

Cambodia REDD+ Programme Activity Cover Page

Title of Activity:

Conservation and reforestation of Flooded Forest and Mangrove to involve in Carbon emission prevention and Carbon stock

Related Activities UN-REDD Workplan:

Activity 2.1e: Investigation on how the REDD+ can Support management of flooded forests and mangrove Areas managed by Fisheries Administration under the Strategic Planning Framework on Fisheries (Output 2.1)

Objectives of Activity:

Better management on Flooded forest and mangrove in preventing Carbon emission and improving Carbon stock

Brief Description:

Flooded forest and mangroves are important habitats, vital to many of the aquatic biodiversity that are crucial to Cambodia's fisheries. They also provide a vast array of services including fishing for vital food resources, erosion protection, tourism, biodiversity and maintaining for eco-system. Furthermore, flooded forest and mangroves are generally considered to be valuable in terms of climate change mitigation due to high rates of primary productivity and levels of carbon contained within the above and below ground biomass and soils. The conservation and reforestation of flooded forest and mangroves is therefore vital to the sustainable management of marine fisheries and to ensure Cambodia's people continue to gain economic, cultural and nutritional benefit from the resource and maintaining ecosystem by preventing carbon emission and improving carbon absorption.

Target Areas:

- Kampong Chhnang Province: Fisheries Conservation Area with the total area of 3,433ha.
- Preah Sihanouk Province: Preynup District with the total area of 1,166ha.

Goal and Objective

Base on UN-REDD Roadmap and 10 Year Strategic Planning Framework for Fisheries, this project aims to build capacity for fishery official on carbon stock assessment, strengthen understanding of local people on the role of flooded forest and mangrove in carbon emission and absorption, strengthen law enforcement, prevent flooded forest fire and replanting, and monitoring and evaluation.

Expected Outputs

1. Relevant fisheries official trained on carbon stock assessment
2. Local communities and local authorities be aware on role of flooded forest and mangrove in carbon emission and absorption
3. 5-year implementation plan developed
4. Law enforcement strengthened
5. Flooded forest and mangroves reforested in where previously cleared
6. Effective management system evaluated

	Signature	Name and Function	Date
Developed by:			
Implemented by:			
Approved by:			

Conservation and reforestation of Flooded Forest and Mangrove to involve in Carbon emission prevention and Carbon stock

Related Activities UN-REDD Workplan:

Activity 2.1e: Investigation on how the REDD+ can Support management of flooded forests and mangrove Areas managed by Fisheries Administration under the Strategic Planning Framework on Fisheries (Output 2.1)

Related 10 Year Strategic Planning Framework for Fisheries

Budget year :	2013-2014	Priority:	High
New:		or ongoing:	On-Going
Programme Name:	Fisheries Management –Sustainable Development, Food Security and Equitable Access		
Sub-programme name:	Sustainable fisheries resources through protection and conservation are realized to ensure sustainable utilization.		
Division:	Department of Fisheries Conservation (4.7), Fisheries Administration		
Team Leader:	Ouk Vibol, Director of Fisheries Conservation Department		
AAP Immediate objective:	Better management on Flooded forest and mangrove in preventing Carbon emission and improving Carbon stock		
Completed by:	Team of the Department of Fisheries Conservation/ FiA		

Brief Description:

Flooded forest and mangroves are important habitats, vital to many of the aquatic biodiversity that are crucial to Cambodia’s fisheries. They also provide a vast array of services including fishing for vital food resources, erosion protection, tourism, biodiversity and maintaining for eco-system. Furthermore, flooded forest and mangroves are generally considered to be valuable in terms of climate change mitigation due to high rates of primary productivity and levels of carbon contained within the above and below ground biomass and soils.

There are also many fishing communities in Cambodia as well as in Asia that are poor and highly dependent on dwindling fish stocks. Growing populations mean that fishing livelihoods are becoming increasingly unsustainable. At the same time, flooded forest and mangrove resources are being degraded with attendant impacts on fish stocks – both within flooded forest and mangrove areas, and adjacent water areas. Flooded forest and mangroves also provide additional benefits to coastal communities and the poorer members in particular, which are lost as unsustainable exploitation increases. Amongst the benefits are wood production, production of non-wood forest products (e.g. crabs, honey, bark for tannin production, etc.) and production of a range of environmental services including: protection from coastal hazards, erosion control, water filtration, and bio-diversity conservation.

