

# Monitoring and Evaluation Framework for Demonstration Activities



## Cambodia Climate Change Alliance (CCCA)

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## Acknowledgement

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The work has been conducted from July – October, 2013.

The report has been prepared by Mr. Torben Krab with assistance from the CARP project team and national consultant Mr. Chea Leng.

## Abbreviations and Acronyms

AEA	Agro Ecological Analyses
CARDI	Cambodian Agricultural Research and Development Institute
CARP	Coastal Adaptation and Resilience Planning Component
CCCA	Cambodian Climate Change Alliance
CelAgrid	Centre for Livestock and Agriculture Development
CFiAMP	Community Fisheries Area Management Plan
DA	Demonstration Activity
DAE	Department of Agricultural Extension (Cambodia)
FFS	Farmer Field School
FFD	Farmer Field Days
FiA	Fisheries Administration
HH	Household
MAFF	Ministry of Agriculture, Forestry and Fisheries
M&E	Monitoring and Evaluation
NGO	Non-Governmental Organization
OFAT	On-Farm Adaptive Trials
PIP	Project Implementation Plan
SDS	Short Duration Seeds
VAHW	Villages Animal Health Workers

## Summary

This report provides an M&E framework for the Demonstration Activities (DA) 1, 2, 3& 4. The M&E Framework has been developed in relation to the LFA of each DA. DAs 5 & 6 have not been a part of this scope of work, due to their implementation mode. The report provides a review of relevant data in relation to DA5 based on the CARP report "Assessment of Coping Strategies in the Coastal Zone of Cambodia". These data will be used in the M&E Framework for DA 5.

As part of this report an income survey has been conducted for each of the DAs 1,2,3 & 4, in order to generate an income baseline for the monitoring and evaluation framework. These data have been collected by the implementing agencies of each DA.

In developing the M&E Framework, the LFAs of the DAs have been revised according to recommendations in the present report.

Furthermore, as part of the developed M&E Framework this report has conducted a monitoring process of each of DAs 1, 2, 3& 4 based on available data from the implementing agencies. The data available have in general been sufficient with a few exceptions. These exceptions have all been addressed, and are all in the process of being collected, in order to be included in the M&E framework.

In the report the M&E Framework has been divided into sections based on the DAs, however in Annex F all the M&E Forms have been aligned.

## Introduction

### Scope

The aim of this report is to develop a Monitoring and Evaluation Framework (M&E Framework) for the 6 demonstration activities (DA). This is done as part of outcome 2 in the Coastal Adaptation and Resilience Planning Component (CARP) under the Cambodian Climate Change Alliance (CCCA). The format will be developed with the purpose of generating a baseline, from which the outputs and indicators of the LFA of the 6 DAs can be monitored and evaluated. In addition to the baseline report, the report also provides an assessment of the LFA of the six DAs, giving recommendations for changes and improvements.

The purpose of this report is defined as activity 2.18 in the CARP.

### The six demonstration activities

A detailed presentation of the DAs and the Programme Implementation Plans (PIP) can be found in the following document - developed in December 2012;

- "Detailed Implementation Plan for Demonstration Activities at the Coast"

As earlier described, the six DAs are part of output 2 in the CARP. The six demonstration activities were selected by a participatory process from a list of 20 potential demonstration activities, which were also developed in a participatory manner with the target communities and government officials in late 2012. The process of identifying the 6 DAs was based on already finalized activities of Outcome 2.<sup>1</sup>

Finally, the 6 DAs were approved on the 2nd CARP Project Steering Committee meeting on the 10th January 2013. The approval included a budget of 689,000 US\$ for all 6 DAs.<sup>2</sup>

The 6 DAs are as follows:

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<sup>1</sup>CARP, "Detailed Implementation Plan for Demonstration Activities at the Coast", 2013, p. 3

<sup>2</sup>CARP, "6<sup>th</sup> Quarterly Progress Report (January – May 2013)", 2013, p. 5

<b>Demonstration Activity</b>	<b>Title</b>	<b>Implementing Agency</b>	<b>Timeframe</b>
Activity 1	Climate Resilient Integrated Farming Training Programme.	DAE, MAFF.	02-01-2013 - 28-01-2014
Activity 2	Community Fisheries Project in PeamKrasaob.	FiA, MAFF.	01-04-2013 - 31-03-2014
Activity 3	Short Duration Seeds for Crops.	CARDI, MAFF.	01-03-2013 - 30-04-2014
Activity 4	Revolving Livestock Scheme.	CelAgrid and MAFF.	18-03-2013 - 31-03-2014
Activity 5	Awareness increasing in relation to climate change and resistant irrigation training.	Provincial Working Groups and Department of Environmental Education, MoE.	01-02-2013 - 31-03-2014
Activity 6	Adaptation measures integrated into Commune Development Plans in 8 Communes.	Commune Councils assisted by CARP.	01-02-2013 - 31-03-2014

## M&E Framework for the 6 demonstration activities

This section presents the developed M&E format for each DA. There will be elaborated on each DA, and it will be followed by an analysis of its LFA outcome indicators.

An aligned M&E Framework of all DAs can be found in Annex F.

### Demonstration activity 1<sup>3</sup>

**Integrated Farming Training Programme for agriculture/fisheries extension staff and households. The training is based on multi-scale climate change adaptation strategies and integrated farming (integration of crops, livestock, fish and water). The programme is conducted in all the 8 target communes.**

The concept of DA1 offers the possibility to develop tailor-made solutions, which suit individual households as well as individual communities and communes. The concept is integrated with a preceding agro-ecological system analysis (AEA) for each commune. The AEA is based on a working model for agro-ecological system analysis currently used by the DAE. The model integrates crop, plantation, livestock and fisheries, water and other livelihood sources into an integrated agricultural (or livelihoods) concept. This allows individual households as well as their larger communities to develop comprehensive solutions, which are tailor-made to their specific needs, preferences and opportunities.

This project started on 2/1-2013 and consists of four activities. These four activities are based on a critical path both in relation to the PIP, but also in relation to the other DAs – this especially relates to the AEA.

The LFA of DA1 is shown Annex A.

The four activities are:

Activity 1.1	Conduct of Agro Ecological Analyses in 8 communes
Activity 1.2	Development of training modules and curricular adapted to coastal conditions
Activity 1.3	Implementation of Training of Trainers programme
Activity 1.4	Implementation of Farmer Field School (FFS) concept

Activity 1.4 has to follow the main crop season beginning prior to the onset of the wet season. Prior to activity 1.4 activities 1.1, 1.2 and 1.3 have to be conducted since they are the foundation for the FFS.

The four activities are planned to generate the following outcome:

Outcome DA1	Doubling of households' income and adaptation to climate change for 75% of FFS participants
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To monitor and evaluate this outcome, the following indicators have been developed:

Indicators	<ul style="list-style-type: none"> <li>• Increase of average net household income by 200\$ per ha and equivalent in livestock or fisheries.</li> <li>• Increased capacity of extension agents to advise on climate change and integrated farming.</li> </ul>
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<sup>3</sup>CARP, "Detailed Implementation Plan for Demonstration Activities at the Coast", 2013, p 12-31



**Comments for the LFA of DA1:***Outcome:*

The outcome definition of "...adaptation to climate change for 75% of FFS participants" could be clarified. The outcome is related to FFS participants that adopt climate change adaptation tools presented to them at the FFS. This should be clarified in the Outcome.

Thus it is recommended that the Outcome is changed to:

**"...75% of FFS participants have adopted climate change adaptation tools." (see LFA)**

*Outcome indicator:*

The outcome indicator defines HH's income as net income. This would require a more detailed questionnaire, requiring the respondents to use a detailed budget for calculating their net income. Such a budget must be expected for only a limited number - as very few of the respondents are able to produce such a budget on the spot. Thus using net income as an economic measure is considered to be difficult to use as a measure. Instead it is recommended that the outcome indicator is defined as *gross income*, which will simplify the answers to be provided from the respondents.

