While mitigation tackles the causes of climate change, adaptation tackles the effects of the phenomenon. A successful adaptation can reduce vulnerability by building on and strengthening existing coping strategies.

In general the more mitigation there is, the less will be the impacts to which communities will have to adjust, and the less the risks for which communities will have to try and prepare. Conversely, the greater the degree of preparatory adaptation, the less may be the impacts associated with any given degree of climate change.

Programme designs and project formulation in both adaptation and mitigation programmes often tend to look for separating the two – an adaptation project should focus strictly on interventions which enhance coping capacity, and a mitigation project ought to focus on reducing greenhouse gas. In countries like Cambodia, the primary focus of policy making and programmatic interventions remain on poverty reduction through an integrated approach that

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<sup>19</sup> RULIP: Rural Livelihoods Improvement Project

often intertwines mitigation and adaptation interventions. The NAPA FU project is no exception.

Climate mitigation and adaptation should not be seen as alternatives to each other, as they are not discrete activities but rather a combined set of actions in an overall strategy to reduce poverty, enhance people's livelihoods and reduce greenhouse gas emissions. The United Framework Convention on Climate Change (UNFCCC) recognises the close links between adaptation and mitigation. Policy experts, decision makers and planners must think clearly about how mitigation relates to adaptation. Failure to prevent excessive greenhouse gas emissions in the 20th century has resulted in today's need to prepare for inevitable climate change. Every year that humans continue extensive reliance on fossil fuels means the adaptation challenge will become more difficult, more disruptive, more expensive, and ultimately less effective. In the absence of solid, pervasive efforts to mitigate, adaptation would be an open ended - some would say absurd - proposition.

The MTR team has been mindful of the challenges in designing adaptation activities which may sometimes border on mitigation. A mitigation intervention like biogas plant may also enhance adaptive capacity by way of avoiding deforestation. The ultimate test is that either intervention (mitigation or adaptation) must not have a negative effect on the other – ideally, there ought to be synergy between both mitigation and adaptation measures.

## 2.4 Project Activities and Resources:

The project has a total budget of US\$ 3,090,350 over four years. The breakdown of funds sources is as follows:

GEF/LDCF	\$1,850,000
UNDP	\$1,240,350
RGC	\$ 180,000 (in-kind contribution)

Table 3: Cumulative expenditure (US\$) by project output or Activity (1/07/2009 – 31/12/2011)<sup>20</sup>

Activity	Total budget	Cumulative expenditure	% Delivery
Commune plans and budget incorporate climate change priorities	1,120,350	230,838	21
Establishment of conflict resolution measures	200,466	187,542	93
Community based early warning system	22,920	32,725	143
Improved access to water	235,684	245,676	104
Demonstration of resilient farming methods	294,347	224,687	76
Resilient design of irrigation systems	534,251	52,554.14	9.8

<sup>20</sup> Source: UNDP Cambodia. *Annual Project Report 2011 – Promoting Climate resilient Water Management and Agricultural Practices in Rural Cambodia (NAPA Follow Up)*

Awareness and environment education	231,000	143,329	62
Learning network for climate resilient farming	110,000	253	0
Review of national policy on climate change adaptation	221,332	185,941	84
Programme support services	120,000	153,854	128
Total	3,090,350	1,457,401	47

## Section 3

### Evaluation Findings on Planned Outcomes

*In this section, MTR findings on the three outcomes are presented under the three outcome headings – 1) Improved capacity of local institutions to manage agricultural water resources; 2) Demonstrate locally appropriate adaptation options; and 3) Lessons and replicability. The sub-headings under each outcome capture either the key outputs (as defined in the project design) or key activities that contribute to the outputs.*

#### 3.1 Outcome 1 - Improved Capacity of Local Institutions to Manage Agricultural Water Resources:

The project emerged from the Cambodia NAPA for which consultation and formulation took place between 2006-09. One of the lessons from this nation-wide initiative was that while substantial progress was made in developing policies and protocols at national level, not enough attention was paid to help build capacity of key institutions that were required to deliver outcomes related to climate change agenda. NAPA FU project specifically focused on building capacity at provincial, district and commune level to incorporate climate change (CC) adaptation agenda in local planning, implementation and management of agriculture and water resources. At the same time, the project works at the national level with several Ministries which have a key role in taking forward the climate change agenda related to the agriculture and water sector in Cambodia.

At the national level, the project has brought together the MAFF, MoWRAM and MoWA to work in a collaborative relationship involving joint planning and support to their respective provincial departments. Used to set ways of working within the confines of individual Ministries, key informant interviews indicate that it has not been an easy task as the working culture and relationship of individual Ministries with their provincial counterparts vary a great deal. This has been compounded by the ongoing decentralisation and deconcentration process which is bringing about devolution of power and authority to provinces and districts. Besides regular meetings at the operational level, the project board which meets twice a year has enabled various stakeholders to work together. Officials interviewed during the review suggest that until recently, the understanding of CC as integral to all government programmes was weak and there was the mistaken belief that CC issues were being addressed by the Ministry of Environment (MoE). This has changed now due to the engagement NAPA FU facilitated among different Ministries, and the work of other initiatives which followed: the Cambodia Climate Change Alliance (CCCCA), Cambodia Community-Based Adaptation Programme (CCBAP), Pilot Programme for Climate Resilience (PPCR), to name a few.

Similar collaborative behaviour was also evident in the two provinces visited by the MTR team – there is greater interaction between PDoWRAM and PDoA which undertake joint planning and implementation of the activities like construction of water tanks, ponds and irrigation structures

under this project. However, outside of this project, this collaborative culture and joined up approach is yet to permeate in the day-to-day business of the departments.

In specific terms, the project has contributed to the following key outputs in relation to capacity of the provincial and local authorities to take into account adaptation agenda at local level.

### 3.1.1 Incorporating climate risks into provincial and commune development plans

NAPA FU's bottom-up approach has meant that at the level of communes and districts where the project is being implemented, officials are sensitised on climate change and its impact. District Governors and senior provincial officials met were fully aware of the work being carried out under the NAPA FU project. Many of the provincial, district and commune officials have gone through awareness sessions and campaigns conducted under this project.

Over the past several years, Cambodia has adopted major policies and protocols on climate change in line with the Rio conventions. However, these policies often do not fully reflect in the plans and programmes of different parts of the Government. In the provinces and districts, the Provincial Development Plans (PDP) and District/Commune Investment Programmes reflected this gap. CCBAP examined a number of PDPs and Investment Programmes from different provinces and districts last year and found no references to climate change in all of these documents. The MTR team examined provincial investment programme for 2012 in Kratie and Preah Vihear, and Commune Investment Programmes in 10 communes<sup>21</sup> in these provinces and found that in the new plans/programmes, the local authorities were beginning to integrate CC issues in their analysis and action planning. Although there is quite a long way to go, one can say that CC is mainstreamed in provincial planning process as a good start. The MTR team was given to understand that now CCBAP and NAPA FU projects are working together on this, and jointly organising meeting of commune councils in the provinces during June. They are also meeting with the Ministry of Planning (MoP) and National Committee for Democratic Development Secretariat, an inter-governmental body in charge of administrative reform process at the sub-national administrations for discussions on CC agenda.

It is to be noted here that investment programme documents for 2012 examined by the MTR team, though identify climate change as a factor contributing to increasing vulnerability in the area, these fall short on adaptation or resilience measures needed to address these. This appears to be an issue at all levels. A study<sup>22</sup> conducted by UNDP in 2011 noted that a major policy paper on rice production and export<sup>23</sup> identified climate change as a risk factor but did not propose specific adaptation measures.

With high poverty and low levels of investment and productivity that mark the agriculture sector, it will require more sustained efforts to ensure that development planning and practices become intertwined with adaptation measures.

#### Finding:

1. The project has succeeded in facilitating close working relationship at provincial level among key line departments and has been instrumental in getting provincial investment programmes

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<sup>21</sup> Commune Investment Programme documents for the following communes were studied: Bosleav, Changkrong, Dar, Kantout, Kolorb, Kohchreng, Sambok, ThmarAndeurk, ThmarKre, and Thmei

<sup>22</sup> UNDP Cambodia. *Climate Resilience Through Water Management Capacity*, Julian Abrams, September 2011

<sup>23</sup> Policy Paper on the Promotion of Paddy Production and Rice Export, RGC 2010

in Preah Vihear and Kratie, and commune investment programmes in at least ten communes incorporate climate change agenda.

### 3.1.2 Capacity of FWUCs and MoWRAM engineers on climate-resilient irrigation design

This is discussed in section 3.2.5 below.

### 3.1.3 Conflict management and resolution

FWUC rules and regulations incorporate conflict resolution procedures to deal with conflicts arising over access to water resources. As of now, except for two minor incidents of conflicting claims, conflict does not appear to be a big issue in the areas visited, and so the evaluation was unable to gather substantial data on how the FWUCs were dealing with conflict.

### 3.1.4 Community-based early warning system

Meteorological data based early warning system (EWS) exists nationwide, run by the MoWRAM. Meteorological stations in different parts of the country feed weather forecast data to MoWRAM in Phnom Penh which issues forecast reports through PDoWRAM, radio and television. Through this project, the EWS is being taken to community level so that the forecasts and alerts issued can be used by the community to plan farming activities and take disaster management measures against floods or dry spells.

In Preah Vihear, EWS is being piloted in five villages. Two volunteers from each village and one commune councillor from each commune have been selected and are now undergoing training. Once trained, each volunteer will be provided with phone cards and microphones to use for transmitting vital early warnings and alerts, and facilitate communication in times of disasters.

In Kratie, the project is attempting to revive a community-based EWS which was put in place in 2003 by Cambodian Red Cross and Danish Red Cross. Volunteers were trained in the villages and provided with necessary equipment (VHF radio system, rain gauge/water level meter, boat, etc). The Red Cross ran the system for three years and then handed this over to commune authorities. However, the communes have been unable to maintain this due to lack of budgetary resources, and the items of equipment are now worn out needing repairs. Under this project, wherever possible, existing volunteers (trained by Red Cross) have been identified for retraining along with the village chief. The volunteers and village chief have attended awareness camps on climate change, and training on EWS is yet to start.

Perhaps due to legacy of the Red Cross project, villagers in Kratie were better able to use the alerts and information that came from PDoWRAM. With the awareness created by the project on CC, villagers were able to vary their planting schedules depending on weather forecasts and early warning of excess rainfall. Villagers confirmed that previously they would rigidly follow conventional planting schedules, without any reference to warnings and forecast of early or late rainfall. To this extent, the EWS is not only geared to warn people of disasters but also used as an opportunity to adjust their farming operations accordingly, a good example of adaptation.

Finding:



2. The EWS is a key element of adaptive strategy. However, given that previously installed EWS collapsed due to lack of financial support from the Government, unless the project is able to successfully lobby with provincial administrations for financial support after the project duration, the sustainability of the system will remain a question.

## 3.2 Demonstrate Locally Appropriate Adaptation Options:

As a pilot project, NAPA FU has demonstrated number of techniques and practical measures in the project area which are aimed at enabling farmers and rural communities to adapt to climate change. Some of the key interventions in this regard have been as follows:

- Demonstration of shorter duration improved varieties of rice
- Rice seed purification
- Rainwater harvesting for household use
- Installation of hand pumps for drinking water
- Bio-gas plants using animal waste
- Production of animal feed
- Household pond for fish farming
- Diversification of livelihoods through rearing chicken and pigs
- Solar powered drinking water system (bore well and water tanks)
- Improved and resilient irrigation and water structures

Outcomes achieved through these interventions are discussed below.

### 3.2.1 Introduction of new varieties

This activity was implemented with the help of Cambodian Agricultural Research and Development Institute (CARDI) which has developed number of rice varieties for different agro-ecological conditions in Cambodia. During 2010-2012, CARDI carried out on-farm adaptive trials (OFAT) of rice varieties on 72 farmers' fields in both the provinces. Farmers interviewed during the evaluation stated that the varieties were of shorter duration (4 months) compared to the local varieties they grew, and this could enable them to go for early planting (April) season which can be harvested by early August, before the flood season. Farmers have also been trained in seed purification process so that they are not required to buy seeds from markets every year.

