

**Sustainable Forest Management  
(SFM)**

**Project Document**

**Award ID : 00060049**

**Project ID: 00075402**

**Strengthening Sustainable Forest Management**

**United Nations Development Programme  
Country: CAMBODIA  
Project Document**

**Project Title:** Strengthening Sustainable Forest Management and Bio-Energy Markets to Promote Environmental Sustainability and to Reduce Greenhouse Gas Emissions in Cambodia.

**UNDAF Outcome:** By 2015, more people living in Cambodia benefit from, and participate in, increasingly equitable, green, diversified economic growth.

**CPAP Outcome(s):** By 2015, National and local authorities, communities and private sector are better able to sustainably manage ecosystems goods and services and respond to climate change.

**CPAP Output(s):** Pro-poor, sustainable forest/protected area management and bio-energy productions accelerated.

**Implementation Modality:** National Implementation (NIM)

**Implementing Partner:** Forestry Administration, MAFF

**Responsible Parties:** General Administration of Nature Conservation and Protection, Ministry of Environment (GDANCP), Ministry of Industry, Mines and Energy.

Programme Period : 2011-2015 Key Result Area : Environment and (Strategic Plan) Sustainable Development Atlas Award ID : 00060049 Start date : 1 March 2011 End Date : 28 February 2015 LPAC Meeting Date : 25 November 2009	<b>Total resources required: US\$ 9,963,635</b> Total allocated resources: • <b>Cash (Grant) US\$ 3,863,635</b> o UNDP : US\$ 1,500,000 o GEF : US\$ 2,363,635 • <b>Co-financing (parallel) US\$ 4,500,000</b> o DANIDA : US\$ 3,000,000 o UNDP : US\$ 700,000 o GERES : US\$ 800,000 Unfunded budget : US\$ 1,000,000 In-kind Contribution, RGC/FA : US\$ 600,000
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**Agreed by (Government):** H. E. Keat Chhon, Deputy Prime Minister, Minister of MEF, First Vice Chairman of CDC, Ministry of Economy and Finance 

Signature: 

Date: 11 MARCH 2011

**Agreed by (Implementing Partner):** H. E. Chheng Kimsun, Delegate of the Royal Government, Head of the Forestry Administration



Signature: 

Date: 21 February 2011

**Agreed by (UNDP):** Ms. Elena Tischenko, Country Director

Signature: 

Date: 18 March 2011



## Strengthening Sustainable Forest Management Project Document

Government of Cambodia

United Nations Development Programme

PIMS No. 4136

**Strengthening Sustainable Forest Management and Bio-Energy Markets to Promote  
Environmental Sustainability and to Reduce Greenhouse Gas Emissions in Cambodia**

### Brief Description

Forests in Cambodia are subject to a wide range of threats, including logging, forest fires, subsistence and commercial agriculture expansion, and the establishment of roads and human settlements. Loss of forest cover is of global significance due to its implications for biodiversity, land degradation and climate change. Deforestation also poses a major threat to the livelihoods of local people.

The proposed project will play a critical role in implementing priority actions as identified in the National Forestry Programme and the National Strategic Development Plan 2009-2013 related to sustainable forest resource management, conservation, and community-based forest management. The objective of the project is to strengthen sustainable forest management (SFM), through integrating community-based sustainable forest management into policy, planning and investment frameworks and creating markets for sustainable bio-energy technologies which reduce CO<sub>2</sub> emissions. The project has three outcomes, namely, (1) improvement of existing national capacities, policies and regulations which facilitate the widespread implementation of SFM, integrating energy efficiency, biodiversity, sustainable land management and livelihood considerations; (2) community-based sustainable forest management is being implemented effectively within a context of cantonment/province, district and commune level planning and delivering concrete benefits to local communities; and (3) strengthened demand and supply chain for energy efficient cook stoves. The project will be implemented over a period of four years beginning March 2011. It will be executed by the Forestry Administration (FA) of Cambodia. The total budget of the project is US\$ 9,963,635 of which US\$3,863,635 is in cash funding from GEF/UNDP, US\$4,500,000 is parallel co-financing, US\$600,000 is in-kind contribution and US\$1,000,000 is unfunded budget will be mobilized by UNDP and Implementing Partner during the project implementation. In the situation where resource cannot be mobilized to address the shortfall, the project results framework will be revised during the mid-term review to accommodate the budget availability.