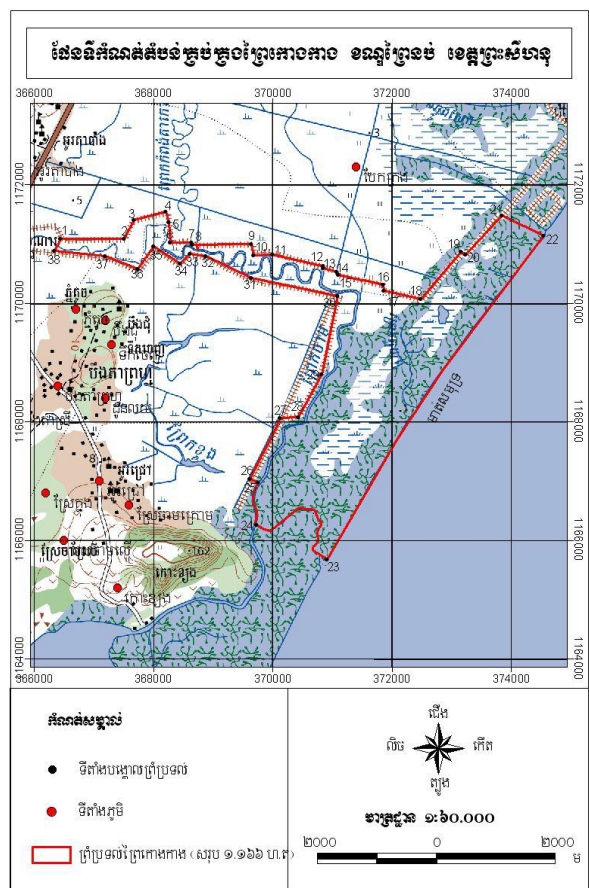
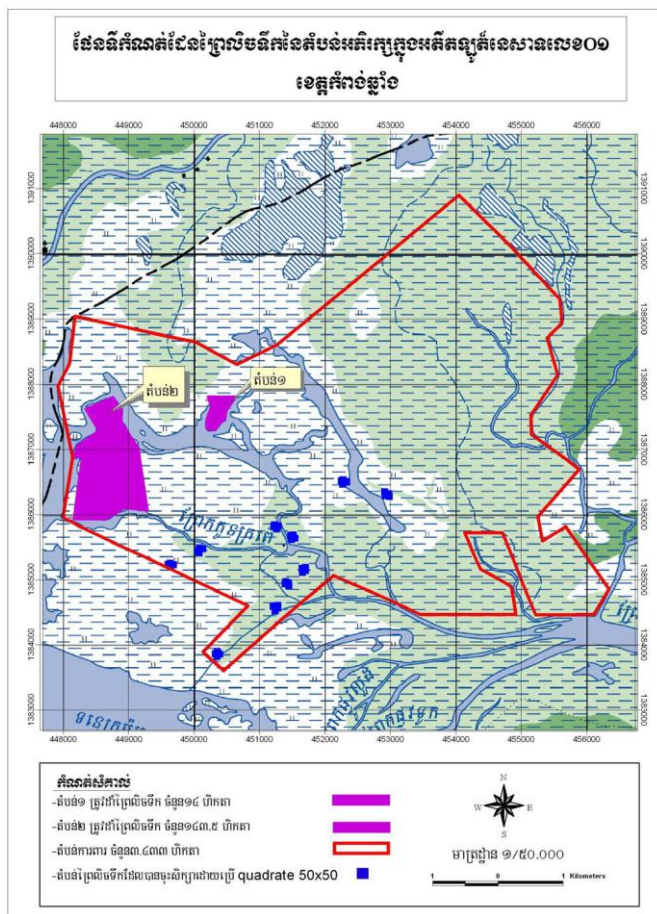
However, in recent years many areas of flooded forest and mangrove have been destroyed. According to a survey conducted by the Fisheries Administration, the total area of flooded and mangrove forest have decreased by about 20-30%. This loss of critical habitat is caused by human activities such as: clearing area for shrimp farm and agriculture purpose, cutting mangrove for charcoal, invasion of areas for personal property and coastal development. Destruction of these habitats results in a loss of breeding, spawning, nursery and feeding grounds for many marine species, leading to a reduction in fish stocks and livelihood for people living in coastal area of Cambodia.