The project or CARDI does not have data on actual adoption rate, but from discussions with farmers, it appears that if seeds were made available, they would switch to this variety which had better grain yield as well, apart from being of shorter duration. Intensive extension work and training of farmers will be necessary to ensure increasing adoption of such varieties in the area.

It ought to be noted here that, as in most parts of Asia, rice farming is based on field-flooding method, a practice which requires intensive use of water and is known to generate large amount of methane.<sup>24</sup> Good CC adaptation will require more efficient use of water as well as introduction of tillage practices which reduce methane emission in future. Adaptation and mitigation have to go hand in hand. If more farmers adopt new varieties and, encouraged by the higher yield, if more land (than is already the case) is brought under rice farming without

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<sup>24</sup> UNDP. *Asia-Pacific Human Development Report 2012 – One Planet to Share: Sustaining Human Progress in a Changing Climate*.

any change in the method of cultivation, this would have a negative effect on mitigation, and therefore adaptation would be counter-productive.

Crop diversification is another strategy which farmers have to be introduced to in order to adapt to varying climate conditions. Crops and trees which can withstand varying water regimes in the same growing season provide insurance against total crop failure. Currently dry season crops (November-April) are generally neglected in most parts of Cambodia, thus pushing farmers to rely on one crop (mostly rice) in the rainy season. The project has not done enough on this front so far.

### 3.2.2 Diversification of livelihoods

Diversifying livelihoods is a vital adaptation strategy and the project has attempted to introduce this through pilot projects for demonstration. The evaluators met dozens of farmers in both the provinces who were assisted with setting up small fish ponds for fish rearing. The cost of the activity was about US\$400 for each beneficiary which was fully paid by the project. In Toeh Kraham village, a group of farmers was provided with financial assistance to set up an animal feed milling plant. Entire cost of the project was borne by the project which was set up in the house of the chief of the group who is relatively better-off compared to other members. So far, in the past four months since the plant was set up, it has produced and sold 35 kgs of feed and earned US\$25.

In order to demonstrate to farmers the benefits of 'integrated farming', the project has distributed piglets and chicken (one each) to some of the farmers who received other benefits from the project like fish ponds, hand pumps, animal feed mixers. Several men and women were met who received either one chicken or one piglet. Most of them were already rearing pigs and chicken for many years – one of the beneficiaries in Toek Kraham had 25 piglets and received one more from the project.

Many of the beneficiaries in both provinces were from better-off sections of the village: for example, former or serving soldiers on pension or salary, petty traders and village grocers, village chiefs. According to PDoA in Preah Vihear, selection of beneficiaries for economic activities have deliberately targetted the resourceful farmers who are already used to diversified livelihoods strategy. The reason for this bias in selection, according to officials, was to ensure that the activity succeeded in order to have any demonstration effect. However, for activities like water reservoirs, ponds, rice seed multiplication, beneficiaries were from all economic strata.

It is unclear to the evaluators as to the effect of these demonstration activities, except for the fact that the individual beneficiaries who already had multiple sources of income received assistance from the project to expand their portfolio. In case of the fish farmers (at least two of those met by the evaluators had already been doing this for several years), they did receive training on modern techniques which they are now using.

### 3.2.3 Household water supply

The project has installed hand pumps for selected number of individual beneficiaries. Some of the beneficiaries overlap with those selected for livelihood activities. In Bosleav commune (Kartie province), the project has installed a large solar-powered water supply system on a farmer's land. The project provided water tanks, pipes (to be installed) and solar powered pump for the bore well. Once completed, it is expected to provide water for 50 families.

In some villages the project has provided household water filters to ensure that people use clean drinking water. In the areas visited, some families boil water before drinking, but large majority drink water without any purification process. As most of the water sources are surface water or shallow wells, water contamination is common. Some of the beneficiaries visited by the evaluators were seen to be using these filters regularly, others less regularly. While promoting water filters may help people adapt to frequent flooding which contaminates drinking water sources, a measure like this needs to be accompanied by hygiene education, something which will require the involvement of public health officials.

Roof-top water collection using plastic containers/drums are common in Preah Vihear villages. Some of the beneficiaries of water filters, hand pumps and livelihood support were also provided with containers/drum which could store larger volume of water. The idea behind roof water collection is to use this for dry season vegetable production. However, as was noted in the UNDP 2011 study,<sup>25</sup> if one took into account the cost per litre of water, roof-top rainwater harvesting of the type practised in the areas was not a viable technology for storing water for this purpose.

### 3.2.4 Biogas plants demonstration

Cattle dung or animal excreta based biogas plants have been provided to several villagers to demonstrate the importance of renewable energy sources for household consumption and to produce organic manures (slurry). The beneficiary-households have been using these for lighting purposes only. As has been the experience with this model of bio-digesters,<sup>26</sup> people generally do not use these for cooking due to odour of the gas-flame. Current domestic biogas plants require about 40kg of cattle dung every day (for a 3 cu. metre capacity) which means that only households owning 6 to 8 heads of cattle can keep feeding such a plant.

In CC terms, use of biogas is a mitigation measure to burn the methane gas generated by animal waste. In rural Cambodia, wood from the forests is the most commonly used fuel for cooking. Increased use of biogas for cooking could be an adaptation option as well in so far as it avoided deforestation and helped in regeneration of forests. The current technology, however, is not going to deliver this. It is understood that alternative technology which uses smaller quantity of animal excreta with other biomass is being tried in Cambodia, and these may be more acceptable for household use in future. Until then, a better option for the project could be to promote more fuel-efficient stoves which can save substantial amount of fuel compared to the currently used stoves which are highly inefficient. Such a technology may also be more affordable to households from all economic strata. The GEF is already funding another project Strengthening Sustainable Forest Management (MAFF/MoE /MIME/UNDP) which aims to reduce CO<sub>2</sub> emissions nationally through adoption of improved cooking stoves.

### 3.2.5 FWUC and climate-resilient irrigation design

Water resources abound in Cambodia, although seasonal fluctuations and intensity of rainfall renders pre-dominantly agriculture-based rural livelihoods system highly vulnerable. Floods and drought in dry season are common which will exacerbate to due climate change.

With rice being the mainstay of the rural economy and only 17% of cultivated land having any assured irrigation, the Government has prioritised irrigation development as one key element

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<sup>25</sup> UNDP Cambodia. *Climate Resilience Through Water Management Capacity*, Julian Abrams, September 2011

<sup>26</sup> Excreta-based bio-digesters which use anaerobic method of fermentation have been seen to be more successful in India, China and several countries in Asia in institutional/commercial contexts (schools, hospitals, use with pumps, etc), than in household use.

of its development strategy. NAPA FU project aims at developing working models at grassroots level to demonstrate how irrigation and water resources management can integrate climate change adaptation agenda.

In late 2011, UNDP commissioned a study<sup>27</sup> to examine the capacity and systems for water resource management that need to be addressed to make Cambodia's agriculture adapt to climate change. The study made a number of observations, notable among these being that responsibilities for management of water resources are shared between a number of different institutions and coordination was often difficult. This has led to an ad hoc approach to development and management of water resources in the country.

While MoWRAM and its line department in each province (PDoWRAM) have primary responsibility for construction of irrigation structures, operation and maintenance of downstream parts of irrigation systems are left to Farmer Water User Communities (FWUC). The Water Law of 2007 establishes the legal basis for the Farmer Water User Communities and requires the FWUC to be registered with the PDoWRAM. In Toek Kraham village (Toek Kraham commune of Preah Vihear province), the project constructed a pond (earthen structure) on a communal land. Ponds, both communal and privately owned, have been traditionally used in Cambodia to harvest and conserve surface water in rainy season to be used for home gardens or for drinking purposes in dry seasons. Although ponds are not good source for drinking water, they are ideally well suited for growing seasonal vegetables during dry seasons, and thus helping farmers to cope with climate stress.

The construction of the tank (10,500 cu. metre) was undertaken through a contractor, with little active involvement of villagers or FWUC. During the MTR visit, it was evident that the sidewalls of the pond were not compacted properly and are already collapsing in the early rains. Normally an earthen pond of this type has a life span of five years or so, but this structure is going to require de-silting and repairs after the first rainy season. The FWUC in the village (which was set up last year and has 33 members) thinks that the PDoWRAM will undertake the repairs as the former does not have resources to pay for it.

As was noted in the 2011 UNDP study, communal ponds are an excellent idea in theory; however, to make the best use of the pond, the area around the pond should be used for growing vegetables or other high-value crops. However, if the pond is on public land, the land surrounding the pond cannot be allocated to individual families for farming. 'It is common to find that communal ponds are not managed in any effective way and in some cases they are very little used'. Although the MTR team was told that there were farmers in the pond's catchment who will benefit from it, the former neither met any farmer who intends to draw water from the pond, nor heard any concrete plan of action on part of the FWUC as to how the pond will be maintained or charges levied for water use.

In Bosleav commune in Kratie province, the evaluators visited an earthen canal now being constructed by the project. It is understood that this canal, when completed, will irrigate over 700 hectares of land. FWUCs are being formed in the catchment villages which will be responsible for managing the conveyance of water downstream. The canal now being constructed partly includes rehabilitation of an existing canal system which was built in the 1980s but was dysfunctional due to lack of maintenance as FWUCs found it difficult to collect user fees. One of the problems noticed in the area where there are several small-scale irrigation canals is that these were not lined or compacted on the sides properly, and this caused serious loss of water due to seepage in transit, besides causing erosion of sidewalls during heavy rains.

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<sup>27</sup> UNDP Cambodia. *Climate Resilience Through Water Management Capacity*, Julian Abrams, September 2011

The structures need regular maintenance and desilting which the FWUCs or villagers have not been used to doing in the past, and therefore, life-span of these structures will depend on PDoWRAM's ability to ensure regular maintenance.

The evaluators visited another irrigation and flood control structure – a concrete weir - now being constructed in Bosleav commune which will help irrigate 818 hectares. The structure incorporates adequate measures like spillway and sluice gates to control the water level. In contrast with canals, this structure will require minimal maintenance. In Cham Ksan district, the project has rehabilitated an old reservoir. However, the structure has no connecting canal for conveyance of water to farmers' fields, and farmers are expected to dig trenches for drawing water to their fields. It is understood that in Preah Vihear, there are large number of reservoirs and ponds which were constructed in 1970s and 1980s, but most of these do not have adequate transmission systems for farmers to take water to their fields and hence have been lying in disuse.

#### Findings:

3. Introduction of new variety of rice and seed purification techniques has been successful adaptation interventions. These measures need to be supplemented by crop diversification which allows farmers to grow crops and trees that can withstand varying water regimes in the same growing season, as insurance against total crop failure in the event of serious environmental shocks.

4. Interventions towards diversification of livelihood options and demonstrating household water supply systems have been planned and implemented in an ad hoc way, with little coherent analysis of either the issues these were trying to address, or the value these models added to finding adaptation solutions, especially for the vulnerable sections of the rural community.

5. The main emphasis of the project so far has been on creating communal irrigation structures which are needed in the area anyway, and ought to be part of any on-going development work. Design, maintenance and utilisation issues which dogged irrigation structures in the country in the past remain to be addressed. While assured irrigation is one of the elements of CC adaptation, besides structures, an integrated approach involving efficient soil and water management, adjusting/diversifying cropping patterns and farming practices in response to climate changes are necessary to increase the resilience of farmers.

### 3.3 Lessons and Replicability:

As this is a pilot project toward generating adaptation solutions appropriate in the Cambodian context, the project lays strong emphasis on creating a general awareness about CC in the communities, sensitising government departments, linking various institutions to develop synergy in their response to CC, and using the lessons from the project, leverage government policies in the country for institutionalising CC adaptation strategies.

In the villages and communes visited during the MTR, there was a general awareness about CC and how it affected their lives and livelihoods. A large majority of community members and commune councillors interviewed had been through a CC awareness workshop organised by NAPA FU project. Provincial officials had also attended training organised by Save Cambodian Wildlife (SCW).