Furthermore, the outcome is defined as a "Doubling of HH's income..." In the outcome indicator this is defined as an "Increase of average net household income by 200 \$ per ha per year" – which equals a baseline of 100 \$ per ha per year. The baseline is generated from the CARP report "Analysis of Cost & Benefit of modifying Agricultural Practices for Climate Change at the Coast". The economic assessment is based on a detailed and complex methodology which takes into account a number of specific HH economic factors that requires a detailed and individual HH budget calculation. In order to use this baseline in the M&E Framework for DA1, the same methodology has to be applied. However, this is not optimal due to the timeframe and extent of DA1. Instead of an income baseline of 100\$, this M&E will generate its own baseline based on an average gross income level of the participating HHs.

The data on income per ha are available, but based on a review of the data it is considered that the validity of the data will be higher if the income is not related to *per ha* but instead related to HH's general income.

Thus it is recommended to change the outcome indicator to:

**Doubling of average gross income per HH. (see LFA – Annex A)**

**M&E Framework DA1**

The following M&E Framework has been developed for DA1 and ensures the relevant data in relation to the LFA of DA1.

*Data:*

As part of developing the M&E Framework for DA1 a data collection based on a questionnaire has been conducted. The respondents are all participants in the FFS and are covering the whole target area. The survey consists of 772 respondents of whom 383 were women.

Data related to the 8 AEA have mainly been collected based on the report of the workshop “Adapting Training Modules and Curricular to Coastal Condition” conducted in Sihanouk Ville 29 – 30 April 2013, where a presentation of all the 8AEAs was conducted.

Furthermore, the implementing agency of DA1, DAE, has submitted detailed activity progress reports covering the period January – September 2013. The progress reports have also provided data for the M&E Framework.

#### *M&E Framework:*

Outcome:	Baseline:				Target:	Results	Comments
Doubling of household income.	Number of FFS participants:				Up to 1200 FFS participants  48 Farmer Fields Days (FFD)	All 8 AEA have been finalized in January 2013 (summary of AEA findings). <sup>4</sup>	31 Farmer Field days (FFD) are scheduled to be conducted during November and December 2013 in 31 villages. Additionally: Further 8 FFD are planned to be conducted later on. <sup>8</sup>
	Men	466	Women	330			
	Average HH income for FFS participants (monthly):						
	Dry season		Wet season				
	55USD		53.8USD				
FFS participants that have adopted climate change adaptation tools after participation in FFS.	Major	Some	Minor	None	Increased capacity of 30 extension agents  75% of FFS participants have adopted climate change adaptation tools.	Training modules for FFS and TOT has been adapted to coastal conditions. <sup>5</sup> By October 2013 based on the TOT 30 extension agents have been trained in the defined objectives of the TOT. <sup>6</sup>  By October 2013 796 farmers incl. 383 women are enrolled and actively participating in the 31 FFS. <sup>7</sup>	Regarding the 2nd part of the output “...75 %...have adopted CC tools.” No baseline is needed, thus this will be measured upon during the evaluation of the activity.

<sup>4</sup> DAE, “WORKSHOP REPORT - ADAPTING TRAINING MODULES AND CURRICULAR TO COASTAL CONDITION For Demonstration Activity 1 on Training in Integrated Farming and Climate Change”, 2013, p. 3-4

<sup>5</sup> IBID, 2013, Annex 3-4

<sup>6</sup> DAE, “PROGRESS REPORT DEMONSTRATION ACTIVITY-1: TRAINING IN INTEGRATED FARMING AND CLIMATE CHANGE (July-September 2013)”, 2013, p. 10

<sup>7</sup>IBID, 2013, p. 8

## Demonstration Activity on rain water harvesting<sup>9</sup>

An individual LFA has been developed for a sub-activity entitled "On-farm water conservation and rain harvesting methods". This activity is a response to the intrusion of salt water into the rice paddies. By implementing the activity a system would be developed which to a much higher degree would manage the rainwater in a more effective way.

The LFA of the sub-activity is shown in Annex B.

This activity is based on one main activity:

Activity 1.5.1	In-field water conservation method and on-farm rain harvesting and small-scale irrigation methods.
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In addition to this activity 5 sub-activities are implemented.

Sub-activity 1	Assessment of farmer techniques, soil/water quality, crop production potential in this context via AEA.
Sub-activity 2	Implementation of on-farm demonstration activities in water conservation, rainwater harvesting and appropriate irrigation.
Sub-activity 3	Conduct of FFD's in connection with each demonstration site - One FFD per commune.
Sub-activity 4	Training of farmers/HHs on in-situ rainwater harvesting techniques.
Sub-activity 5	Monitoring and documentation.

Activity 1.5 is identified in order to generate the following outcome:

Outcome 1.5	More water (of good quality) for HH consumption and increased crop (vegetable) production. Reduced impacts of moisture stress on yields - increased opportunity for supplementary crops in dry season.
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For the outcome the following two indicators has been defined:

Indicators	<ul style="list-style-type: none"> <li>Increased average net HH income by 200 \$ per hectare.</li> <li>Increased vegetable production by 0.1 hectare per HH in dry season.</li> </ul>
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### Comments

As with DA1, this sub-activity also uses the economic measure of HH's net income. Due to the complexity for the respondents in giving an answer to their net income, this will be changed to *gross income*.

Thus it is recommended that the indicators are changed to:

**Doubling of average gross on-farm demonstration HHs income (see LFA – Annex B)**

<sup>8</sup>DAE, "PROGRESS REPORT DEMONSTRATION ACTIVITY-1: TRAINING IN INTEGRATED FARMING AND CLIMATE CHANGE (July-September 2013)", 2013, p. 11

<sup>9</sup>CARP, "Detailed Implementation Plan for Demonstration Activities at the Coast", 2013, p 32-35

### M&E Framework for the sub-activity

The following M&E Framework for the sub-activity has been developed.

#### Data:

All selected 28 HH's selected as on-farm demonstration sites have responded to a questionnaire developed for this M&E Framework, and provided income data as indicated below.

Data related to the 8 AEA have been gathered based on the workshop report of the workshop "Adapting Training Modules and Curricular to Coastal Conditions".

Furthermore, the progress report by DAE covering DA1 also covers the sub-activity, hence also providing data to the M&E Framework for the sub-activity.

#### M&E Framework:

Outcome:	Baseline (monthly income):		Target:	Results
Average gross on-farm demonstration HHs income	Dry season 201 USD	Wet season 106 USD	Doubling of average gross on-farm demonstration HHs income.	28 HH have been selected for on-farm demonstration sites incl. 5 women-led HH. <sup>10</sup>
			All 8 AEA have identified appropriate water harvesting techniques, water conservation and small-scale irrigation activities	The AEAs have identified and listed the relevant adaptation measures related to its objectives. <sup>11</sup>
			200 farmer HHs trained on in-situ rainwater harvesting techniques	By the end of September 2013 491 farmers incl. 262 women have attended sessions at the 20 demonstration sites in training on in-situ rainwater harvesting techniques. <sup>12</sup>
			7 FFDs	

### Demonstration Activity 2<sup>13</sup>

**Community Fisheries project at PeamKrasaob in cooperation with the Fisheries Administration. The project will strengthen community fisheries regulatory measures and their enforcement in PeamKrasaob.**

The CARP has identified the strengthening of the capacity in community fisheries in PeamKrasaob as a high priority activity. This is done to ensure that the capacity of the community will be large enough enough to

<sup>10</sup> DAE, Data Sheet "Demonstration activity 2- On-farm Demos Participants in 2013", 2013

<sup>11</sup> DAE, "WORKSHOP REPORT - ADAPTING TRAINING MODULES AND CURRICULAR TO COASTAL CONDITION For Demonstration Activity 1 on Training in Integrated Farming and Climate Change", 2013, p. 5

<sup>12</sup> DAE, "PROGRESS REPORT DEMONSTRATION ACTIVITY-1: TRAINING IN INTEGRATED FARMING AND CLIMATE CHANGE (July-September 2013)", 2013, p. 9

<sup>13</sup> CARP, "Detailed Implementation Plan for Demonstration Activities at the Coast", 2013, p.36-50

engage in decision making processes of managing fishery in PeamKrasaob. The coastal zone of Cambodia experiences many incidences of illegal fishing, which affect the potential benefits for Cambodian fishermen. DA2 will strengthen the structure and management of community fisheries in PeamKrasaob, thus leading to more sustainable fishing.