The conservation and reforestation of flooded forest and mangroves is therefore vital to the sustainable management of marine fisheries and to ensure Cambodia's people continue to gain economic, cultural and nutritional benefit from the resource and maintaining ecosystem by preventing carbon emission and improving carbon absorption.

Target Areas:

In Cambodia, flooded forest presents in 12 provinces, covering 766,440ha and mangrove forest presents in 4 provinces, covering 78,405ha. Out of these areas, the project target two sites for pilot as follow:

- Kampong Chhnang Province: Fisheries Conservation Area (Former Fishing lot #1) with the total area of 3,433ha.
- Preah Sihanouk Province: Preynup District with the total area of 1,166ha.



These two pilot sites were identified in 2012 through research conducted by Fia Team from the Department of Fisheries Conservation. Based on research (consultation and mapping, biomass study, biodiversity study, and socio-economic study), these two sites are in good condition (biomass, biodiversity and swarm) that can be identified as pilot for carbon credit.

Goal and Objective

Base on UN-REDD Roadmap and 10 Year Strategic Planning Framework for Fisheries, this project aims to build capacity for fishery official on carbon stock assessment, strengthen understanding of local people on the role of

flooded forest and mangrove in carbon emission and absorption, strengthen law enforcement, prevent flooded forest fire and replanting, and monitoring and evaluation.

Expected Outputs

1. Relevant fisheries official trained on carbon stock assessment
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3. 5-year implementation plan developed
4. Law enforcement strengthened
5. Flooded forest and mangroves reforested in where previously cleared
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LOGFRAME			
Output	Indicator	Verification Mean	Assumption/Risk
1. Relevant fisheries official trained on carbon stock assessment	At least 20 fisheries officials from the Great Lake and Coastal Areas improved knowledge on carbon stock assessment by quarter 3 of 2013	Training evaluation	Skill of trainer would be concerned
2. Local communities and local authorities be aware on role of flooded forest and mangrove in carbon emission and absorption	At least 4 public awareness organized for at least 200 people by quarter 4 of 2013	Meeting report and number of extension material	Skill of resource person would be concerned
3. 5-year implementation plan developed	Plan on REDD+ Activities in flooded forest and mangrove management produced by Quarter 1 of 2014	Physical document plan	Would need a short term consultant to help
4. Law enforcement strengthened	At least two patrol teams formed and well functioned from Q4 of 2013 At least 20 demarcation poles and sign boards installed by Q2 of 2014 Two blockhouses constructed at conservation sites by Q1 of 2014 A set of equipment for preventing flooded forest procured by Q1 of 2014	Monthly patrolling report Physical poles Physical blockhouses List of equipment	Available Budget would be concerned
5. Flooded forest and mangroves reforested in where previously cleared	At least 20ha of the area replanted by Q2 of 2014	Two replanted events	
6. Effective management system evaluated	Effective management system evaluated by Q4 of 2014	Physical evaluation report	Limited capacity of staff on monitoring skill

Activities and Time frame

The activities will be implemented from 2013 to June 2014. The schedule of the activity is shown in the Gantt Chart below.

Output/Activity	Q3, 2013	Q4, 2013	Q1, 2014	Q2, 2014	Q3, 2014	Q4, 2014	Total
							74,054
Output1: Relevant fisheries official trained on carbon stock assessment							5,500
Prepare training material for training	X						70
Organize two trainings for the Great Lake and Coastal fisheries official (Including national short term consultant cost)	X						5400
Prepare the training report		X					30
Output2: Local communities and local authorities be aware on role of flooded forest and mangrove in carbon emission and absorption							7,700
Design extension materials (Poster and Leaflet)	X						70
Printing 1,000 posters and 2,000 leaflets	X						1600
Organize 4 public awareness		X					6000
Prepare report			X				30
Output3: 5-year implementation plan developed							3,300
2 Meetings to prepare outline of plan		X					1000
Produce the first draft			X				500
Revise for second draft			X				300
2 Meetings for final work plan and printing document			X				1000
Printing document				X			500
Output4: Law enforcement strengthened							45,160
2 Meetings to form two patrol teams (Kampong Chnang and Preah Sihanouk province)	X						800
Patrol teams conduct patrol operation (10trips per moth)	X	X	X	X	X	X	19550
Train patrol team on skill of patrolling and report preparation		X					1000
Find experienced contractor for construction of blockhouses and installation of demarcation poles and sign board							0
Filed work to identify locations of blockhouse and demarcation poles		X					2060
Organize two consultations with stakeholders to discuss and agree on location of blockhouse and demarcation pole			X				1180
Construct two blockhouses and demarcation poles and sign boards			X	X			18400