As discussed in section 3.1, there was substantial awareness in different Ministries at the national level as well in provincial departments on CC adaptation. That commune investment programmes are beginning to incorporate CC issues in their analysis show the awareness that has been created at the grassroots in the districts where the project is being implemented. Now the Small Grants Programme (SGP) of CCBAP and NAPA FU are working together on lobbying the Ministry of Planning and NCDDS to ensure that CC adaptation is incorporated in local planning process. Lessons from the project have been shared with NGOs who are recipients of grants under the CCBAP/SGP. There was also a knowledge sharing workshop in December 2011 with 24 PDoAs and 24 PDoWAs where the project shared its experiences on mainstreaming CC in provincial planning, creating awareness on CC and understanding of adaptation and mitigation strategies.

In the provinces, coordination among the key line departments involved in the project – PDoA, PDoWRAM and PDoWA – was observed by the evaluators to be good. Each department has one focal point for the project. The PDoWA in particular played a key role in creating awareness among village women about the project and ensured that women were involved in the project. MoWA is currently working with SCW to produce a manual on gender and climate change which, once completed, is expected to be used to disseminate to other departments and ministries.

It needs to be qualified that while there is now a general awareness at the level of community and local authorities of CC, when it came to practical solutions for adaptation, interviewees did not see much of distinction between the former and what constitutes conventional development (irrigation, agriculture, livelihoods) interventions. In some sense, this is understandable due to low productivity and lack of adequate investment in rural infrastructure which made people highly vulnerable to the slightest environmental shock.

The project contributed to Adaptation Learning Mechanism (ALM) which is a learning multi-agency portal<sup>28</sup> to share learning on adaptation issues globally. There is one key document in the ALM where NAPA FU project shares some important lessons which have relevance for other similar initiatives (Box 3).

The NAPA FU project has engaged in several training, learning and awareness events. Many of these engagements have been at a technical or middle management level. However, its ability to use learning and lobby policy makers to influence national policies has been weak. At the national level, all Ministries are now working on developing national strategies on CC for their respective Ministries. MAFF Technical team on CC is producing this for the MAFF. The technical team comprises 16 professional experts drawn from multiple disciplines the Ministry deals with. The NAPA FU project has not provided any systematic input into the drafting of the strategy. The MTR considers this a missed opportunity. While it is understandable that the project staff are preoccupied with implementation of activities, policy and advocacy work need to be seen as equally important component of this pilot project. This would however require the project to be able to develop evidence-based communication and advocacy messages which may require generating more systematic and robust data from the project.

#### Finding:

6. The project has done well to create general awareness in the provinces and share lessons on CC at a technical level. However, its ability to influence national debates and policies remain weak due to its preoccupation with implementing a large number of activities, not all of which generate relevant evidence-base for developing convincing policy messages.

<sup>28</sup> <http://www.adaptationlearning.net>

## Section 4

# Assessment Against GEF Performance Indicators

### 4.1 Achievement of Objectives, Planned Outputs and Results:

*Questions addressed: How relevant are the objectives and design of the project in terms of addressing climate change (CC) issues identified in the project document? Are the outcome indicators defined in the logframe being met and tracked? Are the activities that have been implemented and being planned appropriate? Are there any activities in the project that are not mission-critical? Do delivery of outputs conform to the indicators in the project design? What have been the key achievements of the project, and is the project on course to achieve its overall objectives and outcomes by the end of the project?*

In the context of Cambodia's vulnerability to climate change, particularly in relation to water resources and agriculture sector on which 66 per cent of Cambodians<sup>29</sup> depend for their livelihoods, the objective of the project was defined as: 'To reduce the vulnerability of Cambodia's agricultural sector to climate-induced changes in water resources availability.'

Towards this, the three outcomes discussed in section 3 and the corresponding indicators identified in the project's Strategic Results Framework<sup>30</sup> were highly appropriate and relevant. The project has rightly focussed on the capacity needs at implementation or delivery level and on developing and testing models which could be scaled up and leveraged for policy and practice changes. The project has already made significant progress in relation to outcome 1, as the following findings showed:

- i. Establishing collaborative working relationship among key institutions at the national as wells as sub-national levels;

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<sup>29</sup> Source: FAO (<http://www.fao.org/countries/55528/en/khm/>)

<sup>30</sup> Annex 5



- ii. Substantial sensitisation of key Ministries and local authorities on the CC, and incorporating this into provincial and commune plans;
- iii. Awareness among villagers of CC and adaptation challenges.

On outcomes 2, the achievements have been mixed. This is particularly due to the way activities have been implemented, often without sufficient reference to the value these provide in terms of generating credible evidence and models which address adaptation needs in the local community. While the MTR team notes that the project has attempted to integrate livelihoods diversification as an adaptive strategy, the team could not find strong links of some of the activities like chicken /piglet distribution, animal feed production, biogas and installation of hand pumps to CC agenda because of the way (discussed in more details under performance indicator, coverage, below) these have been implemented.

In terms of delivery, outcome 2 is perhaps the most complex as it requires continuous action research, ability to learn and adjust activities, a joined up approach involving various disciplines/departments, and ability to undertake complex socio-economic analysis and social mobilisation. The project needs to develop its capacity in these areas for which it may require additional support from UNDP, especially in the area of diversified livelihoods interventions.

The project implementation and monitoring is heavily output-focussed.<sup>31</sup> Progress reports seen reflected this, and this was further confirmed during the field visits. While great deal of data has been presented on rice variety trial, there is no attempt to track how many farmers have actually adopted these during the following planting season; animal feed mixing plant was installed and completed, but data on its performance in terms of income generation is not tracked; ponds constructed but the sidewalls not hardened resulting in erosion in the first rains; EWS being planned without drawing lessons and taking corrective steps to prevent a repeat of collapse of a well-functioning system that existed some years ago - to cite a few examples of output focus, rather than outcome.

It needs to be noted here that technical support from UNDP in the areas identified above have also been limited in the past two years. UNDP's conventional distinctive competence falls more in the area of outcome 1, and to a large extent, outcome 3. However, given the limited depth of lessons and credible evidence that has emerged on outcome 2, progress on outcome 3 has also been limited.

#### Conclusions:

1. In the remaining duration of the project, it needs to review and re-design how activities like income generation, household water supply, communal irrigation structures are planned, with whom they are planned, clear analysis of who benefits and how it generates adaptation solutions, and how these are implemented.
2. Implementing staff would require greater orientation to outcome-oriented planning, monitoring and implementation.

Rating: 4

(Justification: The pre-requisite to successful implementation was to get various departments to work together and being sensitised on CC adaptation – the project has achieved this successfully. With this foundation in place, it is believed that the remaining period of the project

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<sup>31</sup>Staff commented that outcomes were captured through case studies, video, feature stories and publications; however, those seen by the evaluators fell short of outcome-based monitoring.



should enable it to take corrective measures toward delivering on outcomes directly relevant to CC adaptation. Hence a rating of 4 is given).

## 4.2 Financial Planning and Cost Effectiveness:

Questions addressed: *Were programme resources efficiently applied? Were the risks properly identified and well managed? What are the cost-benefit ratios for different activities? Is there any value for money data monitored, and if so, what are those?*

Efficiency measures how economically inputs (funds, expertise, time) are converted into outputs by the project. With an expenditure of about 21% in the first two years (up to December 2011) going into institutional capacity building at provincial and commune levels, the achievement has been significant in terms of enabling them to incorporate CC adaptation into planning and budgeting process. Likewise, an investment of about US\$ 225,000 on new varieties and seed production techniques has introduced farmers to new possibilities in adaptation.

The EWS system, if developed well, has a good potential to be an effective tool in adaptation for the rural communities. However, the MTR thinks that the project has under-estimated the investment needed in this activity in terms of funds, follow up and policy advocacy at least at provincial level that will be needed to sustain it in a meaningful way. Without adequate investment, the EWS will degenerate into a dysfunctional mechanism which exists only on paper. The MTR team was informed that experiences from previous initiative (by Red Cross) have been taken into account and corrective measures towards sustainability have been laid out in the guidance for establishing the EWS in 2011. However, staff turnover has been a factor due to which implementation of the guidelines had not taken place at the time of the MTR.

Under the NEX modality, the project has established the following channel for flow of funds which is reported to work smoothly, except that sometimes the release of funds from the PA to the Departments gets delayed, affecting implementation downstream. Financial procedures in the PA are in a state of flux and departments find it difficult to cope with constantly changing procedures.

In some projects which are not implemented through the PA, the provincial departments receive funds directly from their Ministries in Phnom Penh and implementation there is much faster than in the case of NAPA FU project, according to several senior officials of a provincial department in Kratie.

The project developed a risk management strategy at the inception stage which identified several operational and management risks for which it put in place mitigation strategies. Institutional changes in the government at sub-national level were foreseen as a potential risk which could affect implementation. However, effective mitigation strategy to address this has been difficult to put in place. Fortunately for the project, security risks that were identified have not materialised.

In terms of cost-effectiveness, the MTR was unable to obtain necessary data on several major irrigation projects which are currently underway (canal irrigation system and concrete weir in

Kratie). However, for some of the completed activities for which data on costs and benefits were available, the picture emerges as follows:

- i. The Toek Kraham pond: at a cost of US\$20,780, this 10,500 cu metre earthen structure has been a costly activity, given that it will only help irrigate small plots of home gardens in the vicinity of the pond (exact numbers not known, but thought to be about 100 or so home gardens). The UNDP study<sup>32</sup> estimated that on an average in Cambodian context, the digging cost of a pond ought to be about US\$ 0.90 per cu. metre; adding the cost of hardening of the side walls and planting grass, the total cost of the activity ought to have been in the region of US\$ 14,000, about two-third of what it actually cost to complete the pond.
- ii. The animal feed mixing facility cost the project US\$2,690. Given that it still does not have a business plan and had only done business worth US\$25 in three months since completion, the economics of the enterprise is in serious doubt.
- iii. For rooftop water harvesting, tanks with 2.5 cubic metre capacity costing US\$350 each has been distributed in project villages in Preah Vihear. As has been argued in the scientific study on resilient, irrigation (UNDP, 2011), these are not cost-effective given that the water is used mainly for home gardens.

The MTR team was unable to find any example of monitoring cost-benefit ratio or other value for money measures in the project. Under pressure to complete activities, project staff remain preoccupied with negotiating complex and dilatory procedures of the PA, and the concept of value for money is lost sight of.

#### Conclusions:

1. Implementation of the project suffers from delays, mainly due to complex array of unclear procedures at PA level, some of which are beyond the project's control.
2. The project staff need to use cost-benefit and effectiveness measures in planning and implementing all activities.

Rating: 4

(Justification: Some of the financial planning and management systems which are causing delays in implementation are partly out of the projects' control, although creative mechanisms within the limitations imposed on it can be explored. A culture of cost-effectiveness and value for money is yet to be embedded in the project.

### 4.3 Coverage:

Questions addressed: *What criteria were used to select area and beneficiaries, and how valid were these criteria for the purpose for which the project was designed? Are the areas/target groups where activities are being implemented sizeable enough that successful interventions will make a difference to climate change adaptation in the area?*

Geographically, the project has covered one commune in each of the two provinces. Since early this year, in Preah Vihear, the project is being extended to six communes thus increasing the

<sup>32</sup> UNDP Cambodia. *Climate Resilience Through Water Management Capacity*, Julian Abrams, September 2011

number of villages where activities will take place. The two provinces offer different climatic contexts – Preah Vihear being prone to dry spells and drought, and Kratie facing floods almost regularly. Thus selection of the area for generating different types of adaptation options suited to diverse conditions was appropriate; and for a pilot project, focusing on a small number of communes, instead of larger area, has been the right approach.

The project's selection of beneficiaries, however, especially for household support for livelihoods and water, has been heavily biased towards better-off sections of the community. On livelihoods, most of these beneficiaries were already engaged in diverse range of activities. The project implementation logic that selection of relatively resource-rich villagers/farmers was necessary in order to ensure that the activities were successful does not bear scrutiny in so far as their demonstrative effect is concerned. If a farmer with eight cows has made a success of biogas plant which is totally subsidised,<sup>33</sup> or a trader who has a successful corn business in the area has also started growing pigs for which he/she had to pay nothing, this is hardly an adaptation model for vulnerable farmers and landless poor to learn from. Nor is this going to provide strong evidence-based data which can be used for leveraging policy options at provincial or national level.

