2nd Mekong Climate Change Forum

Adaptation to Climate Change in the Transboundary Context

6 - 8 October 2014
Siem Reap, Cambodia

DEMONSTRATION ACTIVITY: TRAINING IN INTEGRATED FARMING AND CLIMATE CHANGE ADAPTATION IN COSTAL REGION, PREAH SIHANUK & KOH KONH PROVINCE, CAMBODIA

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1. Project description

- Name of project: **The Coastal Adaptation Resilience Planning DEMONSTRATION ACTIVITY: TRAINING IN INTEGRATED FARMING AND CLIMATE CHANGE ADAPTATION**
- Location: *Preah Sihanuk & Koh Konh Province*
- Duration: *January 2013 – January 2014*
- Main implementing agency/organization: *GDA/MAFF*
- Participating agency/organization: *Provincial Department of Agriculture, District Agriculture Office, Commune Council and Farming Families*
- Beneficiaries: *National and Sub-national (local communities)*

2. Background of Project

- The Demonstration Activity : on training in Integrated Farming Climate Change of the Coastal Adaption Resilience Planning Component (CARP) during July to September 2013. The Demonstration activity - climate Change Adaptation using Integrated Farming and IPM approaches is to implement the Integrated Farming Training Programme for (a) agricultural extension staff and (b) households/families in multi-scale climate change adaptation strategies and integrated farming (integration of crops, livestock, fish, water) in 31 villages of 8 target communes in Preah Sihanouk province and Koh Kong province.
- The Demonstration activity is implementing an Integrated Farming Training Programmes for Agricultural Extension Staff and Farmers under CARP in Multi-scale climate change strategies and integrated farming at 8 target communes in Prey Nob of Preah Sihanouk province and Mondul Seima District of Koh Kong provinces.

3. Goal & objectives

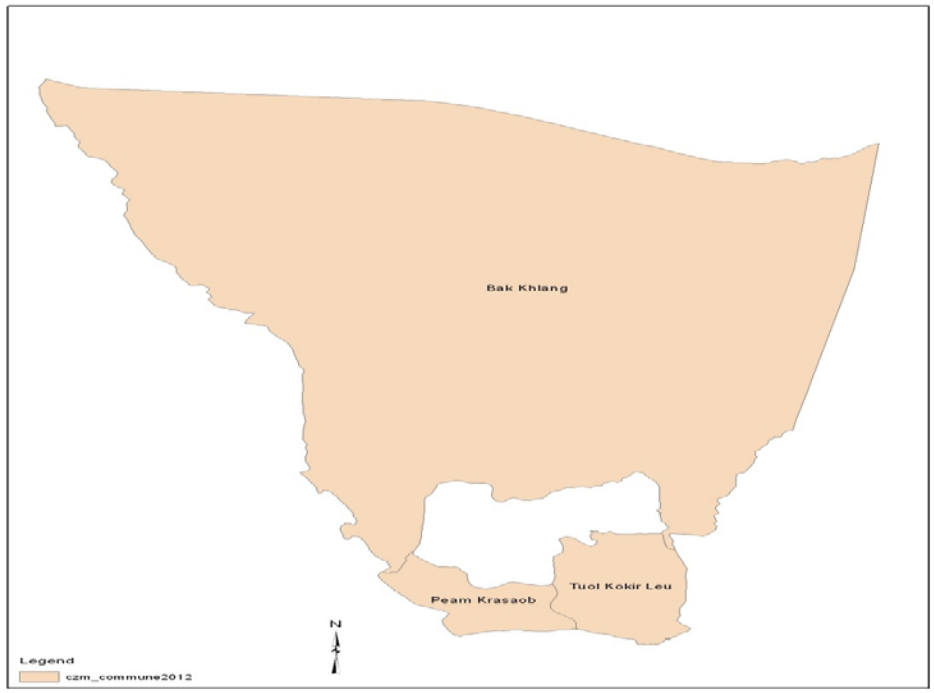
- GOAL is to improve household food security and income generation through strengthening and improving adaptation capacity and resilience of farming and local communities to climate change adaptation in coastal condition by using the integrated farming systems and IPM approaches.
- OBJECTIVES are:
  - to assess the impact of climate change on local farming communities and livelihoods in target communes and to identify the options and measure activities for climate change adaptation and resilience in coastal areas.
  - to identity and develop training modules for field extension workers and farmers for strengthening adaptation and resilience capacity in coastal areas.