The activity is based on 3 principles:

1. Stressing the need for a responsible management unit for the PeamKrasaob fishing area, and to mobilize resources in line with specifications of a community area management plan.
2. Bringing fishing effort in line with the reproductive capacity of the stocks by supporting the development of ecosystem-specific management plans with the full engagement of relevant stakeholders.
3. Strengthening the monitoring of fishing, control and surveillance through capacity development of community fisheries members.

The LFA of DA2 is presented in Annex C.

Based on these 3 principles, 4 activities have been developed and were started on the 1<sup>st</sup> April 2013:

Activity 2.1	Official Registration of PeamKrasaob as Fisheries Community with FiA.
Activity 2.2	Specification of a community area management plan.
Activity 2.3	Implementation of fish stock enhancement measures (e.g. mangrove protection and rehabilitation, demarcation of conservation areas and management of fish refuges).
Activity 2.4	Strengthening of fisheries monitoring, control surveillance measures; incl. procurement of equipment.

These four activities are projected to lead to the following defined outcome:

Outcome	Increased income from regulatory adaptation for fisheries of PeamKrasaob's 277 HH.
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This outcome has led to the definition of the following indicator:

Indicator:	<ul style="list-style-type: none"> <li>• Increase of average net household income by 320 USD per HH (20% increase) over time (5 years).</li> </ul>
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#### Analysis of DA2's LFA:

The indicator has defined the 20% increase in HH net income to be 320 USD. This figure needs to be

aligned with the earlier indicators being changed to gross income. The figure of 320 USD - as in DA1 – has been generated from the CARP report "Analysis of Cost & Benefit of modifying Agricultural Practices for Climate Change at the Coast", which as earlier described is based on a rather complex methodology – a methodology which will not be applied in the M&E Framework. Thus the figure of 320 USD should be removed from the indicator, and instead the focus should be on the figure of 20% increase of the gross income.

Thus changing the outcome indicator to:

**20 % increase of average gross income per HH in PeamKrasaob over a 5 year-period (see LFA – Annex C)**

## M&E Framework for DA2

### *Data*

A data collection based on an income questionnaire developed for this M&E Framework has been conducted in the PeamKrasaob commune. In total 151 questionnaires have been completed in the commune with 45 women and 106 men as respondents.

The implementing agency of the DA, FiA, has submitted a progress report covering the period of July – September 2013. This report has provided data to the M&E Framework below.

### *M&E Framework:*

Outcome:	Baseline:	Target:	Results
Increased	Average gross HH income	Indicator:	CFiAMP has been finalized

income from regulatory adaptation for fisheries of PeamKrasaob's 277 HH.	(yearly).		20 % increase of average gross household income in PeamKrasaob over a 5 year-period.	and signed. <sup>14</sup>
			Development of a community fishery area management plan (CFiAMP).	A CFI Committee of 7 member's incl. 1 woman has been established based on an election with 210 villagers participating. <sup>15</sup>
	Dry 1736USD	Wet957U SD	Registration of PeamKrasoab as Fisheries Community with FiA.	90% of the process of registering PeamKrasaob as a Fisheries Community with the FiA has been conducted. The official registration will be finalized in Nov. 2013. <sup>16</sup>
				Demarcation of a conservation zone has been carried out in Oct. 2013. The agreed location is in front of Prek Pei with the size of 10ha. <sup>17</sup>
				Two patrolling groups have been established with 5 CFI members in each group and a local policeman. Furthermore, a speedboat and other surveillance material have been purchased for the patrolling groups. <sup>18</sup>

### Demonstration Activity 3<sup>19</sup>

**Promotion and increased availability of short duration seeds (SDS) for crops; particularly for wet-season paddy, thus enabling harvest before onset of heavy flooding and sea water surges at all eight 8 target communes.**

The project includes establishment of 30 test sites, selected by voluntary participation of farmers. The test sites will be used for controlled experiments including training. This is done with the purpose of testing seeds likely to be more effective at specific locations considering the risk of heavy flooding and sea water surges. The activity will be based on two overall farming experiments:

1. Wet season On-Farm Adaptive Trials (OFAT) for paddy varieties.

<sup>14</sup> FiA, "Progress Report (June – Sep 2013), 2013, p. 2

<sup>15</sup> IBID, 2013, p. 1

<sup>16</sup> IBID, 2013, p. 1

<sup>17</sup> FiA, "Progress Report (June – Sep 2013), 2013, p. 2

<sup>18</sup> IBID, 2013, p. 2

<sup>19</sup> CARP, "Detailed Implementation Plan for Demonstration Activities at the Coast", 2013, p. 51-65

2. Wet and dry season OFAT for vegetables.

The LFA for DA3 is presented in Annex D.

DA3 is based on four activities and was started 1 March 2013:

Activity 3.1	Conduct of wet season OFAT for paddy varieties.
Activity 3.2	Conduct of wet and dry season OFAT for selected vegetable varieties.
Activity 3.3	Conduct of FFDs in connection with trial sites.
Activity 3.4	Conduct of demonstration of seed purification (one per commune) and training of one farmer group in seed purification techniques.

Based on these activities, the following outcome for DA3 was defined:

Outcome DA3	Securing and increasing household income from paddy and vegetables demonstrated to 6000 farming households.
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The outcome has generated one indicator:

Indicator	<ul style="list-style-type: none"> <li>Adoption by 20% of HHs with resulting net income increase of 200 USD per ha.</li> </ul>
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**Comments:**

The economic measure of HH's net income has been changed. The indicator has been aligned to the other project and therefore been changed to *gross income*.

The data on income per ha are available, but based on a review of the data it is estimated that the value of the data will be higher if the income is not related to *per ha* but instead related to the HH's general income with a new target of doubling HH's income.

Thus the outcome indicator is changed to:

**Adoption by 20% of HHs resulting in a doubling of average gross income per HH using the modified procedures (see LFA – Annex D)**

## M&E Framework for DA3

### Data

Available data for the M&E Framework for DA3 have been an income survey based on 16 OFAT farmers.

Furthermore, the Progress Report for Activity 3 (January-June 2013) conducted by the implementing agency CARDI has provided information for the M&E Framework.

### M&E Framework

Outcome:	Baseline:	Target:	Results:	Comments
Securing and increasing	Number of OFAT survey farmers.	Indicator: Adoption by 20% of HHs resulting in a	Based on the two medium	15 OFAT for selected



household income from paddy and vegetables. Demonstrated to 6000 farming households.	16		doubling of the average gross income for HHs using modified procedures.  30 OFAT for paddy rice conducted in 8 communes during 2013.  15 OFAT for selected vegetables conducted in 8 communes during 2013.  10 FFDs.  8 demonstrations of seed purification.  28 farmers trained in seed purification techniques For the Wet Season.	rice varieties PhkaRumdol and Phka Rome, 30 OFAT in 8 communes have been conducted by the end of June 2013. <sup>20</sup>  7 demonstrations of seed purification will be conducted by the end of 2013. <sup>21</sup>	vegetables are scheduled to be conducted from December 2013 - February 2014. <sup>22</sup>
	Baseline: Average OFAT HH's income				
	Dry Season	Wet Season			
	91 USD	69 USD			

### Demonstration Activity 4<sup>23</sup>

**Promotion of increased livestock keeping by using a revolving scheme for improved breeding of small livestock (pigs, poultry, goats and similar excluding cattle). This is in response to increased flooding problems with small livestock being more moveable and most appropriate to assist the community household in improving income and food security and building a future livestock foundation.**

Based on the conducted AEA as part of DA1, revolving livestock schemes have been developed based on a participatory process of multiple stakeholders. In each commune a number of progressive farmers will be selected to receive a grant, based on which the farmer can purchase livestock and thereby take part in DA4.