Good adaptation models need to demonstrate how communities develop and adapt to climate changes, rather than a few prosperous individuals benefitting from adaptation interventions. It needs to be borne in mind that poorer households rely more on natural resources for their livelihoods than the relatively well off. As long as vulnerability of the poor is not directly addressed, climate change will force the poor to rely more and more on land, water and forest resources in an extractive manner which would make mitigation progressively more difficult. This in turn would require greater adjustment in terms of adaptation.

#### Conclusion:

Geographically the project has selected appropriate area for its work. However, currently the project is spread too thinly and targets a handful of resource-rich farmers – especially for the household support - from several villages in each commune. Even successful interventions using this approach can only provide limited valid data which the entire community can relate to compared to what could have been possible if an entire village community – albeit small – was taken as a unit of intervention. Through the latter approach, the project could enable a community to undertake a total village analysis – of their livelihood needs, resource requirements, bio-mass requirements, production and withdrawals from natural resources, vulnerability to climate changes, and development and adaptation needs. This would also help generate bottom-up adaptation solutions taking into account a community's multi-faceted needs.

Rating: 3

(Justification: Despite the weakness in selection of beneficiaries for household livelihoods and water projects, the project has targetted entire communities for several adaptation interventions like rice seed purification, awareness raising and communal irrigation projects which are making some difference to the communities, albeit in a limited way, in finding adaptation solutions. Hence a rating of 3 is given).

## 4.4 Impact and Sustainability:

<sup>33</sup> The selection of the beneficiaries for demonstration of bio-gas requires persons to own adequate number of cattle, in order to provide the raw material needed.

Questions addressed: *Will the outcomes that have been /are being realised, contribute to the impact as defined in the logframe's overall purpose? Could the project have higher impact than is currently possible, had the project done things differently? In the project area, what would have been the situation now and in future had the project not been implemented? Does the project have an exit strategy? What will happen at the end of the project? What mechanisms/ arrangements have been put in place to sustain the outcome of the project in future?*

As discussed in preceding sections, achievement of some of the key outcomes have been constrained by the approach the project has taken in selection of some of the activities and how these have been implemented. These have stymied the potential for impact this project could have had.

The project still has two years to go which give it opportunity to enhance its impact by taking corrective measures. Taking lessons from the past two years, the project needs to take a community approach to developing and implementing adaptation solutions for one or two villages which serve as models that can inspire other communities. Such a model based on multi-disciplinary approach to planning, needs and vulnerability analysis, and action research will offer rich source of data for sharing lessons with others.

At this moment, there are no exit strategies as such, except that user/beneficiary committees (FWUC, seed multiplication group, animal feed group, etc) have been formed and it is assumed that these will be able to carry forward the work and sustain the outcome of the project in future. This may be slightly over-ambitious, given that these groups have only recently been formed and have come together at the invitation of either the PDoA or PDoWRAM around specific subsidised activities. For activities like EWS, better engagement with provincial planning and budgeting process will be required to ensure that the systems developed are institutionalised and continued at the end of the project.

#### Conclusion:

The potential impact the project could make has been constrained by how the project has gone about selecting certain activities and beneficiaries in a scattered manner that has militated against a consolidated impact.

Rating: 4

(Justification: For a climate change project, two years is a short time-frame to make real impact. The project has potential to make greater impact in the next two years. Hence a rating of 4 is given).

## 4.5 Replicability:

Questions addressed: *How are the lessons from the project disseminated, and what scope exists for these lessons to be taken on board to scale up the project activities and outcome at national level? Are the activities and lessons emerging from the project scalable and likely to make wider impact in future? Which elements of the project are replicable and which are not, and why? What have been the main lessons from the past two years of programme implementation, and how are these being integrated into future programme? Does the modus operandi involve making linkages with other complementary initiatives? Which other agencies have been working with the provincial authorities and local committees on capacity development and how does this project's support toward capacity development synergies with these?*

The report examines replicability and sharing of lessons by the project in section 3.3. The project has been sharing lessons on CC at a technical level with different provinces. The project's method of awareness raising among communities and establishing collaborative working relationship among key line Ministries and provincial departments provide rich lessons for other similar projects. The gender and climate change manual now under development as well as experiences from vulnerability reduction assessments (VRA) and rapid gender assessments<sup>34</sup> conducted as background materials for discussions with commune councils form rich source of lessons that can be disseminated systematically in provinces and nationally. On early warning, the project needs to draw lessons from previous EW initiative in Kratie and facilitate policy discussions with provincial authorities on institutionalising EWS so that the current initiative does not meet the fate of its precursor once the project comes to an end.

As discussed in section 4.1, while some of the activities like introduction of rice varieties and seed selection techniques offer good lessons for replication, activities aimed at generating livelihoods diversification models suffer from design flaws which make their replicability doubtful.

There are several major initiatives on CC now being implemented or launched in the country. The Cambodia Climate Change Alliance (CCCCA) provides a unified engagement point for development partners, and a multi-donor financial facility, the Cambodia Climate Change Alliance Trust Fund (funded by the European Union, UNDP and several other donors) which provides grants for a number of projects and programmes. The CCCC has three aims: (1) national policy-making, (2) knowledge and learning platform, and (3) improved access to financial and technical resources. Another major initiative is currently in pipeline, the Pilot Programme for Climate Resilience (PPCR), which plans to provide large scale investment funding in climate change resilience. Funded mainly by the World Bank and Asian Development Bank, this two-year project is valued at US\$ 86 million<sup>35</sup> and due to start from January 2013. The PPCR has a technical assistance component worth US\$ 7 million which will support capacity building of government Ministries and provincial authorities to deal with climate change.

Besides these, the Small Grants Programme (SGP) and UNCDF-funded project in Takeo province which are managed by UNDP are also addressing CC issues which overlap the NAPA FU's intended objectives.

Being the first of the major CC initiatives in the country, NAPA FU is uniquely placed to engage with these initiatives. However, besides the fact that UNDP CO is actively involved in or leading on some of these initiatives and sometimes acts as a bridge, the MTR got the impression that linkage with these of the NAPA FU project has been weak. There is no clear communication or advocacy strategy in place. Some of the key donors to these initiatives interviewed during the MTR stated that although they knew of the existence of the NAPA FU project, they have not seen it contribute to discussions or design of CCCC or PPCR projects, nor engage in policy discussions with RGC.

#### Conclusion:

NAPA FU has been relatively (in comparison with implementation of activities on the ground) weak on systematic synthesis and dissemination of lessons emerging from the project. In order to generate evidence-based advocacy and communicate messages, the project needs to

<sup>34</sup> UNDP Cambodia. *Annual Project Report 2011 – Promoting Climate resilient Water Management and Agricultural Practices in Rural Cambodia (NAPA Follow-up)*.

<sup>35</sup> US\$ 50 million as grant and US\$ 36 million as concessional loan.

reorient some of its activities toward producing credible data to show how communities are generating adaptation solutions and increasing their resilience to climate change.<sup>36</sup>

Rating: 4

(Justification: Being a pilot project, its key rationale lies in ability to systematically draw and disseminate lessons, and engage in dialogue with policy makers and planners at provincial and national level to ensure scaling and replication of successful 'models'. Towards these ends, the project is yet to grow beyond engagements at technical level.)

## 4.6 Implementation Approach:

Questions addressed: *How were the role of different entities involved in the project defined, and was the approach appropriate and efficient? Are the administrative, operational, management and oversight structures for the project efficient and effective?*

MAFF PSU is primarily responsible for the overall management of project activities, reporting, accounting, monitoring and evaluation of the project, supervision of the implementing agents and financial management of UNDP/GEF resources. At the national level, MAFF and MoWRAM have been integral part of the project since inception. The MoWA was brought in late 2011 to provide its expertise on gender issues. MAFF PSU is accountable to the Government and to UNDP for the outputs and for achievement of project objectives. The Project Board headed by a Secretary of State in the MAFF is responsible for its governance.

The role of different entities has been described in section 2.2. Setting up the Project Board, a concept which was initially unfamiliar to the MAFF, helped give the project a multi-stakeholder approach that was critical for this project. This also enabled creating a dedicated structure in the PSU for the project.

In the provinces, the transfer of the project from ExCom (section 4.7 below) to provincial authorities has been a step in the right direction in terms of creating ownership, and the project has largely devolved operational decision-making to provincial level. However, this has been fraught with delays in implementation of the project as systems for procurement, recruitment and funds release in the provinces are not streamlined properly. This is an issue in all the provinces and it may be a while before the problems are resolved. This has contributed to substantial delay in project implementation as the following table shows:

Table 4: Financial expenditure (US\$) in the NAPA FU project in two provinces

	Planned	Actual	% Realisation
Kratie			
2010	62,661	23,765	38
2011	195,646	123,116	63

<sup>36</sup> The project is already sharing and disseminating experiences through different communication channels (websites, publications, media, national and regional fora) and these need to be strengthened with evidence-based data and analysis.

2012 (as of 31 May)	165,849	1275	0.8
Preah Vihear			
2010	49,882	28,485	57
2011	265,047	243,939	92
2012 (as of 31 March)	78,955	26,534	34

Another reason for delay in implementation has been high turn-over of staff. Since recruitment of staff in the provinces for the project follows the PA system, project staff salaries are relatively low in comparison with market benchmark, and this creates a tendency among project staff to use the project as a springboard to jump to higher-paid jobs elsewhere. The shortage of project staff on contract could have been sometimes mitigated by deployment of existing government staff. However this is complicated by RGC's policy on compensation and allowances which serving staff (in the Ministries or Provincial Departments) do not find attractive.

At the PSU level, the project works closely with RULIP which has complementary activities implemented in different geographical areas, and are part of the same team at MAFF. At provincial level, the management structure for the NAPA FU is integrated with RULIP project. RULIP logframe incorporates climate change indicators, and thus experiences from the projects can be leveraged for mainstreaming CC at local level. The overall implementation is guided by the Project Implementation Manual (PIM) at the national level which incorporates GEF procedures. At sub-national level, implementation follows RULIP PIM.

UNDP has generally stayed away from operational and management aspects of the project, except that UNDP's procurement procedures are used at national level for recruiting consultants or sub-contracting work to other organisations (for example, Save Cambodia Wildlife). In these cases, procurement is faster. However, using UNDP system for operations in the provinces will tantamount to reversing the integration (with PA) process the project has followed, and will be counter-productive in the long run.

#### Conclusion:

The approach taken by the project in defining roles and responsibilities was highly appropriate and in the long run sustainable. This may have sometimes caused inefficiency in implementation of the project. Going into the future, creative ways will have to be found to speed up decisions related to recruitments and procurements without undermining the integration with PA, while the decentralisation/ deconcentration issues are resolved nationally.

Rating: 2

(Justification: The current delays and inefficiency in implementation are largely due to factors which are not fully in the project's control. Other than this, the project's implementation has been highly appropriate.)

## 4.7 Stakeholder Participation, Country Ownership and Acceptability:



Questions addressed: *To what extent local institutions and communities have participated in various activities of the project and taken ownership of activities? What is the nature of participation and engagement of various stakeholder ministries in the project? How are key stakeholders (Ministry of Environment, CCCA etc) engaged in policy debates and dialogue? How integrated is the project into the government structure and how far is the RGC driving it?*

In the provinces, for the first year of implementation, the project was overseen by the Executive Committee (ExCom)<sup>37</sup> which brought together stakeholder departments in a project-management approach. This kept the project slightly delinked from the Provincial Administration (PA). However, since middle of 2011, this structure has been replaced by the PA carrying out a coordination and administrative support role for the provincial line departments involved in the project activities, namely the Provincial Department of Agriculture (PDoA), Provincial Department of Water Resources and Meteorology (PDoWRAM) and Provincial Department of Women's Affairs; when deemed necessary the Provincial Administration coordinates with Department of Environment, Planning and other relevant line departments. The Provincial Administration oversees the financial management of the project funds channelled through the decentralised system in conformity with the National Committee for sub-national Democratic Development (NCDD) system. The PA consolidates the provincial line department reports and submits the quarterly progress and financial reports to MAFF PSU.<sup>38</sup>

In the minds of stakeholders interviewed in Phnom Penh and the provinces, the project is certainly owned and driven by the Government. UNDP's involvement in the project is seen as a support role from a distance, and bringing in technical expertise when appropriate. To this extent, the project is integrated into the government structure.

