

Avoided Deforestation Community Forest Carbon Project: Oddor Mean Chey Province

This project is designed to ensure the storage of carbon within important forest sinks in northeastern Cambodia. The project's focus is on larger tracts of community managed forests with healthy closed canopy forests. The project seeks to retain carbon in these areas, with an emphasis on environmental services including enhancing hydrology in the upland watersheds of the Tonle Sap Basin, as well as conserving biodiversity. Buddhist pagodas play a very active role in forest protection in this area. CFI has been providing small grant assistance, capacity building, strengthening linkages with the local Forest Administration (FA), and institutional and technical support to communities to map and demarcate forest boundaries.



1) Project Goals

Oddor Mean Chey Province provides an excellent site for developing "Avoided Deforestation" carbon projects. The province's forests have been under intense pressure from illegal loggers due to their close proximity to the border with northeastern Thailand for the past two decades. A growing number of communities in the province are organizing to protect the remaining natural forests under threat. While much of the area under community forest management would not be eligible for LULUCF/CDM projects, these areas are ideal candidates for "avoided deforestation" projects, resulting from community forestry projects. Approved methodologies are still under development for verifying "avoided deforestation," so the potential offsets are tentative and require further study.

2) Baseline Scenario - Estimating Carbon Project Additionalities

The closed canopy forest ecosystems in Oddor Mean Chey Province possess between 95 and 128 metric tons of carbon per hectare (see Table 1). Recent studies indicate that carbon sequestration is estimated between 4 to 10 metric tons of CO₂ per hectare per year.

Table 1: Baseline Carbon Stocks & Sequestration Rates for Northern Cambodian Forests

Forest Type	Above Ground Carbon (mt./ha.)	Mean Annual Increment (mt.C/ha)	Mean Annual Increment Mt.CO ₂ /ha.
Deciduous	95	2.3	8.9
Mixed	112	2.5	9.68
Evergreen	128	2.7	10.45
Inundated	80	2.1	8.13
Regrowth	35	1.12	4.33

3) Additionalities from CF Management Project Activities

Mobilizing communities to protect endangered forests is already demonstrating effectiveness in halting deforestation in CF areas.

- Social Fencing
 - CF Group Strengthening
 - Formulation and Adoption of Management Resolution
 - Networking with FA-Triage
 - Networking with neighboring villages
- Strengthened Tenorial Authority
 - Mapping and Boundary Demarcation
 - Approval of CF Group by MAFF
- Fire Control
 - Fire Line Construction
 - Ban on fires in the forest
 - Fuel load reduction
 - Volunteer Fire Brigade
- Illegal Logging Control
 - Volunteer Patrols
 - Forest Watchers

4) Calculating and Reducing Leakage

- **Leakage** - Fuelwood is the primary source of energy for project families and the largest source of leakage. Studies indicate that rural households consume approximately 150 kgs./person annually, or approximately 1 mt/household per year. Considering 55 villages with an estimated population of 4007 households, fuel wood emission may total 4007 mt. of CO₂E yearly. This needs to be deducted from gross project carbon credits.
- **Leakage Compensation** – Would take the form of a reduction in total carbon credits claimed by 10%.

5) Reducing Risk

Loss of carbon stocks through fire, illegal felling, and land clearing are some of the greatest risk facing forest carbon offset projects. This project proposes to reduce risk through building strong partnerships between the Forest Administration, community forestry groups, and local NGOs at the field (triage) and provincial level. The process of building community management capacity, clarifying and formalize community management rights and duties, and developing custodial and technical collaboration with local government agencies all reduce the risk that internal or external actors can capture and manipulate forest resources in ways that undermine carbon stocks.

6) Projecting Net CO₂ Additionality

One way of projecting offsets is to determine the annual rate of deforestation in Oddor Mean Chey Province between 2002 and 2006. Provincial forest loss rates have averaged 1.6 percent annually over the period. Community forest protection can effectively halt any further loss of the total CO₂ stock in the remaining forests in project areas. In addition, there may also be credits for the future sequestration and

the restoration of degraded areas. Recent studies indicate that local forests possess an average of 112 mt. C/ha, thus averting a loss of 1.6 % per year would yield 1.79mt. C/ha. or 6.59mt CO₂/ha/year.

Table 2: Project Carbon Stock Levels and Offsets under REDD

Forest Types and Project Area in Hectares	Above Ground Carbon Stock	Annual Rate of Loss CO₂	Total Project Carbon Offset (Annual Avoided CO₂e)
Dense Closed Canopy Forest – 48,382 ha.	112 mt C/ ha (412 mt. CO ₂)	1.6 percent year = 6.59 mt. /ha.	319,058 mt.
Open and Degraded Forests 12,095 ha.	35 mt. C/ha (129 mt. CO ₂)	1.6 percent year = 2.06 mt./ha.	24,916 mt.
Total Project Area 60,477 ha.			343,974mt.

Table 3: Oddor Mean Chey Province Carbon Account Avoided Deforestation Project

	Metric Tons of Co₂/yr	Value at \$3.00 per metric ton
Gross Co₂ Additionality	343,974mt.	\$1,031,922
Loss through Leakage	-4,007	-\$12,021
Sub total	339,967	\$1,019,901
Margin of Loss (10%)	--33,997	-\$101,991
Net Co₂ Additionality Through AD	305,970	\$917,910

Table 4: Proposed CF Carbon Project Areas in Oddor Mean Chey Province, Siem Reap FA Cantonment

CF Name	CF Area (Ha)	No. of Villages
Rutanak Ruka	12,872	16
Russei Sros	850	2
Chouk Meas	383	1
Ou Yay Kev	960	1
Rumduol Veasna	6,016	4
Phnom Dangrek	1,604	2
Andong Bor	6,114	8
Dong Beng	1,843	4
Samaky	1,079	4
Ou Korki	6,344	5
Samaki Sang Krous	4,151	3
Song Ruka Van	18,261	5
TOTAL	60,477	55