3. Goal & objectives (cont)

- to strengthen and improve technical and extension methodology capacity and skills for field extension workers for carried out and facilitated integrated farming training and climate change adaptation and resilience with farmers and farm communities in coastal areas.
- to improve and strengthen adaptation capacity and resilience to climate change by using integrated farming and IPM approaches for through farmer field schools and on-farm demonstrations, field days and exchange visits.

Target sites

Target commune in Prey Nob district, Preah Sihanuk province
- 25 villages with 5 communes



Target commune in Mondul Seima district Koh Kong province
- 6 villages, 2 communes

4. Implementation approaches and methodologies

December 2012-Jan 2013 → Commune Agro-Ecosystem Analysis

February - May 2013 → Developing Training Modules and Curriculum and action plan

June - August 2013 → Conduct Training of Trainers for Field District Extension workers

June 2013– January 2014 → **Field Activities:**

1. Farmers Field Schools and Field days
2. On-farm field Demos and Field days
3. Study tours and Exchange visits for officers and farmers
4. Farmer groups/saving group formation
5. Follow up and Technical backstopping

5. Results & Achievements

5.1 Results & Achievements (cont.)

- 8 Commune Agro-Ecosystem Analysis (CAEA) were conducted in 8 communes to assess the current situation and trend, as well as the impacts of climate change on and risks for agriculture/farming and livelihoods and identify what are local solution/adaptation and mitigation, and proposed it's adaptation and mitigation strategies and action for improving farming/agricultural productivity and livelihoods and to identify some adaptation options and activities to the CC.

5.2 Results & Achievements

No.	Target commune	Increased warming temp.	Uncertain precipitation events	Drought	Extrem events (storms)	Sea level rising
1	Teuk Thlar	x	x	x	x	
2	Teuk Laak	x	x	x	x	
3	Samaki	x	x	x	x	
4	Toul Toteung	x	x	x	x	x
5	Prey Nob	x	x	x	x	x
6	O Okhna Heng	x	x	x	x	x
7	Peam Kasoab	x	x	x	x	x
8	Toul Kokir	x	x	x	x	x

Note: x : affected by climate change

Sources: Commune Agro-Ecosystems Report-RRA January 2013.