Below the PA level, the district authorities and commune councils have been seen to be actively involved in facilitating implementation of the project in villages. Commune authorities are involved in selection of villages and in beneficiary selection process, along with village chiefs. In the villages, the project has attempted to elicit participation of beneficiaries and communities through formation of various committees like FWUC, seed multiplication group, agricultural improvement group, animal feed group etc., with involvement of both men and women. Discussions with these groups indicate that they were formed at the instance of the project staff in order to implement specific activities subsidised by the project. A top-down approach to encouraging participation has meant that these groups are driven by the implementation needs of the project, and have an expectation of continuing to receive benefits from the project in order to continue their participation.

#### Conclusion:

In the two years of the project implementation, it has been well embedded in the government system, and is driven by it, with participation from key line Ministries. However, in terms of participation of communities at the grassroots level, social mobilisation is currently weak and is driven primarily by needs of the project, rather than being internally driven by communities.

Rating: 3

<sup>37</sup> ExCom was made up of representatives of provincial line departments and the provincial governor and acted as an auxiliary administrative unit during the implementation of decentralisation and deconcentration programme. It was utilised by donors for channelling funding to sub-national level, as a parallel structure to the system of provincial administration.

<sup>38</sup> UNDP – PROJECT (Promoting Climate Resilient Water Management and Agriculture Practice in Rural Cambodia): PROGRAM ASSESSMENT



(Justification: The project has succeeded in integrating itself with the government system at both provincial and commune levels. With systematic efforts toward social mobilisation, communities will start to develop ownership of the project activities.)

#### 4.8 Monitoring and Evaluation:

Questions addressed: *Are the progress reports evidence-based and do these track outcomes? How robust is the M & E system used in the project? What support is provided by UNDP and what key parameters are being monitored?*

The project uses Results & Resources framework for tracking progress and reporting on the project. Reporting is done on a monthly basis by implementing agencies (MoWRAM, MoWA, SCW) to PDoA which forward these to MAFF PSU. The PSU submits quarterly reports to UNDP which reports to GEF every quarter. The project is good on use of routine monitoring using tools, such as: output log, field visit, spot check, audit, PIR, quarterly and annual progress reports. The reports from the provinces and those submitted by PSU seen by the MTR team were by and large output-oriented. Understanding or use of outcome in planning, execution and monitoring of activities remain weak and needs strengthening through case studies and systematic evidence-based data.

The overall M & E framework for the project is embedded in the Project Implementation Manual (PIM) which was developed at the inception stage of the project. Additionally, a joint supervision mission with IFAD was supposed to be undertaken every year, but this had not taken place till the time of the MTR mission.

## Section 5

# Overall Summary, Lessons and Recommendations

NAPA FU project was one of the first initiatives in Cambodia to translate adaptation agenda from policy level into practice at provincial and commune levels. In the two years since inception, the project has been well embedded in the government system, and is driven by it, with participation from key line Ministries. The project has succeeded in facilitating close working relationship at provincial level among key line departments.

The project has done well to create general awareness in the provinces and villages about climate change and how it affects communities, and has been instrumental in getting provincial investment programmes in Preah Vihear and Kratie, and commune investment programmes in at least ten communes incorporate climate change agenda.

The approach taken by the project in defining roles and responsibilities of various implementing agencies was highly appropriate and in the long run sustainable. Integrating the project with provincial administration may have sometimes caused delay in implementation of the project. Going into the future, creative ways will have to be found to speed up decisions related to recruitments and procurements without undermining the integration with PA, while the decentralisation/ deconcentration issues are resolved nationally.

### Key Lessons and Recommendations:

#### Lessons

1. Social mobilisation: The project has targetted entire communities for several adaptation interventions like rice seed purification, awareness raising and communal irrigation projects which are making some difference to the communities, albeit in a limited way, in finding adaptation solutions. However, in terms of participation of communities at the grassroots level, social mobilisation is currently weak and is driven primarily by needs of project implementation, rather than being internally driven by communities.
2. Limitations of spreading too thin: The potential impact the project could make has been constrained by how the project has gone about selecting certain activities and beneficiaries in a scattered manner that has militated against a consolidated impact. The project is currently spread too thinly and targets a handful of resource-rich farmers – especially for the household support - from several villages in each commune. Even successful interventions using this approach can only provide limited valid data which the entire community can relate to, compared to what could have been possible if an entire village community – albeit small – was taken as a unit of intervention. Through the latter approach, the project could enable a community to undertake a total village analysis – of their livelihood needs, resource requirements, bio-mass requirements, production and withdrawals from natural resources,

vulnerability to climate changes, and development and adaptation needs. This would also help generate bottom-up adaptation solutions taking into account a community's multi-faceted needs.

3. Lessons shared at technical level: Being a pilot project, its key rationale lies in ability to systematically draw and disseminate lessons, and engage in dialogue with policy makers and planners at provincial and national level to ensure scaling up and replication of successful 'models'. Towards these ends, the project is yet to grow beyond engagements at technical level. The project's ability to influence national debates and policies remain weak due to its preoccupation with implementing a large number of activities, not all of which generate relevant evidence-base for developing convincing policy messages.

4. Learning from earlier experiences: The early warning system (EWS) is a key element of adaptive strategy. However, given that previously installed EWS collapsed due to lack of financial support from the Government, unless the project is able to successfully lobby with provincial administrations for financial support after the project duration, the sustainability of the system will remain a question.

5. Diversification for adaptation: Introduction of new variety or rice and seed purification techniques has been successful adaptation interventions. These measures need to be supplemented by crop diversification which allows farmers to grow crops and trees which can withstand varying water regimes in the same growing season as insurance against total crop failure in the event of serious environmental shocks. Likewise, interventions towards diversification of livelihood options and demonstrating household water supply systems have been planned and implemented in an *ad hoc* way, with little coherent analysis of either the issues these were trying to address, or the value these models added to finding adaptation solutions, especially for the vulnerable sections of the rural community.

6. Irrigation structures: The main emphasis of the project so far has been on creating communal irrigation structures which are needed in the area anyway, and ought to be part of any on-going development work. Design, maintenance and utilisation issues which dogged irrigation structures in the country in the past remain to be addressed. While assured irrigation is one of the elements of CC adaptation, besides structures, an integrated approach involving efficient soil and water management, adjusting/diversifying cropping patterns and farming practices in response to climate changes are necessary to increase the resilience of farmers.

## Recommendations

- R1: UNDP needs to support the implementing agencies at provincial and district level in participatory processes and social mobilisation, especially with regard to understanding of local vulnerability, community power dynamics, household economy and participation of poor in development activities.
- R2: In the remaining duration of the project, the project needs to review and re-design how activities like income generation, household water supply, communal irrigation structures are planned, with whom they are planned, clear analysis of who benefits and how these generate adaptation solutions, and how these are implemented.
- R3: In order to generate evidence-based advocacy and communicate messages, the project needs to reorient some of its activities toward producing credible data to show how communities are generating adaptation solutions and increasing their resilience to climate change. One approach would be to take an entire village community – albeit small – as a unit of intervention. Through the latter approach, the project could enable a

community to undertake a total village analysis – of their livelihood needs, resource requirements, bio-mass requirements, production and withdrawals from natural resources, vulnerability to climate changes, and development and adaptation needs. This would also help generate bottom-up adaptation solutions taking into account a community's multi-faceted needs.

- R4: In order to address the delays caused by complex array of unclear procedures at PA level, the project needs to have regular dialogue with the office of the provincial Governors at senior level and resolve bottlenecks that arise.
- R5: Implementing staff would require greater orientation to outcome-oriented planning, monitoring and implementation. The project staff need to use cost-benefit and effectiveness measures in planning and implementing all activities.

# Annexes

## **Annex 1: Terms of Reference for Mid-term Review of NAPA Follow Up project**

### **Promoting Climate-Resilient Water Management and Agricultural Practices in Rural Cambodia, NAPA Follow-up Project**

Post Title:	<i>Mid Term Review Consultants</i>
Practice Area:	<i>Environment</i>
Duration of the Assignment:	<i>23 working days (From 23 April 2012)</i>
Duty Station:	<i>Phnom Penh, Cambodia</i>
Expected Places of Travel	<i>Some travel to provinces (Kratie and Preah Vihear)</i>
Cluster/Project:	<i>E&amp;E Cluster /NAPA Follow-up Project</i>
Supervisor:	<i>E&amp;E Team Leader and National Project Coordinator</i>

#### **1. Project background**

The impacts of climate change on Cambodian agriculture, particularly on rice cultivation, are predicted to adversely affect food production and –security in rural areas. At present, there is emerging evidence that agriculture-based livelihoods and overall food security in Cambodia are affected by increased frequency and severity of floods, dry spells and drought events. A major constraint in moving from a focus on post-disaster relief management to anticipatory agricultural and water resources planning is the limited institutional and individual capacity in both government agencies and community organizations to understand potential climate change impacts and to internalize a perspective of longer-term resilience into sectoral policy and development planning processes.

The project ‘Promoting Climate-Resilient Water Management and Agricultural Practices in Rural Cambodia’ (also referred to as ‘NAPA Follow-up Project’) has been designed on the basis of priority interventions outlined in the Cambodian National Adaptation Programme of Action (NAPA) and focuses on climate change-resilient agricultural water management. The project is aimed at building systemic, institutional and individual capacity to plan for water resources use in the agricultural sector under conditions of climate change. As Cambodia has been undertaking a concerted effort of decentralization, many of these efforts focus on local (provincial, district and communal) planning systems, such as planning and budgeting committees, and Farmer Water-Use Committees. The lessons learned will facilitate replication in other high risk areas, both within and outside Cambodia. The project is working in two contrasting agricultural districts, selected for their high vulnerability as well as for differences in agro-ecological and socio-economic circumstances.

The project is implemented over a period of 4 years, starting formally from July 2009; however, due to a number of institutional realignments with complementary baseline programmes, actual investments by the project have started in April 2010 only. The lead Executing Agency is

the Ministry of Agriculture, Fisheries and Forestry (MAFF), where a Project Support Unit (MAFF PSU) provides general coordination and oversight for the project. The project receives high level guidance and oversight from a Project Board, which is chaired by the Secretary of State of the MAFF.

## **2. Project objectives and expected outcomes**

The objective of the project is to reduce the vulnerability of Cambodia's agricultural sector to climate-induced changes in water resources availability.

In order to achieve this objective, the project will (1) improve capacity within local institutions to manage agricultural water resources in a changing climate, (2) demonstrate locally appropriate adaptation options to reduce exposure to climate -induced risks, and (3) replicate lessons learned in project pilot sites in other vulnerable areas of Cambodia.

## **3. Mid-Term Review objectives**

The purpose of Mid-Term Review is to examine the performance of the project since the beginning of its implementation. The review will include both the evaluation of the progress in project implementation, measured against planned Outputs set forth in the Project Document, in accordance with rational budget allocation and the assessment of features related to the process involved in achieving those Outputs, as well as the initial and potential impacts of the project. The review will also address underlying causes and issues that have contributed to targets not adequately achieved.

The Mid-Term Review is intended to identify weaknesses and strengths of the project design and provide recommendations for any necessary changes alignments in the overall design and orientation of the project. This is done by evaluating the adequacy, efficiency, and effectiveness of project implementation, as well as assessing actual achievements of project Outputs and Outcomes to date. Consequently, the review mission is also expected to make detailed recommendations on the work plan for the remaining project period. It will also provide an opportunity to assess early signs of project success or failure, and prompt necessary adjustments.

The review mission will identify lessons learnt and best practices from the project which could be applied to future and other on-going projects. The review will also make recommendations on setting up a strategic vision for the time after the project has ended.

## **4. Scope of the Mid-Term Review**

The scope of the Mid-Term Review will cover all activities undertaken in the framework of the project. The evaluators will compare planned Outcomes and Outputs of the project to actual Outcomes and Outputs, and determine their contribution to the attainment of project objectives. The evaluation will diagnose evident implementation problems and suggest necessary corrections and adjustments. It will evaluate the efficiency of project management, including the delivery of project Outputs and Activities in terms of quality, quantity, timeliness and cost efficiency. The evaluation will also determine the likely final results of the project in relation to the specified Outcomes and Outputs of the project.