The LFA of DA4 is presented in Annex E.

DA4 is based on the following four activities, which were started on 18 March 2013:

Activity 4.1	Developing a plan for the Revolving Livestock Scheme.
Activity 4.2	Contracting of CBO/FO/NGO for operating the Livestock Revolving Scheme.
Activity 4.3	Implementation of the Revolving Livestock Scheme during 2013 mainly included delivery and installation of first rounds of livestock - and agreements with the participating farmers for scheme continuation.
Activity 4.4	Support programme for continuation of the villages' livestock revolving schemes.

Based on these four activities the following outcome has been defined:

<sup>20</sup> CARDI, "Summary Progress Report Activity 3 - Reporting Period January-June 2013", 2013, p. 5

<sup>21</sup> IBID, 2013, p. 6

<sup>22</sup> CARDI, "Progress Report Activity 3 - Reporting Period January-June 2013", 2013,

<sup>23</sup> CARP, "Detailed Implementation Plan for Demonstration Activities at the Coast", 2013, p. 66-85

Outcome DA4	Doubling of participating HH's income from livestock.
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One indicator has been defined in relation to the outcome:

Indicator	<ul style="list-style-type: none"> <li>Increase of average net household income by 200 USD per year for each of 100 or more participating HH after 1 year - with additionally 50 or more HH per year thereafter.</li> </ul>
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**Comments:**

As with DA1, DA 4 also uses the economic measure of HH's net income. Due to the complexity for the respondents to give an answer to their net income this will be changed to *gross income*.

Furthermore, the outcome is defined as a "Doubling of HH's income..." This is in the indicator defined as an "Increase of average net household income by 200 USD per year". The baseline of 100 USD is generated from the CARP report "Analysis of Cost & Benefit of modifying Agricultural Practices for Climate Change at the Coast". Based on the same arguments as with the indicators in DA1 & 2 this M&E Framework will generate its own baseline based on an average income level of HHs.

Thus the indicator should be changed to:

**Doubling of average gross income per household per year for each of the participating HH after 1 year - with additionally 50 or more HH per year thereafter (see LFA – Annex E)**

## M&E Framework DA4

### *Data:*

As with the other DAs the M&E Framework of DA4 is meant to provide an income baseline. However, the data collection has not yet been finalized, and will at a later stage be included in the table.

The Progress Report from the implementing agency CelAgrid covering the period June – August 2013 has been available for development of the M&E Framework.

*M&E Framework*

Outcome:	Baseline		Target	Results	Comments
Doubling of participating HHs income from livestock.	Average HH income.		Doubling of average gross household income per year for each of the participating HH after 1 year - with additionally 50 or more HH per year thereafter.	By August 2013, 309 HH's have been enrolled and trained in RSS. <sup>24</sup>	No income data have been available when conducting this report. The requested data are currently being collected.
	In Prep.				
			100 or more farmer HH enrolled and trained in RSS.	Of the 309 participating HHs 234 HHs wish to raise piglets, 57 gilts, 14 chicken, 3 goats and 1 HH ducks.	One of the target communes in Prey Nub, O Ouk Nha Heng has been replaced by the neighbouring commune Samrang. <sup>30</sup>
				The below-mentioned livestock will be distributed to the beneficiaries in Oct 2013. 1170 Piglets, 57 gilts, 1400 chicken, 15 goats and 100 laying ducks. <sup>26</sup>	
				30 VAHWs have been selected for training. <sup>27</sup>	
				A total of 8 PMCs have been formed with 5 committee members. <sup>28</sup>	

<sup>24</sup> CelAgrid, "Secondly Quarterly Progress Report (June – Aug. 2013)", 2013, p. 5

<sup>25</sup> IBID, 2013, p. 4

<sup>26</sup> CelAgrid, "Secondly Quarterly Progress Report (June – Aug. 2013)", 2013, p. 4

<sup>27</sup> IBID, 2013, p. 4

<sup>28</sup> IBID, 2013, p. 4

<sup>29</sup> IBID, 2013, p. 5

<sup>30</sup> IBID, 2013, p. 4

## Demonstration Activity 5

**Climate Change awareness raising and training on climate change resistant irrigation. A comprehensive training and awareness activity in relation to climate change impacts will be implemented, applying experiences from previous work in Cambodia. The training will be carried out in all 8 selected communes. The demonstration activity is implemented through cooperation with an NGO and the established provincial working groups and coordinated by the Department of Environmental Education, MoE.**

### *M&E Framework*

No specific M&E Framework has been developed for this demonstration activity. The overall indicators developed for the CARP Component will also measure the impacts on general climate change awareness in the targeted villages.

### *Data available on Climate Change awareness in target communities*

Relevant data are available within the CARP in the form of the report "Assessment of Coping Strategies in the Coastal Zone of Cambodia". This report includes a comprehensive data collection for the target communities conducted in 2012 on climate change awareness. The following is a presentation of these data.

In the assessment report the data have been divided into categories for the two target provinces Koh Kong and Sihanoukville. However, in this presentation the data have been accumulated for both provinces.

The data collection was based on 371 respondents covering all 8 target communities.<sup>31</sup>

98% of the respondents answered that they had noted a change in the weather patterns during the last 5 years, however only 66% of the respondents answered that they had heard the term "climate change" before.<sup>32</sup> The relatively low number of 66% being aware of the term climate change compared to the high number of 98% of the respondents having noted a change in the weather patterns, should be understood in relation to the number of 11% of respondents who had participated in awareness-raising activities on climate change.<sup>33</sup>

The respondents were asked what consequences the perceived change in weather patterns had? These figures indicate that the respondents experience and understand isolated specific consequences of climate changes but are not able to understand the concept of climate change.<sup>34</sup>

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<sup>31</sup> CARP, "Assessment of Coping Strategies in the Coastal Zone of Cambodia", 2012, p. 19 & 33

<sup>32</sup> IBID, 2012, p. 20 & 34

<sup>33</sup> IBID, 2012, p. 23 & 36

<sup>34</sup> IBID, 2012, p. 21 & 34

Consequences	Yes
Change in rainfall	91%
Change in temperatures	60%
More droughts	20%
More flooding	36%
More storms	86%
More seawater intrusion	65%
Pest on agriculture	53%
Base =All Respondents	Multiple answers possible

When increasing the level of awareness of climate change it is essential to create an overall framework of understanding climate change through awareness-raising activities, which has not been the case in the target community as indicated by the figure of only 11% of the respondents who had participated in such activities. Secondly, when such an overall framework of understanding climate change has been developed, it is important to develop a system of information-sharing to ensure a flow of relevant information to the target communities. An important source of this flow of information is the authorities. The data from the report quite clearly indicate that until 2012 there was only a relatively low level of information from the authorities. Only 8% of the respondents answered that they had received information regarding climate change from government officials.<sup>35</sup> Related to this figure it is not surprising that only 13% of the respondents are aware of the work on climate change adaptation which has been conducted by the Royal Government of Cambodia.<sup>36</sup>

## Demonstration Activity 6

**Adaptation measures integrated in Commune Development Plans in the 8 target communes. Concrete demonstration actions will be performed in each of the target communes based on planned activities in the 2013 commune investment plans and implementing actions that will make the communes more resilient to climate change impacts. The demonstration will be conducted in cooperation with the commune councils, districts and the provincial working groups.**

Small scale investment projects have been developed for the target communes, and the M&E Framework will monitor the implementation of these activities.