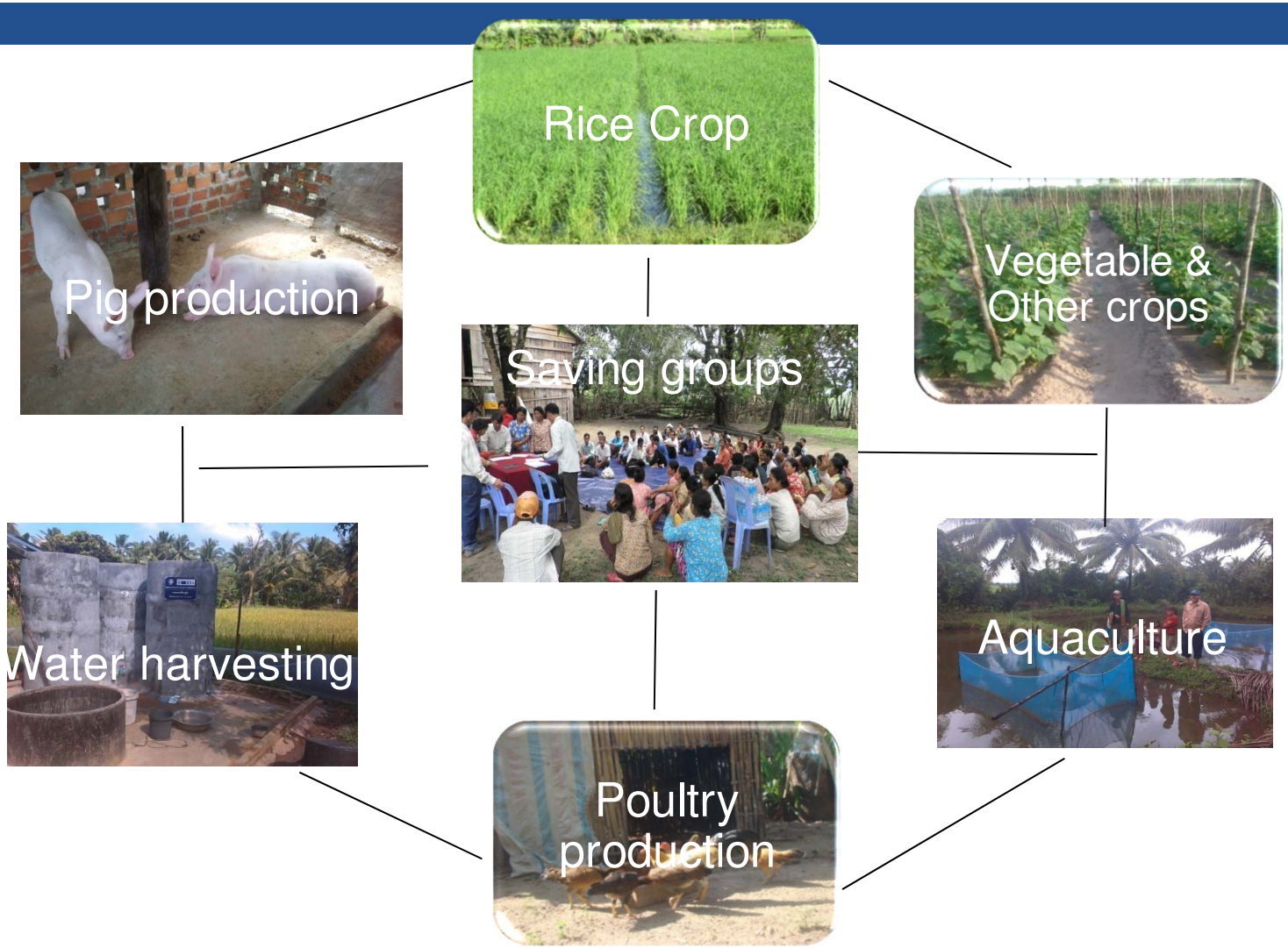
5.3 Livelihood & CC in Coastal Region

Livelihood	Climate Change
1. Rice Cultivation	• Increase Warming Temperature
2. Fishing, Aquaculture and aquatic products	• Uncertain precipitation events (Drought & Floods)
3. Other crop and fruit trees cultivation	• Storm and strong wins
4. Animal Husbandry (Pig and poultry)	• Sea level rising
5. Non- mangrove and aquatic products	• Salt water flow into the rice fields and streams
6. Eco tourist	• Soil erosion and land slides
7. Small business	• Out break of diseases and insect pests