The evaluation will comprise the following elements:

A. Project Design

- 1) Relevance of project intervention to the needs of Cambodia in addressing climate change issues and relevance of the project to Government, partners, and donors policies;
- 2) Suitability of the project design commensurate with time and resources available;

B. Project progress

- 3) Assessment of the overall progress towards achievement of its overall Objective, Outcomes, and Outputs ;
- 4) Assessment of project performance in relation to the indicators, assumptions and risks specified in the logical framework matrix and the project document;
- 5) Assessment of which planned activities are critical for attainment of project Outputs in the second half of the project;
- 6) A qualified assessment of the extent to which project Outputs to date have scientific credibility;
- 7) An assessment of the extent to which scientific and technical information and knowledge have influenced the execution of the project activities;
- 8) A prognosis of the degree to which the overall Objectives and expected Outcomes of the project are likely to be met;
- 9) Identification and, to the extent possible, quantification of any additional Outputs and Outcomes beyond those specified in the project document;
- 10) Recommendations regarding any necessary corrections and adjustments to the overall project workplan and timetable for the purposes of enhancing the achievement of project Objectives and Outcomes;

C. Institutional arrangements

- 11) An assessment of the function and role of the Project Board in providing guidance, coordination, and oversight to the implementation of the project;
- 12) An assessment of technical assistance provided to the project by partners, including UNDP, to ensure smooth implementation of the project;
- 13) An evaluation of the effectiveness and efficiency of project coordination, management and administration provided by implementing agencies (MAFF, MoWRAM) at national and sub-national level;
- 14) Assessment of the support and the involvement of local institutions and community stakeholders to implement the project;
- 15) An analysis of the extent of institutional cooperation and cross-sectoral synergies created by the project;

D. Operations, Policies, and Procedures

- 16) Assess the effectiveness of the monitoring mechanisms employed by the project in monitoring progress of project execution, both in financial as well as technical terms;
- 17) Identification of operational (referring to administration, procurement, recruitment, financial management) and/or technical problems and constraints that influence the effective implementation of the project, combined with recommendations for necessary operational changes;

- 18) Assessment of the financial management of the project, including the balance between expenditures on administrative and overhead charges in relation to those on the achievement of substantive Outputs;
- 19) Identification of any programmatic and financial variance and/or adjustments made during the first two years of the project and an assessment of their conformity with decisions of the Project Board and their appropriateness in terms of overall objectives of the project;

E. Sustainability and Replicability

- 20) Lessons learned during project implementation and recommendations to replicate them;
- 21) Assessment of the long-term viability and sustainability of the project, and recommendations to Government and relevant stakeholders on how to upscale good practices;
- 22) Recommendations on the process of preparing a second phase for the project.

## 5. Review methodology

The Mid-Term Review will be conducted in a participatory manner. Its essential objective is to assess the quality of project implementation and impacts to date and provide a basis for improvement over the second half of the project.

The MTR consultants will carry out the following activities:

- a. Conduct a desk review of key documents, including project document, monitoring reports, Project Inception Report, Minutes of Project Board and Technical Support and Advisory Team meetings, Annual Progress Report, Quarterly Progress Reports, Back-to-Office mission reports, and other internal documents including financial reports and relevant correspondence;
- b. Review specific products prepared by the project, including datasets, management and action plans, publications, audiovisual materials, other materials and reports;
- c. Develop questionnaires in line with the proposed evaluation criteria
- d. Conduct individual interviews with Project Board members, representatives from UNDP Country Office and Regional Center, Project Managers and project staff;
- e. Carry out consultations and interviews with national, provincial and local stakeholders, including government representatives, local communities, farmer water user groups, NGO's, CBOs, private sector representatives, donors, and other UN agencies (such as IFAD);
- f. Conduct field visits to several project sites (including those that are less easily accessible) to meet with provincial authorities, provincial staff, Community-based Organisations (such as Farmer Water User Groups, Farmer Field Schools) and beneficiaries as well as visit physical Outputs of project; and
- g. Present initial findings and key recommendations at a debriefing meeting with MAFF/PSU, UNDP, and project staff.

## 6. Review team

Two consultants with the following qualifications shall be engaged to undertake the mid-term evaluation working concurrently according to the planned schedule. **One International**



**Evaluation Specialist**, who will have in depth understanding of UNDP and GEF projects including evaluation experience, will be designated as the team leader and will have the overall responsibility of organizing and completing the review, and submitting the final report. One **National Evaluation Coordinator** will provide supportive roles both in terms of professional back up, translation and facilitation of local meetings. The consultants will sign an agreement with UNDP Cambodia and will be bound by its terms and conditions set in the agreement.

Qualifications of Team Leader (International Evaluation Specialist)

1. International/regional consultant with academic and professional background in fields related to Agriculture, Water Resource Management, Climate Change Adaptation/Disaster Management. A minimum of 10 years of relevant experience is required;
2. Substantive experience in reviewing and evaluating similar projects, preferably those involving UNDP/GEF or other United Nations development agencies or major donors;
3. Excellent English writing and communication skills. The consultant must bring his/her own computing equipment;
4. Demonstrate ability to assess complex situations, succinctly distills critical issues, and draw forward-looking conclusions and recommendations;
5. Highly knowledgeable of participatory monitoring and evaluation processes, and experience in evaluation of technical assistance projects with major donor agencies;
6. Ability and experience to lead multi disciplinary and national teams, and deliver quality reports within the given time;
7. Familiarity with the challenges developing countries face in adapting to climate change;
8. Familiarity with Cambodia or similar countries; and
9. Excellent in human relations, coordination, planning and team work.

Qualifications of National Evaluation Coordinator

1. Master's degree in environment, NRM, agriculture, water resource management, development studies, project management, and other relevant fields. A minimum of 5 years of working experience in the development sector in Cambodia is required;
2. Understanding of climate change adaptation and disaster management issues in Cambodia, especially in relation to rural agriculture and water resources management;
3. Demonstrated skills and knowledge in participatory monitoring and evaluation processes;
4. Experience in monitoring and evaluation of development projects supported by UN agencies and/or major donor agencies;
5. Proficient in writing and communicating in English. Ability to interpret to the international counterpart and also to translate necessary written documents to English; and
6. Excellent in human relations, coordination, planning and team work.

## **7. Proposed schedule**

The review will take place within 23 working days in April 2012. The consultants will be paid on deliverable (lump sum) basis, including international travel and DSA upon satisfactory delivery. The draft Final Report should be submitted to UNDP, MAFF/PSU and UNDP/GEF-LDCF for circulation to relevant agencies within two weeks after the completion of the interview/field visit. The consultants will finalize the report within two weeks upon receiving comments and

feedback from stakeholders compiled by UNDP, MAFF/PSU and UNDP/GEF-LDCF. A detailed schedule is attached as Annex 1 (tentative).

## 8. Deliverables

The review team will produce the following deliverables to UNDP, UNDP/GEF-LDCF and the Project Board:

- a. A presentation of the findings to key stakeholders;
- b. An executive summary, jointly prepared by the consultants, emphasizing key findings and key recommendations;
- c. A detailed evaluation report covering scope of the mid-term review with detailed attention to lessons learnt and recommendations; and
- d. List of annexes prepared by the consultants including TOR's, itinerary, list of persons interviewed, summary of field visits, list of documents reviewed, questionnaire and summary of results, co-financing and leveraged resources.

The report together with the Annexes shall be written in English and shall be presented in electronic form in MS Word format.

## 9. Rating project success

The evaluators may also consider assessing the success of the project based on Outcome targets and indicators and using the performance indicators established by GEF for Climate Change Adaptation projects. The following items should be considered for rating purposes:

- Achievement of objectives and planned results
- Attainment of outputs and activities
- Cost-effectiveness
- Coverage
- Impact
- Sustainability
- Replicability
- Implementation approach
- Stakeholders participation
- Country ownership
- Acceptability
- Financial planning
- Monitoring and evaluation

The evaluation will rate the success of the project on a scale from 1 to 5, with 1 being the highest (most successful) rating and 5 being the lowest. Each of the items above should be rated separately with comments and then an overall rating given. The following rating system is to be applied:

<u>Rating:</u>	<u>Achievement:</u>
1= excellent	90-100%
2= very good	75-90%
3= good	60-74%
4= Satisfactory	50-59%
5= unsatisfactory	49% and below

### Tentative Schedule for the MTR

The MTR mission schedules to be conducted for 23 working days from 23 April 2012.

Activity	Timeframe
Presentation on evaluation methodology, expected results, and work-plan	1 day
Desk review of existing documents	3 days
Data collection: field visits, interviews with partners, and key stakeholders	8 days
Debriefing with UNDP, MAFF/PSU, and concerned project staff	1 day
Presentation of initial findings to the Board	1 day
First draft of MTR report shared with UNDP and MAFF/PSU for comments	5 days
Finalization of the MTR report (incorporating comments received on first draft)	4 days

### Focal Persons

#### UNDP Country Office, Cambodia

Mr. Khim Lay, Assistant Country Director, Team Leader, Environment and Energy Cluster  
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#### NAPA Follow-up Project Team

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## Annex 2: Inception Report - Mid-term Review of NAPA Follow Up project

### 1. Background and Introduction:

#### 1.1 Introduction to the evaluation

“Promoting Climate-Resilient Water Management and Agricultural Practices in Rural Cambodia” is a four-year project (2009-2013) funded by UNDP GEF/LDC fund (Global Environment Facilities/Least Developed Countries Fund) and implemented by the Ministry of Agriculture, Forestry and Fisheries. This is the first project following up to the, ‘National Adaptation Programme of Action for Climate Change (NAPA)’ launched in 2006. As per the monitoring and evaluation (M & E) plan of the project, an independent mid-term evaluation is due at the end of two years of project implementation. In fulfillment of this requirement, this evaluation is being undertaken during May and June 2012 by a team of two independent consultants, one international and one national.

#### 1.2 Background – the programme context and objectives

The context within which this programme (NAPA follow up project) is being implemented is described in detail in the project document.<sup>1</sup> The central issue is that Cambodia is one of the top ten most-vulnerable countries to climate-changed induced factors in dealing with its water resources and their effects on peoples’ lives and livelihoods which are predominantly based on subsistence farming.

The objective of the project is to contribute to reducing the vulnerability of Cambodia’s agricultural sector to climate-induced changes to water resource availability. As part of Cambodia’s climate change (CC) adaptation programme, its precursor, the NAPA FU was one of the first projects to have been initiated to address immediate needs and concerns of people at the grassroots level for adaptation in key sectors such as agriculture water resources. This follow up project consolidates the progress made in the NAPA project through practical actions at sub-national (provincial, district and commune) level, to achieve the following outcomes:

Outcome 1: Improved capacity of local institutions to manage agricultural water resources in a changing climate;

Outcome 2: Locally appropriate adaptation options demonstrated to reduce exposure to climate change-induced risks; and

Outcome 3: Lessons learned in project pilot sites replicated in other vulnerable areas of Cambodia

The key outputs that are to be delivered against each outcome are summarised in Table 1 below:

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<sup>1</sup> UNDP. UNDP Project Document – Government of Cambodia, PIMS no 3867. ‘Promoting Climate-resilient Water Management and Agricultural Practices in Rural Cambodia’. (undated)

**Table 1: Key outputs against the three outcomes targetted by the project**

Outcomes	Outputs
Outcome 1	1.1 Commune council plans and budgets address inherent climate risks in target districts.
	1.2 Farmers Water User Committees (FWUCs) and Ministry of Water Resource and Meteorology (MOWRAM) engineers trained in climate- resilient irrigation design.
	1.3 Conflict potential in areas prone to climate-induced water shortages assessed and conflict prevention measures supported.
	1.4 A community-based climate information system on flooding and drought events established.
Outcome 2	2.1 Improved rainwater harvesting facilities demonstrated in 30 villages.
	2.2 Resilient farming methods to climate-induced changes in rainfall intensity and distribution demonstrated.
	2.3 Resilient design and management of reservoirs, irrigation canals, ponds and dykes demonstrated.
Outcome 3	3.1 Increased public awareness and environmental education programmes on climate risk reduction designed and implemented.
	3.2 Learning networks for climate-resilient farming practices established.
	3.3 Media supported dissemination of project lessons.
	3.4 review of national policies on CC adaptation based on lessons generated by the project.
	3.5 Experiences generated contribute to the Adaptation Learning Mechanism (ALM).