Concepts note: Conservation and reforestation of Flooded Forest and Mangrove to involve in Carbon emission prevention and Carbon stock

Procure and support equipment for preventing flooded forest fire (01 pumping machine, 100m water pipe, 20 back pumps, fire jackets and patrolling material)			X				2000
Prepare monthly patrol report	X	X	X	X	X	X	170
Output 5: Flooded forest and mangroves reforested in where previously cleared							9,400
Prepare seedling field and nurse seedling			X				3600
Monitor the growth of seedling				X			803
Conduct field work to identify areas for planting				X			803
Organize two events separately for planting flooded forest & mangrove				X			3025
Manage replanted plants and monitor survival rate				X			1169
Output 6: Effective management system evaluated							2,994
Develop monitoring indicator				X			519
Field work to collect data related to identified indicator					X		2375
Data management and reporting						X	100

Budget Plan

Output/Activity	Q3, 2013	Q4, 2013	Q1, 2014	Q2, 2014	Q3, 2014	Q4, 2014	UN-REDD Fund		Other Fund
							Outcome2	Outcome4	
							50,154	5,500	18,400
Output1: Relevant fisheries official trained on carbon stock assessment								5,500	
Prepare training material for training	70							70	
Organize two trainings for the Great Lake and Costal fisheries official (Including national short term consultant cost)	5400							5400	
Prepare the training report		30						30	
Output2: Local communities and local authorities be aware on role of flooded forest and mangrove in carbon emission and absorption							7,700		
Design extension materials (Poster and Leaflet)	70							70	
Printing 1,000 posters and 2,000 leaflets	1600							1,600	
Organize 4 public awareness	6000	6000						6,000	
Prepare report	30		30					30	
Output3: 5-year implementation plan developed							3,300		
2 Meetings to prepare outline of plan	1000	1000						1,000	
Produce the first draft	500		500					500	
Revise for second draft	300		300					300	
2 Meetings for final work plan and printing document	1000		1000					1,000	
Printing document	500			500				500	
Output4: Law enforcement strengthened							26,760		18,400
2 Meetings to form two patrol teams (Kampong Chnang and Preah Sihanouk province)	800							800	
Patrol teams conduct patrol operation (10trips per moth)	19550	3450	3450	3450	3450	3450		19,550	
Train patrol team on skill of patrolling and report preparation	1000	1000						1,000	
Find experienced contractor for construction of blockhouses and installation of demarcation poles and sign board	0							0	
Filed work to identify locations of blockhouse and demarcation poles	2060	2060						2,060	
Organize two consultations with stakeholders to discuss and agree on location of blockhouse and demarcation pole	1180		1180					1,180	
Construct two blockhouses and demarcation poles and sign boards	18400		9200	9200					18,400
Procure and support equipment for preventing flooded forest fire (01 pumping machine, 100m water pipe, 20 back pumps, fire jackets and patrolling material)	2000		2000					2,000	
Prepare monthly patrol report	170	30	30	30	30	30		170	

Output 5: Flooded forest and mangroves reforested in where previously cleared							9,400		
Prepare seedling field and nurse seedling	3600		3600				3600		
Monitor the growth of seedling	803			803			803		
Conduct field work to identify areas for planting	803			803			803		
Organize two events separately for planting flooded forest & mangrove	3025			3025			3,025		
Manage replanted plants and monitor survival rate	1169			1169			1,169		
Output 6: Effective management system evaluated							2,994		
Develop monitoring indicator	519			519			519		
Field work to collect data related to identified indicator	2375				2375		2,375		
Data management and reporting	100					100	100		