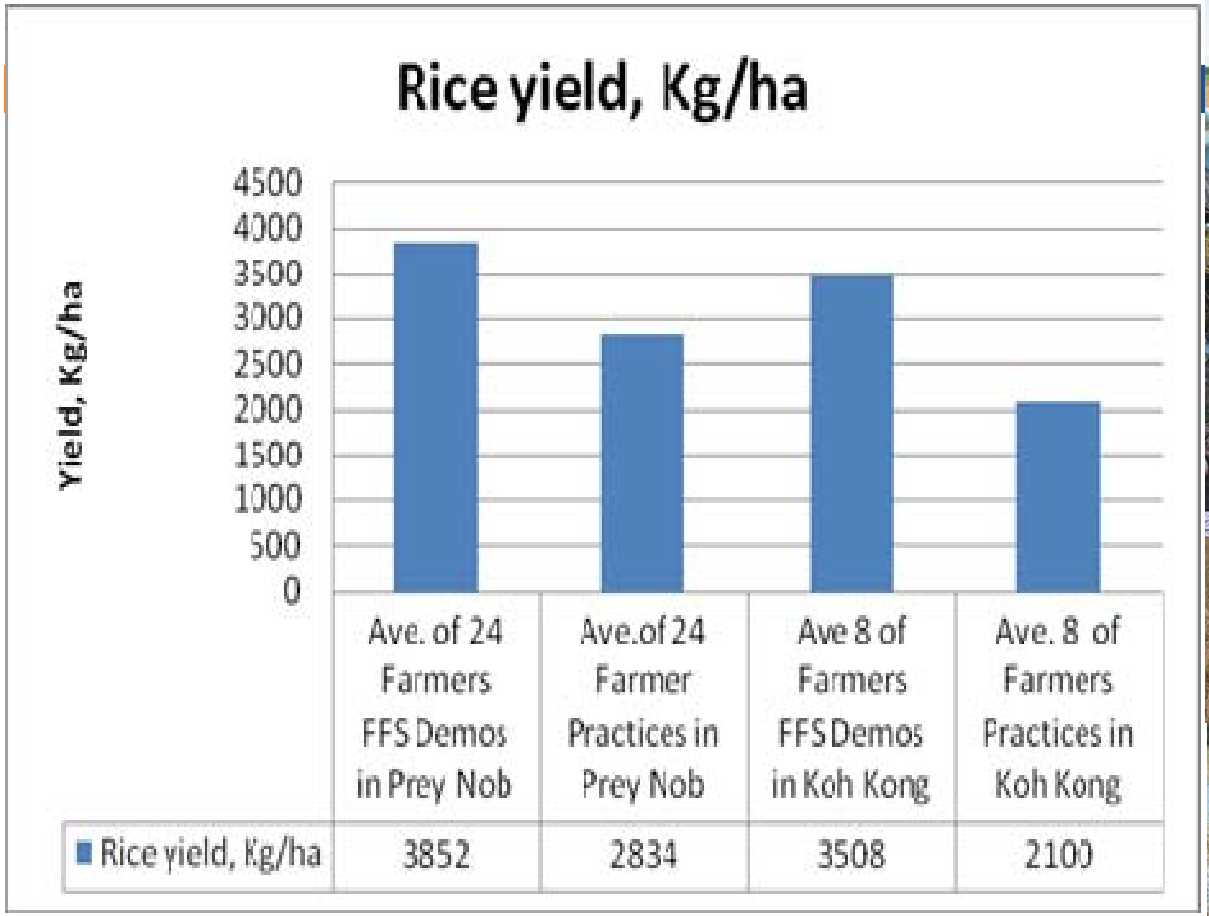
5.4 Impact of Climate Change to Agriculture and Proposed Adaptation Options to CC in Coastal Region

Impact of CC	Adaptation Options
• Low Yield of Rice and other crops	• Improve Best Practices on Rice, other crops and fruit tree Cultivation Techniques
• Animal Diseases • Decrease of aquatic and mangrove products	• Livestock production techniques • Fish farming and Aquaculture • Strengthen Community Fisheries
• Dams protection to salt water • Water resources, Irrigation systems and clean water	• Irrigation and drainage rehabilitation and Improvement • Water harvesting
• Soil erosion and fertility	• Soil improvement and nutrient management
• Diseases, Insect pests and weeds	• Integrated farming system • Integrated Pest Management
• Deforestation and non-timber products	• Community forestry development • Improve Agro- forestry systems