### 1.3 Background – implementation modality and management

Within UNDP, the project comes under what is called National Implementation modality (NIM or NEX<sup>2</sup>) whereby the primary ownership of the project and responsibility for implementation lies with the national government, and funds are channelled by UNDP through the government agencies. MAFF Project Support Unit (PSU) is primarily responsible for the overall management of project activities, reporting, accounting, monitoring and evaluation of the project, supervision of the implementing agents and financial management of UNDP/LDCF resources. MAFF PSU is accountable to the Government and to UNDP/GEF for the Production<sup>3</sup> of outputs and for the achievement of project objectives.

<sup>2</sup> National Execution

<sup>3</sup> UNDP – PROJECT (Promoting Climate Resilient Water Management and Agriculture Practice in Rural Cambodia) PROGRAM ASSESSMENT

The implementing agencies include the following government institutions and non-governmental organisations (NGOs) which provide technical services and carry out project activities:

- MAFF PSU provides technical services for the delivery of results related to agricultural development. At the national level, the project activities are executed by MAFF PSU.
- MOWRAM is responsible for the water and irrigation related activities, as it has the mandate in water resources planning. At the provincial level, water resource management related activities is implemented by the Provincial Departments of Water Resources and Meteorology (PDoWRAM). MoWRAM also sits on the project board as a senior beneficiary.
- MoE/GEF focal point sits on the project board. MoE/CCD provides also technical support in building understanding of project stakeholders and beneficiaries on climate change issues.
- Ministry of Women's Affairs (MoWA). This Ministry, particularly its gender-working group on Climate Change, joined the project board in 2011 and is actively involved in coordinating the project activities with its line department.
- At the sub-national level, Executive Committee (EXCOM) is one of the implementing agencies. Since mid-2011, the structure has been replaced by the Provincial Administration carrying out a coordination role for the provincial line departments involved in the project activities, namely the Provincial Department of Agriculture (PDA), Provincial Department of Water Resources and Meteorology (PDoWRAM) and Provincial Department of Women's Affairs. The Provincial Administration oversees the financial management of the project funds channelled through the decentralisation and deconcentration system. It consolidates the provincial line department reports and submits the quarterly/annual progress and financial reports to MAFF PSU.
- Cambodia Agriculture Research and Development Institution (CARDI) which is a semi-autonomous Government institution that has been contracted to provide specific technical services in building capacity of provincial and district agriculture staff and farmers, coordination in conducting On-Farm Adapted Trials (OFAT) for drought and submergence tolerance of rice varieties and to promote the adoption of such varieties by farmers for use in the targeted villages of project.
- Save Cambodia Wildlife (SCW) – is a local NGO. SCW is hired to design and implement an evidence-based public awareness and outreach initiative, which is responsive to the project focus areas. SCW is responsible to facilitate awareness campaigns and environmental education on climate risk reduction in the target areas.

Additionally, UNDP leverages the already established IFAD-MAFF programme which is administered through another UNDP/IFAD project (RULIP). The UNDP/IFAD project

has three main roles vis-a-vis the NAPA FU: (1) provides technical support in mainstreaming lessons from NAPA follow-up project into policy development in collaboration with MAFF at the national and sub-national level; (2) plays a key role in coordinating the RULIP and the NAPA joint activities; and (3) ensures that future MAFF and IFAD agricultural development programmes reflect the impacts of climate change.

## **2. Purpose and Objectives of the Evaluation:**

As outlined in the terms of reference (Annex 1), this evaluation is a mid-term review (MTR) to assess the effectiveness and results of a four-year NAPA Follow up (FU) project. While examining results of the project, the evaluation will particularly assess how the project outcomes contributed to the higher level UNDAF (United Nations Development Assistance Framework) outcomes and UNDP's Country Programme Action Plan (CPAP) outcomes, and based on the lessons and findings from the evaluation, comment on future direction of this programme.

The specific objectives of the review are as follows:

1. Examine the project design and assess its relevance and appropriateness in the context of Cambodia in terms of addressing climate change issues.
2. Assess the progress of the project vis-a-vis the original plan and logframe and suggest any course correction that may be necessary.
3. Assess the function and role of the project board in providing guidance, coordination and oversight in implementation of the project, and examine the technical assistance provided to the project by partners including UNDP.
4. Examine the management and administration of the project by MAFF and MoWRAM at national and sub-national level.
5. Analyse the extent of participation of local institutions and stakeholders in the project, and assess the institutional cooperation and cross-sectoral synergies created by the project.
6. Assess the administration and operational management of the project.
7. Comment on the sustainability of the project and its demonstrative effect and replicability – what lessons can be drawn from the project for future?

While examining the project in the above areas, the review will also assess the overall performance against GEF performance indicators for climate change adaptation and identify and analyse the external and internal factors that have contributed to or hindered the project implementation and outcome, and draw lessons from these.

## **3. Methodology and Reporting:**

### **3.1 Methodological approach**

The overall methodology will be based on both inductive and deductive approaches using qualitative data gathered through a mixed-method approach from a carefully selected range of sources as indicated below.

The data collection for this evaluation will be mainly done through purposively

selected key informant interviews (KIs), semi-structured discussions (SSI), documents research, specific data points requested of UNDP, case studies and carefully structured focus group discussions (FGD) with communities in the two provinces (Kratie and Preah Vehar) which will be visited during the evaluation. The evaluation will also use data from documents made available by UNDP and the project.

### **3.2 Evaluation Framework**

Broadly the evaluation will use GEF's performance indicators as below to answer the key evaluation questions detailed in the ToR. The evaluation will use a balanced score card method to rate<sup>4</sup> the overall achievements on a scale of 1-5 (in descending order) against these indicators:

- Achievement of objectives and planned results
- Attainment of outputs and planned activities
- Cost-effectiveness
- Coverage
- Impact
- Sustainability
- Replicability
- Implementation approach
- Stakeholder participation
- Country ownership
- Acceptability
- Financial planning
- Monitoring and evaluation

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<sup>4</sup> Rating 1 (excellent) - Achievement 90-100%; Rating 2 (very good) - Achievement 75-90%; Rating 3 (good) - Achievement 60-74%; Rating 4 (satisfactory) - Achievement 50-59%; and rating 5 (unsatisfactory) - Achievement 49% or less.

Key evaluation questions, sources of data and methods of gathering these are detailed out in Table 2 below.

### **3.3 Triangulation of data**

Triangulation is a core principle in mixed-method data collection as it ensures that the results are linked up into a coherent and credible evidence base. This evaluation will mainly rely on:

- Source triangulation. The consultant will compare information from different sources, i.e. at various management levels in different implementing partners, functional units, UNDP partners (Government, NGOs), and donors.
- Method triangulation. The consultant will compare information collected by different methods, e.g. interviews, focus group discussion, document review.
- Oral presentation of preliminary findings and conclusions to MAFF-PSU and UNDP stakeholders in the country as part of the validation process.

### **3.4 Reporting and presentation of findings and recommendations**

- Preparation of first draft of the report, to be revised based on feedback received from stakeholders.



- Preparation of second draft of the report for wider circulation and comments.
- Submission of final report.

#### Report format

#### Section 1: Introduction, Purpose and Methodology of the Review

- 1.1 Background to the Evaluation
- 1.2 Purpose and Scope of the Evaluation
- 1.3 Organisation of the Evaluation
- 1.4 Methods, Key Interviewees and Questions
  - 1.4.1 Key Steps
  - 1.4.2 The Evaluation Framework, Key Questions and Limitations
  - 1.4.3 Key Interlocutors
  - 1.4.4 Triangulation of information
- 1.5 Limitations
- 1.6 Format of the Report

#### Section 2: UNDP Programme Context and Content

#### Section 3: Findings of the Evaluation

- 3.1 Institutional capacity and linkages (outcome 1)
- 3.2 Appropriate adaptation options (outcome 2)
- 3.3 Lessons learned (outcome 3)

#### Section 4: Assessment against GEF Indicators

- Achievement of objectives and planned results
- Attainment of outputs and planned activities
- Cost-effectiveness
- Coverage
- Impact
- Sustainability
- Replicability
- Implementation approach
- Stakeholder participation
- Country ownership and acceptability
- Financial planning
- Monitoring and evaluation

## **Section 5: Key Lessons and Recommendations**

### **5. Time-frame:**

#### **5.1 Tentative schedule of field visits**

As attached (please attach the latest schedule)

#### **5.2 Delivery schedule**

- |   |                    |
|---|--------------------|
| • Scoping interviews, briefing & Inception Report | May 28-31, 2012    |
| • Field visits                                    | May 3 – June, 2012 |
| • Presentation of preliminary findings            | June 11, 2012      |
| • Submission of 1 <sup>st</sup> draft of report   | June 20, 2012      |
| • Comments on 1 <sup>st</sup> draft               | June 26, 2012      |
| • Submission of 2 <sup>nd</sup> draft             | June 30, 2012      |
| • Comments on 2 <sup>nd</sup> draft               | July 05, 2012      |
| • Submission of final report with annexes         | July 10, 2012      |

**Table 2: Evaluation Framework – key evaluation questions, research questions, methods and sources of data**

Evaluation criteria & key Questions <sup>5</sup>	Research questions	Data needs, sources of data, methods of collection
<b>Objectives and planned results:</b>	1. How relevant are the objectives and design of the project in terms of addressing climate change (cc) issues identified in the project document?	Desk research (DR) - Project document; inception report; Annual progress reports (APR). Key informant interviews (KII) - senior Government officials; UNDP staff; PSU staff and other stakeholders.
<b>Outputs and planned activities:</b>	2. What have been the key achievements of the project, and is the project on course to achieve its overall objectives and outcomes by the end of the project? 3. Are the outcome indicators defined in the logframe being met and tracked? 4. Are the activities that have been implemented and being planned appropriate? Are there any activities in the project that are not mission-critical? 5. Do the delivery of outputs conform to the indicators in the project design? If not, comment on deviations.	DR - APRs, progress reports by implementing partners, comparison of progress against logframe; KII – PSU staff; Site visits to OFAT locations, irrigation and water harvesting activities, bio-gas, dried bore wells and irrigation tank in Teuk Krahorm constructed by the project; sample household visits to Bosleav and Teuk Krahorm communities to see how water purifiers are used; KII with community volunteers who underwent early warning training; FGD on use of early warning system; FGD with women's groups/beneficiaries.
<b>Coverage:</b>	6. What criteria were used to select area and beneficiaries, and how valid were these criteria for the purpose for which the project was designed? 7. Are the areas/target groups where activities are being implemented sizeable enough that successful interventions will make a difference to climate change adaptation in the area?	Provincial administration officials. Plus DR.  DR; KII provincial administration and commune councils; FGDs with communities. Gather data on size of communes /number of beneficiaries covered in each province; KII with provincial and district officials.
<b>Replicability:</b>	8. Does the modus operandi involve making linkages with other complementary initiatives?	KII with climate change adaptation (EU) project staff, MoE, CCBAP project staff, RULIP/IFAD, ADB

<sup>5</sup> Key evaluation questions are as in the ToR.