The identified small scale investment projects are as follows:

<sup>35</sup> CARP, "Assessment of Coping Strategies in the Coastal Zone of Cambodia", 2012, p. 24 & 36

<sup>36</sup> IBID, 2012, p. 25 & 37

Commune Name	Investment Name	Village Name	Beneficiaries, households	Cooperation Partners
OuOknha Heng	Renovation of Lake and Water Control Structure ការស្តារបឹងនិងរចនាសម្ព័ន្ធទ្វារទឹក		25	Commune Council
Prey Nob	Expansion of rainwater harvesting tank ការពង្រីកអាងត្រងទឹកភ្លៀង	BekKrang primary school	25	Commune Council
TuolTotoeng	Rainwater Harvest Tank	ChumpouKhmao school	25	Commune Council
TukThla	Renovation of a combination of four wells	PrekToal village	25	Commune Council
TukLaak	Rehabilitation of Boeng Chas Pond ការស្តារបឹងចាស់		50	Commune Council
TukLaak	Rainwater Harvest Tank ការសាងសង់អាងត្រងទឹកភ្លៀង	Kampong Smach Touch	25	Commune Council
TuolKokir	Rainwater Harvest Tank	KohChak	50	Commune Council
PeamKrasoab	Renovation of Existing Well and Water Storage Tank ការស្តារអណ្តូងចាស់	Commune office	50	Commune Council

## List of literature

- CARDI "Progress Report Activity 3 - Reporting Period January-June 2013", 2013.
- CARP "6<sup>th</sup> Quarterly Progress Report (January – May 2013)", 2013.
- CARP "Assessment of Coping Strategies in the Coastal Zone of Cambodia", 2012.
- CARP "Detailed Implementation Plan for Demonstration Activities at the Coast", 2013.
- CelAgrid "Second Quarterly Progress Report (June – August 2013)", 2013.
- DAE "WORKSHOP REPORT - ADAPTING TRAINING MODULES AND CURRICULAR TO COASTAL CONDITIONS for Demonstration Activity 1 on Training in Integrated Farming and Climate Change", 2013.
- DAE "PROGRESS REPORT DEMONSTRATION ACTIVITY-1: TRAINING IN INTEGRATED FARMING AND CLIMATE CHANGE (July-September 2013)", 2013.
- FiA "Progress Report (June – September 2013), 2013.

## Annex A – LFA DA 1

DESCRIPTION	INDICATORS	SOURCE OF VERIFICATION	ASSUMPTIONS
<p><b>Outcome :</b></p> <p><b>Doubling of household income and 75% of FFS participants have adopted climate change adaptation tools.<sup>37</sup></b></p>	<ul style="list-style-type: none"> <li>• Doubling of average gross income per HH.</li> <li>• Increased capacity of extension agents to advise on climate change and integrated farming.</li> </ul>	<ul style="list-style-type: none"> <li>• Activity reports, reviews and evaluations.</li> </ul>	
<p><b>Output 1:</b> Multi-scale climate change adaptation in Integrated Farming and IPM Training Programme.</p>	<ul style="list-style-type: none"> <li>• Implementation of extension activities directly reaching 1200 farming households via 48 season long Farmer Field Schools (FFS) and indirectly reaching about 6000 farming households in 8 communes by 2014.</li> </ul>	<ul style="list-style-type: none"> <li>• Activity monitoring, reviews and evaluations.</li> </ul>	<ul style="list-style-type: none"> <li>• The supported activities will add sufficient confidence for farming household to take up the recommendations and gain income impact.</li> <li>• DAE, Phnom Penh, will lead the production of the overall output.</li> </ul>

<sup>37</sup> Documentation for achievements of the FFS approach in Cambodia is found in Annex 2. FFS impact is usually immediate, but a follow-up period for consolidation is desirable (ref. Output 1.5). However, economic calculations show a high degree of robustness and tolerance to a lower impact without losing profitability of the investment (ref. section Chapter 5).



DESCRIPTION	INDICATORS	SOURCE OF VERIFICATION	ASSUMPTIONS
<p><b>Activity 1.1:</b></p> <p>Conduct of Agro Ecological Analysis in 8 communes. Duration: 2 months.</p>	<ul style="list-style-type: none"> <li>Participative Agro Ecological Analysis conducted in four communes led by multi-teams from MAFF, MoWRAM and MoE; including climate change adaptations. This would form the basis for community considerations during FFS season.</li> </ul>	<ul style="list-style-type: none"> <li>Eight Agro Ecological reports.</li> </ul>	<ul style="list-style-type: none"> <li>Mentioned officials are available to lead the analysis: Assumed 4-5 resource persons from DAE, Phnom Penh; 3 from PDA, SHV; 2 from PDA, KK; 3 from DAO, Prey Nup; 2 from DAO, KK; + 2 fisheries cantonment officers and 2 PDWRAM officers, 1-2 forestry officers, 2 MoE officers. 22-23 staff in all.</li> <li>In addition, 2 commune councillors and 5 local villages will participate from each commune.</li> </ul>

DESCRIPTION	INDICATORS	SOURCE OF VERIFICATION	ASSUMPTIONS
<p><b>Activity 1.2:</b></p> <p>Adapting training modules and curricular to coastal conditions. Duration: 1 month.</p>	<ul style="list-style-type: none"> <li>• Curricular with more fishing and livestock husbandry.</li> <li>• Modules to specifically consider salinity and storm threats for the coast.</li> <li>• Inclusion of on-farm water conservation measures, dyke maintenance and polder management measures.</li> </ul>	<ul style="list-style-type: none"> <li>• DAE report containing this adaptation.</li> <li>• Teaching material produced ready for direct FFS application.</li> </ul>	<ul style="list-style-type: none"> <li>• DAE staff with sufficient expertise is available.</li> </ul>
<p><b>Activity 1.3:</b></p> <p>Implementation of Training of Trainers programme (of most presently concerned extension agents both in government, NGO and the private sector, if relevant). Duration: 2 months.</p>	<ul style="list-style-type: none"> <li>• TOT training of 28 extension agents from SHV and KK for about 30 days.</li> </ul>	<ul style="list-style-type: none"> <li>• Training Reports.</li> </ul>	<ul style="list-style-type: none"> <li>• DAE, CARDI, MoWRAM &amp; MoE trainers are available in time. Assumed need for 8-10 master trainers from DAE .</li> </ul>

DESCRIPTION	INDICATORS	SOURCE OF VERIFICATION	ASSUMPTIONS
<p><b>Activity 1.4:</b></p> <p>Implementation of farmers training programme using the Farmer Field School concept – <u>at least for the rest of the year</u>, longer if possible. This could include visits to areas with similar problems, if affordable.</p> <p>Duration : 9 months.</p>	<ul style="list-style-type: none"> <li>• 48 season long Farmer Field Schools (FFS) with 1200 participants in climate change adaptation and integrated farming in eight communes during 2013.</li> <li>• 48 Farmer field days (FFD)for neighbours (6000 participants)</li> <li>• Study tours</li> </ul>	<ul style="list-style-type: none"> <li>• Project monitoring of activities and results.</li> <li>• Ex-post impact assessment.</li> <li>• FFS and FFD reports.</li> <li>• Study Tour Reports.</li> </ul>	<ul style="list-style-type: none"> <li>• Farmers are interested in participating.</li> </ul>
<p><b>Activity 1.5 (see separate description)</b></p> <p>Implementation of on-farm demonstration activities in water conservation, rain harvesting and appropriate irrigation. Example drip irrigation for supplementary crops (i.e. vegetables) in dry season.</p>	<ul style="list-style-type: none"> <li>• Demonstrations conducted and documented on 20 sites in 8 communes during 2013.</li> </ul>	<ul style="list-style-type: none"> <li>• Supervision and monitoring by CARP.</li> <li>• Site reports.</li> </ul>	<ul style="list-style-type: none"> <li>• PDA and others have sufficient capacity to conduct demonstrations.</li> </ul>