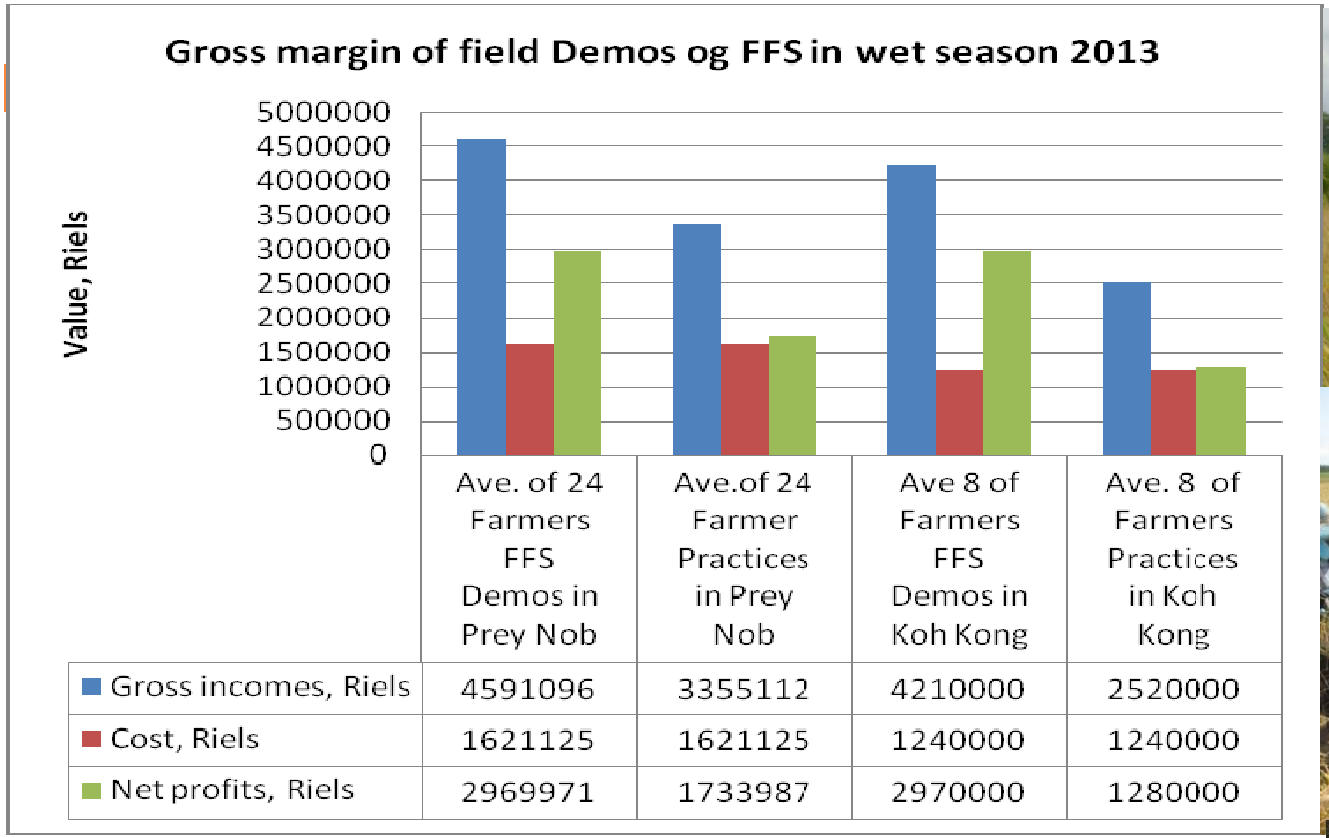
5.5 Adaptation Options for Capacity Building(ToT) and Field Demonstration



5.6 Adaptation Option – Improved Rice Cultivation Techniques



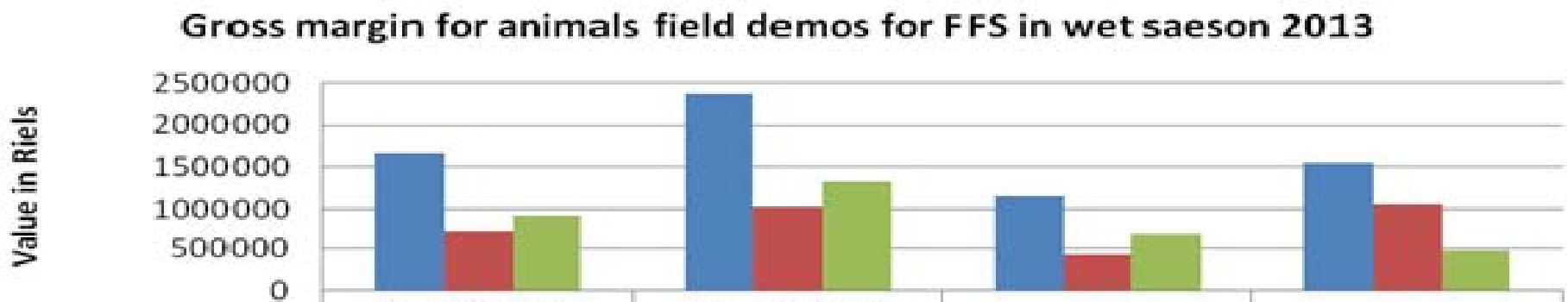
5.7 Adaptation Option – Improved Rice Cultivation Techniques – Economic Analysis