	<p>9. Which other agencies have been working with the provincial authorities and local committees on capacity development and how does this project's support toward capacity development synergies with these?</p> <p>10. Are the activities and lessons emerging from the project scalable and likely to make wider impact in future? What have been the main lessons from the past two years of programme implementation, and how are these being integrated into future programme?</p> <p>11. Which elements of the project are replicable and which are not, and why?</p>	<p>project staff. KII provincial authorities and commune councils; other interlocutors to be identified in provinces/ districts. Data analysis and desk research.</p>
<b>Impact:</b>	<p>12. Will the outcomes that have been /are being realised, contribute to the impact as defined in the logframe's overall purpose?</p> <p>13. Could the project have higher impact than is currently possible, had the project done things differently? If so, how?</p> <p>14. In the project area, what would have been the situation now and in future had the project not been implemented?</p>	<p>As above</p> <p>Study 5-6 CDPs to see how CC is addressed; Assess PDPs (5 year plans) and district investment programme (3 year programmes) and see how CC addressed. FGD with farmers who underwent TOT on CCA. Data from commune councils/FGDs on increased adoption of rain water harvesting, adoption of rice varieties; FGDs with farmers whose farms were part of OFAT for rice varieties; interviews with rice production groups, FWUCs who attended ToT and those who did not attend ToT. Visit at least 2 villages of the 14 target communities who are reported to have developed climate resilience – FGD/KII to determine what are the characteristics of a resilient community? What are the characteristics of a resilient irrigation system?</p>
<b>Sustainability:</b>	<p>15. Does the project have an exit strategy? What will happen at the end of the project?</p> <p>16. How are the lessons from the project disseminated, and what scope exist for these lessons to be taken on board to scale up the</p>	<p>KII MAFF-PSU staff and UNDP senior staff.</p> <p>What is ALM and how does the project contribute to it?</p>

	project activities and outcome at national level?	KII PSU, UNDP, MoE, EU staff, ADB, provincial senior officials, Desk research.
	17. What mechanisms/ arrangements been put in place to sustain the outcome of the programme in future?	
<b>Implementation approach:</b>	17. How were the role of different entities involved in the project defined, and was the approach appropriate and efficient?	DR; KII with MAFF-PSU, UNDP, SCW, MOWRAM, MOWA.
	18. Are the administrative, operational, management and oversight structures for the project efficient and effective?	As above
<b>Stakeholder participation:</b>	19. To what extent local institutions and communities have participated in the various activities of the project and taken ownership of activities?	KII commune councils and FGDs with community groups.
	20. What is the nature of participation and engagement of various stakeholder ministries in the project? How are key stakeholders (Ministry of Environment, CCCA etc) engaged in policy debates and dialogue?	KII MAFF-PSU, relevant line Ministries, UNDP staff.
<b>Country ownership and acceptability:</b>	20. How integrated is the project into the government structure and how far is the GoC driving it?	As above
	21. Were programme resources efficiently applied? Were the risks properly identified and well managed?	Data analysis; financial reports and key expenditure data to be made available by project.
<b>Financial planning:</b>	22. What are the cost-benefit ratio for different activities? Are there any value for money data monitored, and if so, what are those?	As above
<b>Monitoring &amp; evaluation:</b>	23. What support is provided by UNDP and what key parameters are being monitored?	KII MAFF-PSU and UNDP; DR
	24. Are the progress reports evidence-based and do these track outcomes?	As above
	25. How robust is the M&E system used for the project?	As above

## **Summary:**

### **Key Data must obtain during field visits and from MAFF-PSU/UNDP:**

#### **1. Site visits:**

- Site visits to OFAT locations, irrigation and water harvesting activities, bio-gas, dried bore wells and irrigation tank in Teuk Krahorm constructed by the project;
- Sample household visits to Bosleav and Teuk Krahorm communities to see how water purifiers are used;
- KII with community volunteers who underwent early warning training;
- FGD on use of early warning system;
- FGD with women's groups/beneficiaries.

2. Resilience: Visit at least 2 villages of the 14 target communities who are reported to have developed climate resilience – FGD/KII to determine what are the characteristics of a resilient community? What are the characteristics of a resilient irrigation system?

3. Coverage: Gather data on size of communes /number of beneficiaries covered in each province

4. CC mainstreaming: Study 5-6 CDPs to see how CC is addressed; Assess PDPs (5 year plans) and district investment programme (3 year programmes) and see how CC addressed. FGD with farmers who underwent TOT on CCA.

#### **5. Data from provinces/districts:**

- Data from commune councils/FGDs on increased adoption of rain water harvesting, adoption of rice varieties;
- FGDs with farmers whose farms were part of OFAT for rice varieties;
- Interviews with rice production groups,
- Interviews with FWUCs who attended ToT and those who did not attend ToT (control group) to assess how CC agenda is being taken forward at FWUC level.

#### **6. Financial data:**

- Overall – budget and expenditure for each individual implementing partner against various programme activity heads, overheads and management;
- Detailed cost on few selected project activities – bio-gas, community awareness (through SCW), rain water harvesting structures, irrigation tanks in Treuk Khrahom.

7. Progress reports: Annual progress reports submitted by each implementing agency.

8. Learning: What is ALM and how does the project contribute to it?

### Annex 3: List of People Interviewed and site visits made by review team

No.	Name	Organisation	Position/Title
<b>National Level</b>			
1	Mr. Khim Lay	E&E Unit, UNDP	ACD and Team Leader
2	Ms. Kalyan Keo	UNDP	Programme Analyst
3	Ms. Hing Phearanch	UNDP	Policy Analyst
4	Mr. Sophat Chun	UNDP	M&E Officer
5	H.E. Teng Lao	MAFF/PSU	National Project Director
6	Mr. Hok Kimthourn	MAFF/PSU	National Project Manager
7	Mr. Ung Dara Rat Moni	UNDP/NAPA FU	Policy Advisor
8	Mr. SuosPinreak	UNDP/NAPA FU	National Advisor
9	Dr. Ponlok Tin	MoE	Deputy Director General and Head of Trust Fund Secretariat
10	Mr. Sum Thy	MoE	Head of Climate Change Office
11	H.E. Long Rithirak	GEF Secretariat	GEF Representative
12	Ms. Cheng Chinneth	MoWA	Gender and Climate Change Committee
13	Mr. Sok Piseth	MoWA	Gender Equality Deptt
14	Mr. Hem Chanthou	ADB	Senior Programme Officer
15	Mr. Keo Sovathapheap	MoWRAM	Deputy Director Irrigation Department
16	Mr. Koen Everaert,	EU	attaché,
17	Mrs Soma Dor,	Swedish Embassy	Programme Officer,
18	Ms. Sophie Baranes,	UNDP	Deputy Country Director Programme
19	H.E. Ty Sokun	MAFF	Climate Change Committee
20	Mr. Prak Thaveak Amida		
21	Dr. Tauch Chan Kresna	MEF Dept of Investment and Cooperation	Head
22	Dr. Seng Vang	CARDI	Deputy Director
23	Mr. Seang Lay Heng	CARDI	Researcher
24	Mr. Tonn Kunthel	SCW	Project Manager
25	Mr. Lay Vannara,	SCW	Project Officer
26	Mr. Sorn Sros	SCW	Project Officer
27	Mr. Hou SereyVathana	UNDP	Project Manager CCBAP
28	Mr. Vong Makara	UNDP	M&E Officer
<b>Preah Vihear</b>			
29	H.E. Suy Serith	Provincial Administration	Chief of IP3, Deputy Governor
30	Mr. Luk Kimlean	Provincial Administration	M&E NAPA FU
31	Mr. Chen Khantey	Provincial Administration	Finance NAPA FU
32	Ms. Nut Saman	NCDD PVH	Provincial Programme Management Advisor
33	Ms. Or Sokhom	PDoWA	Director
34	Ms. Ouk Samboeun	PDoWA	Official
35	Mr. Poeng Tryda	PDA	Director
36	Mr. Men Pichponnareay	PDA	Official, Agronomy
37	Mr. Von Savath	PDA	Official, Extension
38	Mr. Vong Lo	PDoWRAM	Deputy Director
39	Mr. Cheng Peou	PDoWRAM	Official
40	Mr. Prum Vimean	UNDP	Provincial Coordinator
41	Mr. Yang Sophat	Rong Roeung Village	Farmers
42	FWUC group	Tek Krohorm village	Farmers
43	Animal Feeding Group	Tek Krohorm village	Farmers
44	Mr. Doung Seth	Cham Ksan village	Farmer

No.	Name	Organisation	Position/Title
45	Mr. Mom Sophat	Tek Krohorm commune	Commune Chief
46	Mr. Sok Hay	Cham Ksan district	District governor
47	Mr. Srey Sam An	PDA	Deputy Director of Planning
48	Mr. Son Borin	PDA	Dep Director
49	Mr. Nget Sophy	IFAD/RULIP PDA	M&E Officer
	<b>Kratie</b>		
50	Mr. Pen Linath	Provincial Administration	IP3 Chief
51	Mr. Oum Phynan	NCDD	Provincial Programme Management Advisor
52	Mr. Leang Seng	PDA	Deputy Director
53	Mr. Chhim Sotha	Provincial Administration	M&E, NAPA FU
54	Mr. Chin Bunrith	UNDP	Provincial Coordinator
55	Mr. Ly Dy	PDA	Officer
56	Mr. Heng Rothmonida	PDoWRAM	Director
57	Mr. Eang Phalkun	PDoWRAM	Deputy Director
58	Ms. Bun Sithoth	PDoWA	Director
59	Ms. Bo Vicheka	Provincial Administration	Finance
60	Mr. Ly Seng Hong	PDA	Contract staff
61	Ms. Seang Yektin	PDA	Staff
62	Ms. Han Pharen	PDA	NAPA staff
63	Mr. Thlang Vannary	PDoWRAM	NAPA staff
64	Ms. Eang Sarik	PDoWRAM	NAPA staff
65	Mr. Thlang Vannary,	PDoWRAM	Officer
66	Seed Purification Group	Bos Leav Leu village	Farmers
67	Agricultural Improvement Group	Preah Konlorng village	Farmers
68	Commune Councils	Bos Leav Commune	Commune Councils
69	Ms. Kim Sothy	Bos Leav Krom village	EWS volunteer
70	Ms. Khiev Oy	Bos Leav Krom village	Farmer
71	Ms. Khun Phon	Bos Leav Krom village	Farmer
72	Ms. Eang Men	Bos Leav Krom village	Farmer
73	Mr. Sok Ang	Preah Konlorng village	EWS volunteer

#### List of Village Visited

	<b>Preah Vihear</b>
1	Rong Roeung 1 Village
2	Tek Krohorm village
3	Chat Tiang Village
4	Cham Ksan village
	<b>Kratie</b>
5	Bos Leav Leu village
6	Preah Konlorng village
7	Bos Leav Krom village



## **Annex 4: List of key documents studied**

CARDI. 2011 *Final Report (Draft) for Research Service Contract: NAPA Follow-up Project*, December 2011

Gernot Laganda/Yusuke Taishi. *BACK TO OFFICE REPORT (BTOR)*, Phnom Penh/Kratie, Cambodia. Date Submitted: 28/06/2011. Asia Pacific Regional Centre

IFAD (undated). *Enabling the rural poor to overcome poverty in Cambodia*

Royal Government of Cambodia, Kratie Province. *NAPA Follow-up Project: Briefing for Mid-term Review Mission*, June 2012. (ppt)

Royal Government of Cambodia, Preah Vihear Province. *NAPA Follow-up Project: Briefing for Mid-term Review Mission*, June 4 2012. (ppt)

Royal Government of Cambodia. *Policy Paper on the Promotion of Paddy Production and Rice Export*, RGC 2010

UNDP – *PROJECT (Promoting Climate Resilient Water Management and Agriculture Practice in Rural Cambodia) PROGRAM ASSESSMENT*

UNDP Cambodia. *Annual Project Report 2011 –Promoting Climate resilient Water Management and Agricultural Practices in Rural Cambodia (NAPA Follow Up)*

UNDP Cambodia. *Capacities to conserve bio-diversity and to respond to climate change. OUTCOME EVALUATION 2006-2010 FINAL* 05.11.2010

UNDP Cambodia. *Climate Resilience Through Water Management Capacity*, Julian Abrams, September 2011

UNDP Cambodia. *Country Programme Action Plan – M & E Framework*, January 2011 December 2015.

UNDP Cambodia. *Inception Report – Promoting Climate-resilient Water Management and Agricultural Practices in Rural Cambodia*. March 2010

UNDP Cambodia. Key facts about poverty reduction in Cambodia (<http://www.un.org.kh/undp/what-we-do/poverty-reduction/poverty-reduction>; date accessed: 12 June 2012)

UNDP Cambodia. *Listen to Villagers on Climate Change – Vulnerability Reduction assessment (VRA)*, November 2010.

UNDP. *Asia-Pacific Human Development Report 2012 – One Planet to Share: Sustaining Human Progress in a Changing Climate*.

UNDP. UNDP Project Document – Government of Cambodia , PIMS no 3867. '*Promotiong Climate-resilient Water Management and Agricultural Practices in Rural Cambodia*'. (undated)