DESCRIPTION	INDICATORS	SOURCE OF VERIFICATION	ASSUMPTIONS
<p><b>Activity 1.6</b> Establishment of a sustainable continuation basis for re-fresher training and possibly other types of extension support along above lines (but less intensive) – to continue after project closure. (1 month).</p>	<ul style="list-style-type: none"> <li>• Contractual arrangements with PDA, District and Commune Councils.</li> <li>• Possibly involving fund for each commune to be replenished by local and national contributions.</li> </ul>	<ul style="list-style-type: none"> <li>• Contracts and monitoring arrangement.</li> </ul>	<ul style="list-style-type: none"> <li>• Authorities are interested in such arrangements.</li> </ul>
<p><b>Activity 1.7:</b> Monitoring and documentation of the impact and experiences through steps i-v. (continuous).</p>	<ul style="list-style-type: none"> <li>• Monitoring by project staff and by external reviewers.</li> </ul>	<p>Monitoring and review reports.</p>	<p>Project monitoring part of normal management duties at no extra cost.</p>

**Annex B – LFA DA sub-activity 1**

DESCRIPTION	INDICATORS	SOURCE OF VERIFICATION	ASSUMPTIONS
<p><b>Outcome:</b></p> <p><i>More water (of good quality) for household consumption and increased crop (vegetable) production. Reduced impact of moisture stress on yields – increased opportunity for supplementary crops in the dry season.</i></p>	<ul style="list-style-type: none"> <li>• Doubling of average gross income per HH.</li> </ul>	<ul style="list-style-type: none"> <li>• Activity reports, reviews and evaluations.</li> </ul>	
<p><b>Activity 1.5.1: In-field water conservation method and on-farm rain harvesting and small-scale irrigation methods.</b></p>	<ul style="list-style-type: none"> <li>• Implementation of these as demonstration and training activities.</li> </ul>	<ul style="list-style-type: none"> <li>• Activity monitoring, reviews and evaluations.</li> </ul>	<ul style="list-style-type: none"> <li>• The demonstrations and training activities will add sufficient confidence for farming household to take up the recommendations and gain income impact.</li> </ul>

DESCRIPTION	INDICATORS	SOURCE OF VERIFICATION	ASSUMPTIONS
<p><b>Sub-Activity 1:</b></p> <p>Assessment of farming techniques, soil/water quality, crop production potential in this context via the Agro-Ecological systems Analysis (AEA) already part of demonstration activity 1 – at no extra cost.</p>	<ul style="list-style-type: none"> <li>• Appropriate water harvesting techniques, water conservation and small-scale irrigation activities as identified by AEA at 8 communes.</li> </ul>	<ul style="list-style-type: none"> <li>• AEA Reports.</li> </ul>	<ul style="list-style-type: none"> <li>• Mentioned officials are available to lead the AEA analysis.</li> <li>• No extra cost assumed.</li> </ul>
<p><b>Sub-Activity .2:</b></p> <p>Implementation of on-farm demonstration activities in water conservation, rain harvesting and appropriate irrigation. Example drip irrigation for supplementary crops (i.e. vegetables) in the dry season.</p>	<ul style="list-style-type: none"> <li>• Demonstrations conducted and documented on 20 sites in 8 communes during 2013.</li> </ul>	<ul style="list-style-type: none"> <li>• Supervision and monitoring by CARP.</li> <li>• Site reports.</li> </ul>	<ul style="list-style-type: none"> <li>• PDA and others have sufficient capacity to conduct demonstrations.</li> </ul>
<p><b>Sub-Activity .3</b></p> <p>Conduct Farmer Field Days (FFD) in connection with each demonstration sites – one FFD per commune.</p>	<ul style="list-style-type: none"> <li>• Seven Farmer Field Days held.</li> </ul>	<ul style="list-style-type: none"> <li>• FFD Reports.</li> </ul>	<ul style="list-style-type: none"> <li>• Farmers interested in participating.</li> </ul>

DESCRIPTION	INDICATORS	SOURCE OF VERIFICATION	ASSUMPTIONS
<p><b>Sub-Activity 4:</b> Training of farmers/households on in-situ rainwater harvesting techniques – possibly in connection with demonstration activity 4. May include visits to other places in Cambodia.</p>	<ul style="list-style-type: none"> <li>• 200 farmer households enrolled and trained in 32 sessions.</li> </ul>	<ul style="list-style-type: none"> <li>• Project reports.</li> </ul>	<ul style="list-style-type: none"> <li>• Farmers are interested in participating.</li> </ul>
<p><b>Sub-Activity 5:</b> Monitoring and documentation of the impact and experiences through steps i-iv. (continuous).</p>	<ul style="list-style-type: none"> <li>• Monitoring by project staff and by external reviewers.</li> </ul>	<p>Monitoring and review reports.</p>	<p>Cost: Project monitoring part of normal management duties at no extra cost.</p>

**Annex C – LFA DA 2**

DESCRIPTION	INDICATORS	SOURCE OF VERIFICATION	ASSUMPTIONS
<p><b>Outcome :</b></p> <p><b>Increased income from and regulatory adaptation for fisheries of PeamKrasaob’s 277 households.</b></p>	<ul style="list-style-type: none"> <li>• 20 % increase of average gross income per HH in PeamKrasaob over a 5 years period.</li> </ul>	<ul style="list-style-type: none"> <li>• Activity reports, reviews and evaluations.</li> </ul>	
<p><b>Output 2:</b> Establishment of Community Fisheries project at PeamKrasaob.</p>	<ul style="list-style-type: none"> <li>• Implementation of Community Fisheries activities directly reaching all 277 households of PeamKrasaob by 2014.</li> </ul>	<ul style="list-style-type: none"> <li>• Activity monitoring, reviews and evaluations.</li> </ul>	<ul style="list-style-type: none"> <li>• The activities supported will add sufficient benefits for the targeted household to gain income impact.</li> </ul>
<p><b>Activity 2.1:</b></p> <p>Official Registration of PeamKrasaob as a Fisheries Community (if not already done) with FiA.</p>	<ul style="list-style-type: none"> <li>• Necessary legal framework established (bye laws, etc).</li> <li>• Elections and AGM.</li> <li>• Strengthening of mandates, and agreements.</li> <li>• Mapping.</li> </ul>	<ul style="list-style-type: none"> <li>• Registration with FiA.</li> <li>• Bye-laws, agreements and minutes.</li> </ul>	<ul style="list-style-type: none"> <li>• A fishing community located within a national park can be officially registered as a Fisheries Community.</li> </ul>



DESCRIPTION	INDICATORS	SOURCE OF VERIFICATION	ASSUMPTIONS
<p><b>Activity 2.2:</b></p> <p>Specification of a community area management plan; including dyke maintenance.</p>	<ul style="list-style-type: none"> <li>Development and approval of area management plan.</li> </ul>	<ul style="list-style-type: none"> <li>Local consultancy report containing the plan.</li> </ul>	<ul style="list-style-type: none"> <li>Local consultants with sufficient expertise are available.</li> </ul>
<p><b>Activity 2.3:</b></p> <p>Implementation of fish stock enhancement measures (e.g. mangrove protection and rehabilitation, demarcation of conservation areas and management of fish refuges).</p>	<ul style="list-style-type: none"> <li>Implementation of CFi plans, conservation efforts, CFi demarcations.</li> </ul>	<ul style="list-style-type: none"> <li>Project and FiA reports.</li> </ul>	<ul style="list-style-type: none"> <li>Stakeholders will agree to such measures.</li> </ul>
<p><b>Activity 2.4:</b></p> <p>Strengthening of fisheries monitoring, control and surveillance measures; including procurement of equipment.</p>	<ul style="list-style-type: none"> <li>Equipment needs assessment (e.g. small enforcement boats and/or engines).</li> <li>Delivery and user training.</li> <li>Study tours and networking with like communities.</li> </ul>	<ul style="list-style-type: none"> <li>Project monitoring of activities and results.</li> <li>Study Tour Reports.</li> <li>Catch monitoring.</li> </ul>	<ul style="list-style-type: none"> <li>Community households are interested in participating.</li> </ul>