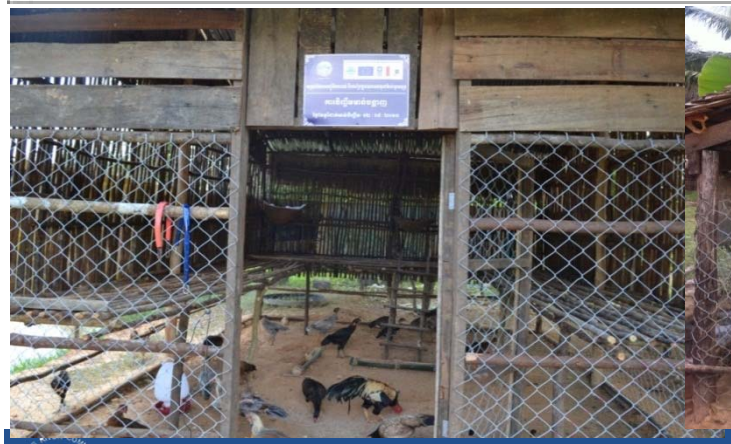
	Ave. of 24 Farmers FFS Demos in Prey Nob	Ave.of 24 Farmer Practices in Prey Nob	Ave 8 of Farmers FFS Demos in Koh Kong	Ave. 8 of Farmers Practices in Koh Kong
Gross incomes, Riels	4591096	3355112	4210000	2520000
Cost, Riels	1621125	1621125	1240000	1240000
Net profits, Riels	2969971	1733987	2970000	1280000

- **Average net profits of demo plots compare to farmer's practice = 742$/377$**

5.8 Adaptation Option – Integrated Farming System



	Ave. of 14 FFS demos of chicken in Prey Nob	Ave. of 8 FFS demos of chicken in Koh Kong	Fish Demos for FFS in Prey Nob (Mr. Hak Khan)	Ave. 10 Pig Demos FFS in Prey Nob
Incomes, Rield	1654714	2360000	1150000	1542877
Cost, Riels	730000	1030000	440000	1051222
Net profits, Riels	924714	1330000	710000	491655



5.9 Adaptation Option - Water Harvesting

- 175 water tanks have been constructed for 175 farming families in 175 villages of Koh Kong and Preah Sihanuk province.
  - Purpose is for clean water use, irrigation (home gardening) and community use during the dry season (shortage of water)



5.10 Adaptation Option – Saving Groups

- 31 saving groups were developed in Preah Sihanuk (25groups) and Koh Kong province (6 groups).
  - Purpose of saving groups development is to provide the loan to the group members to improve their farming systems, life style… to adapt the CC within the coastal region.

6. Conclusions of the project

- The Demonstration activity of Coastal Adaptation Resilience Planning (CARP) to CCA was successfully structured as an information exchange between the national, sub-national level, key stakeholders and farm community...etc,
- A model of agricultural extension services was well established for the CCA and resilience to assist diversity of stakeholder farmers to achieve the profitable from their farming business,
- Increasing the capacity of stakeholders to understand CC, climate hazard, which impact to the livelihood and their farming practices,
- A model of integrated Farming Systems and CC adaptation and resilience has been integrated into Commune Development Plan (CDP), Commune Investment Funds (CIF),
- Gender mainstreaming into CC adaptation as part of the role of saving groups,

7. Way forward to replication, up scaling and mainstreaming

- Experience & lessons learned from this region to other region in the country wide (same agro ecological zones)
- Keep continue to strengthen the capacity of all key stakeholders involved with the project to understand on CC adaptation and resilience.
- Upscaling the demonstration activities into other communes, villages within the region.
- Mainstreaming these demonstration activities into national and sub-national investment plan
- Develop and improve extension materials.

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Thank you

Discussion