## Annex D – LFA DA 3

DESCRIPTION	INDICATORS	SOURCE OF VERIFICATION	ASSUMPTIONS
<p><b>Outcome:</b></p> <p><i>Securing and increasing household income from paddy and vegetables. Demonstrated to 6000 farming households.</i></p>	<ul style="list-style-type: none"> <li>Adoption by 20% of HHs resulting in a doubling of average gross income per HH.</li> </ul>	<ul style="list-style-type: none"> <li>Activity reports, reviews and evaluations.</li> </ul>	
<p><b>Output 3:</b> Promotion and field trial of short-term higher yielding paddy varieties during wet season at Prey Nob and TuolKokir.</p>	<ul style="list-style-type: none"> <li>Implementation of field trails, farmer field days and training in seed for about 6000 farming households in 8 communes by 2014.</li> </ul>	<ul style="list-style-type: none"> <li>Activity monitoring, reviews and evaluations.</li> </ul>	<ul style="list-style-type: none"> <li>The supported activities will add sufficient confidence for farming household to take up the recommendations and gain income impact.</li> </ul>
<p><b>Activity 3.1:</b></p> <p>Conduct wet season On-Farm Adaptive Trials (OFAT) for ST paddy varieties.</p>	<ul style="list-style-type: none"> <li>Trials conducted and documented on 30 sites in 8 communes during 2013.</li> </ul>	<ul style="list-style-type: none"> <li>Trial Reports.</li> </ul>	<ul style="list-style-type: none"> <li>CARDI and PDA have sufficient capacity to conduct the trials.</li> </ul>

DESCRIPTION	INDICATORS	SOURCE OF VERIFICATION	ASSUMPTIONS
<p><b>Activity 3.2:</b></p> <p>Conduct wet and dry season On-Farm Adaptive Trials (OFAT) for selected vegetable varieties.</p>	<ul style="list-style-type: none"> <li>• Trials conducted and documented on 15 sites in 8 communes during 2013-2014.</li> </ul>	<ul style="list-style-type: none"> <li>• Trial Reports.</li> </ul>	<ul style="list-style-type: none"> <li>• CARDI and PDA have sufficient capacity to conduct the trials</li> </ul>
<p><b>Activity 3.3:</b></p> <p>Conduct Farmer Field Days (FFD) in connection with the trial sites.</p>	<ul style="list-style-type: none"> <li>• Ten Farmer Field Days held.</li> </ul>	<ul style="list-style-type: none"> <li>• Trial Reports.</li> </ul>	<ul style="list-style-type: none"> <li>• Farmers interested in participating.</li> </ul>
<p><b>Activity 3.4:</b></p> <p>Conduct demonstration of seed purification (one per commune) and train one farmer group in seed purification techniques.</p>	<ul style="list-style-type: none"> <li>• 8 seed purification demonstrations.</li> <li>• 28 farmers trained in seed purification.</li> </ul>	<ul style="list-style-type: none"> <li>• Seed purification report.</li> </ul>	<ul style="list-style-type: none"> <li>• Farmers are interested in participating.</li> </ul>

DESCRIPTION	INDICATORS	SOURCE OF VERIFICATION	ASSUMPTIONS
Activity 3.5:  Monitoring and documenting the impact and experiences through steps i-iv (continuous).	<ul style="list-style-type: none"> <li>Monitoring by project staff and by external reviewers.</li> </ul>	Monitoring and Review reports.	Cost: Project monitoring part of normal management duties at no extra cost.

## Annex E – LFA DA 4

DESCRIPTION	INDICATORS	SOURCE OF VERIFICATION	ASSUMPTIONS
<p><b>Outcome:</b></p> <p><i>Doubling of participating households' income from livestock.</i></p>	<ul style="list-style-type: none"> <li>• Doubling of average gross household income per year for each of a 100 or more participating HH after 1 year - with additionally 50 or more HH per year thereafter.</li> </ul>	<ul style="list-style-type: none"> <li>• Activity reports, reviews and evaluations.</li> </ul>	
<p><b>Output 4: Revolving scheme for improved breeds of livestock.</b></p>	<ul style="list-style-type: none"> <li>• Implementation of revolving stock scheme activities directly reaching 100 or more farming households in the first round of revolving in 7-8 communes by 2015.</li> </ul>	<ul style="list-style-type: none"> <li>• Activity monitoring, reviews and evaluations.</li> </ul>	<ul style="list-style-type: none"> <li>• The activities supported will add sufficient confidence for farming household to take up the recommendations and gain income impact.</li> </ul>

DESCRIPTION	INDICATORS	SOURCE OF VERIFICATION	ASSUMPTIONS
<p><b>Activity 4.1:</b></p> <p>Development of the plan for the Revolving Stock Scheme; including:</p> <ul style="list-style-type: none"> <li>• Detail actions and modalities defined (i.e. breeds, distribution, vaccinations, training of farmers, promotion of fodder production, farm-grown feed, feed conservation etc).</li> <li>• Identify beneficiaries and partners.</li> <li>• Establish contracting procedure.</li> </ul>	<ul style="list-style-type: none"> <li>• The plan and its approval.</li> <li>• Involvement of DAHP, PDA and Village Animal Health Workers (VAHW).</li> </ul>	<ul style="list-style-type: none"> <li>• Planning document and project reports.</li> </ul>	<ul style="list-style-type: none"> <li>• Expertise for plan development is available.</li> </ul>
<p><b>Activity 4.2:</b></p> <p>Contracting of CBO/FO/NGO for operating the Livestock Revolving Stock Scheme.</p>	<ul style="list-style-type: none"> <li>• Contract negotiations and arrangements.</li> </ul>	<ul style="list-style-type: none"> <li>• Signed contracts.</li> <li>• Project reports.</li> </ul>	<ul style="list-style-type: none"> <li>• Qualified contractors interested in bidding for contracts.</li> </ul>

DESCRIPTION	INDICATORS	SOURCE OF VERIFICATION	ASSUMPTIONS
<p><b>Activity 4.3:</b></p> <p>Implementation of the Revolving Stock Scheme during 2013 -2015, mainly delivery and installation of first revolving round of livestock - and agreements with participating farmers for scheme continuation.</p>	<ul style="list-style-type: none"> <li>• 100 or more farmer households enrolled and trained.</li> <li>• 10 or more lots of livestock distributed.</li> </ul>	<ul style="list-style-type: none"> <li>• Supervision and monitoring by CARP.</li> <li>• Project reports.</li> </ul>	<ul style="list-style-type: none"> <li>• Farmers' interest confirmed.</li> </ul>
<p><b>Activity 4.4:</b></p> <p>Support programme for continuation of the villages ' animal revolving stock schemes - involving VAHW, Commune Councils, District and Provincial Departments after 2015.</p>	<ul style="list-style-type: none"> <li>• Number and type of local arrangements established.</li> <li>• Inclusion into Commune Development Plans.</li> </ul>	<ul style="list-style-type: none"> <li>• Project monitoring of activities and results.</li> <li>• Ex-post impact assessment.</li> <li>• Commune Plans.</li> </ul>	<ul style="list-style-type: none"> <li>• Commune Council and Provincial Department commitments.</li> </ul>
<p><b>Activity 4.6:</b></p> <p>Monitoring and documentation of the impact and experiences through steps i-v (continuous).</p>	<ul style="list-style-type: none"> <li>• Monitoring by project staff and by external reviewers.</li> </ul>	<ul style="list-style-type: none"> <li>• Monitoring and Review reports.</li> </ul>	<ul style="list-style-type: none"> <li>• Project monitoring part of normal management duties at no extra cost.</li> </ul>

## Annex F Overall Monitoring Framework

Outcome DA1:	Baseline:				Target:	Results	Comments
Doubling of household income.	Number of FFS participants:				1200 FFS participants.  48 Farmer Field Days (FFD).  Increased capacity of 30 extension agents.  75% of FFS participants have adopted climate change adaptation tools.	All 8 AEA have been finalized in January 2013 (summary of AEA findings). <sup>38</sup>  Training modules for FFS and TOT have been adapted to coastal conditions. <sup>39</sup> By October 2013 based on the TOT 30 extension agents have been trained in the defined objectives of the TOT obtaining an increased capacity. <sup>40</sup>  By October 2013 796 farmers incl. 383 women are enrolled and actively participating in the FFS. <sup>41</sup>	31 Farmer Field days (FFD) are scheduled to be conducted during November and December 2013 in 31 villages. Additionally 8 FFD are planned to be conducted later on. <sup>42</sup>  Regarding the 2nd part of the output "...75%...have adopted CC tools." No baseline is needed, thus this will be measured upon during the evaluation of the activity.
	Men	466	Women	330			
	Average HH income for FFS participants (monthly):						
	Dry season		Wet season				
	55USD		53,8USD				
FFS participants that have adopted climate change adaptation tools after participation in FFS.	Major	Some	Minor	None			

<sup>38</sup> DAE, "WORKSHOP REPORT - ADAPTING TRAINING MODULES AND CURRICULAR TO COASTAL CONDITION For Demonstration Activity 1 on Training in Integrated Farming and Climate Change", 2013, p. 3-4

<sup>39</sup> IBID, 2013, Annex 3-4

<sup>40</sup> DAE, "PROGRESS REPORT DEMONSTRATION ACTIVITY-1: TRAINING IN INTEGRATED FARMING AND CLIMATE CHANGE (July-September 2013)", 2013, p. 10

<sup>41</sup> IBID, 2013, p. 8

<sup>42</sup>



Sub-Outcome DA 1:	Baseline (monthly income):		Target:	Results	Comments:
Average gross on-farm demonstration of HHs income.	Dry season	Wet season	Doubling of average gross on-farm demonstration of HHs income.	28 HH have been selected for On-farm demonstration sites incl. 5 women-led HH. <sup>43</sup>	
	201 USD	106 USD			
			All 8 AEA have identified appropriate water harvesting techniques, water conversation and small-scale irrigation activities.	The AEAs have identified and listed the relevant adaptation measures related to their objectives. <sup>44</sup>	
			200 farmer HHs trained on in-situ rainwater harvesting techniques.	By the end of September 2013 491 farmers incl. 262 women have attended sessions at the 20 demonstration sites training in-situ rainwater harvesting techniques. <sup>45</sup>	
			7 FFDs		

<sup>43</sup>DAE, Data Sheet "Demonstration activity 2- On-farm Demos Participants in 2013", 2013

<sup>44</sup>DAE, "WORKSHOP REPORT - ADAPTING TRAINING MODULES AND CURRICULAR TO COASTAL CONDITION For Demonstration Activity 1 on Training in Integrated Farming and Climate Change", 2013, p. 5

<sup>45</sup>DAE, "PROGRESS REPORT DEMONSTRATION ACTIVITY-1: TRAINING IN INTEGRATED FARMING AND CLIMATE CHANGE (July-September 2013)", 2013, p. 9

Outcome DA2:	Baseline:				Target:	Results	Comments
Increased income from regulatory adaptation for fisheries of PeamKrasaob's 277 HH.	Average net HH income (yearly)				Indicator: 20% increase of average gross household income in PeamKrasaob over a 5 year-period.  Development of a community fishery area management plan (CFiAMP).  Registration of PeamKrasaob as Fisheries Community with FiA.	CFiAMP has been finalized and signed. <sup>46</sup>  A CFI Committee of 7 members incl. 1 women has been established based on an election with 210 villagers participating. <sup>47</sup>  90% of the process in registering PeamKrasaob as a Fisheries Community with the FiA has been conducted. The official registration will be finalized in Nov. 2013. <sup>48</sup>  Demarcation of a conservation zone was done in Oct 2013. The agreed location is in front of Prek Pei with the size of 10ha. <sup>49</sup>  2 patrolling groups have been established with 5 CFI members in each group and a policeman. Furthermore, a speedboat and other surveillance material have been purchased for patrolling. <sup>50</sup>	
	Dry	1736USD	Wet	957USD			

<sup>46</sup> FiA, "Progress Report (June – Sep 2013), 2013, p. 2

<sup>47</sup> FiA, "Progress Report (June – Sep 2013), 2013, 2013, p. 1

<sup>48</sup> ,IBID, 2013 p. 1

<sup>49</sup> IBID, 2013, p. 2

<sup>50</sup> FiA, "Progress Report (June – Sep 2013), 2013, 2013, p. 2

Outcome DA3:	Baseline:		Target:	Results:	Comments
Securing and increasing household income from paddy and vegetables. Demonstrated to 6000 farming households.	Number of OFAT survey farmers.		Indicator: Adoption by 20% of HHs resulting in a doubling of average gross income.	Based on the two medium rice varieties PhkaRumdol and Phka Rome, 30 OFAT in 8 communes have been conducted by the end of June 2013. <sup>51</sup>  7 demonstrations of seed purification will have been conducted by the end of 2013. <sup>52</sup>	15 OFAT for selected vegetables are scheduled to be conducted from December 2013 - February 2014. <sup>53</sup>
	16		30 OFAT for paddy rice conducted in 8 communes during 2013.		
	Baseline: Average OFAT HH's income.		15 OFAT for selected vegetables conducted in 8 communes during 2013.		
	Dry Season	Wet Season	10 FFDs.  8 demonstrations of seed purification.  28 farmers trained in seed purification techniques.		
91 USD	69 USD				

<sup>51</sup>IBID 2013, p. 5

<sup>52</sup> IBID, 2013, p. 6

<sup>53</sup> CARDI, "Progress Report Activity 3 - Reporting Period January-June 2013", 2013,

Outcome DA4:	Baseline		Target	Results	Comments
Doubling of participants HHs income from livestock.	Average HH income.		Doubling of average gross household income per year for each participating HH after 1 year - with additionally 50 or more HH per year thereafter.	By August 2013, 309 HH's have been enrolled and trained in RSS. <sup>54</sup>	No income data have been available in conducting this report. The requested data are currently being collected.
	Under prep.	Under prep.			
			Development of RSS plan.	A total of 10 bi-weekly training sessions are organized in each target village. <sup>55</sup>	The requested data are currently being collected.
			100 or more farmer HH enrolled and trained in RSS.	Of the 309 participating HHs 234 HHs want to raise piglets, 57 gilts, 14 chicken, 3 goats and 1 HH ducks. On this basis the following will be distributed to the beneficiaries in Oct 2013: 1170 Piglets, 57 gilts, 1400 chicken, 15 goats and 100 laying ducks. <sup>56</sup>	The distribution of livestock to the enrolled HH's has been delayed due to the National Election, but is scheduled to be conducted in Sep. and Oct. 2013. <sup>59</sup>
				30 VAHWs has been selected for training. <sup>57</sup>	One of the target communes in Prey Nub, O Ouk Nha Heng has been replaced by the neighbouring commune Samrang. <sup>60</sup>
				A total of 8 PMCs has been formed with 5 committee members. <sup>58</sup>	

<sup>54</sup> CeIAgrid, "Secondly Quarterly Progress Report (June – Aug. 2013)", 2013, p. 5

<sup>55</sup> IBID, 2013, p. 4

<sup>56</sup> IBID, 2013, p. 4

<sup>57</sup> IBID, 2013, p. 4

<sup>58</sup> IBID, 2013, p. 4

<sup>59</sup> CeIAgrid, "Secondly Quarterly Progress Report (June – Aug. 2013)", 2013, p. 5

<sup>60</sup> IBID, 2013, p. 4