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### Acronyms and Abbreviations

ADB	Asian Development Bank
ADI	Agricultural Development International
AFD	Agence Francaise de Developpement (French Development Agency)
APR	Annual Project Review
BCCI	Biological Corridors Conservation Initiative
BD	Biodiversity
CBD	Convention on Biological Diversity
CBSFLMP	Capacity Building for Sustainable Forest and Land Management Project
CC	Climate change
CCA	Community Conservation Area
CCPF	Central Cardamoms Protected Forest
CDM	Clean Development Mechanism
CF	Community forestry
CFO	Community Forestry Office
CI	Conservation International
CLUP	Commune Land Use Planning
CO	UNDP Country Office
CPA	Community Protected Area
DFID	Department for International Development
DNV	Det Norske Veritas AS
DOE	Department of Environment (at provincial level)
EE	Energy Efficiency
ELC	Economic Land Concession
FA	Forestry Administration
FAO	Food and Agriculture Organization
FFI	Flora and Fauna International
GDANPC	General Department for Administration of Nature Protection and Conservation
ITTO	International Timber Trades Organization
IUCN	World Conservation Union (International Union for the Conservation of Nature)
LD	Land degradation
LPG	Liquefied Petroleum Gas
MAFF	Ministry of Agriculture, Forestry and Fisheries
MEF	Ministry of Economy and Finance
MIME	Ministry of Industry, Mines and Energy
MLMUPC	Ministry of Land Management
NCFPCC	National Community Forestry Program Coordinating Committee
NKS	Neang Kongrey Stove
NLS	New Lao Stove
NRMLP	Natural Resource Management and Livelihoods Programme
NTFP	Non-timber forest product
NFP	National Forest Programme
PA	Protected Area
PER	Permanent Forest Reserve
PJR	Project Implementation Review

PLUP	Participatory Land Use Planning
RCU	UNDP Regional Coordination Unit
RECOFTC	Regional Community Forestry Training Centre
REDD	Reduced Emissions from Deforestation and Degradation
RGC	Royal Government of Cambodia
SFM	Sustainable Forest Management
SFMP	Strategic Forest Management Plan
SLM	Sustainable Land Management
SO	Strategic Objective
SP	Strategic Priority
TPR	Tripartite Review
TWG (F&E)	Technical Working Group in Forests and the Environment
UNCCD	United Nations Convention on the Control of Desertification
WCS	Wildlife Conservation Society
WWF	Worldwide Fund for Nature

## 1. SITUATION ANALYSIS

### Overall country statistics

1. Cambodia is located in Southeast Asia, bordering Vietnam, Laos and Thailand, and has a total land area of 1,811,035 km<sup>2</sup>. The country's population grew from around 9 million in the 1960s to around 14,197,000 in 2006<sup>1</sup>. With the current annual population growth rate of around 2.5%, the population could reach 19 million people in 2020 (National Institute of Statistics 2007). Approximately 80 percent of the country's inhabitants live in rural areas with limited access to electricity and seasonal food shortages.

2. Cambodia is one of the poorest countries in Southeast Asia. Its Human Development Index is 0.598, which gives the country a rank of 131st out of 177 countries with data<sup>2</sup>. Around 35% of Cambodians live under the poverty line (NIS 2007). Around 2-3 million people currently live in cities (14-21% of the total). In addition, 37 percent of the rural population lives below the poverty line of less than 50 US cents per day and more than half live on less than US\$1 a day.

### Biodiversity

3. Compared with its neighbouring countries, Cambodia still has a low population density and relatively large intact natural areas. WWF's eco-regional assessment has identified five critical ecosystems in Cambodia, including the Cardamom Mountain Range, Northern Plains, Eastern Plain, Upper Mekong and the Tonle Sap. The terrestrial ecoregions present in Cambodia are shown in Table 1 and Figure 1. Of these, the Cardamom Mountains rain forests and the Tenasserim-South Thailand semi-evergreen rain forests are included in the WWF Global 200 list of priority ecoregions.

4. The Cardamom Mountain rainforests ecoregion occurs mostly in south-western Cambodia, with a small section falling across the border in south-eastern Thailand. It is considered by some to be one of the most species-rich and intact natural habitats in the Southeast Asia region. The Northern Plains of Cambodia are the largest remaining intact block of a unique landscape that once covered much of Indochina. Dominated by open deciduous forest, grasslands, and seasonal wetlands, the area has been described as the Asian equivalent of the African savannas. Cambodia's globally important ecosystems are home to globally important species as well. It is estimated that Cambodia hosts 806 globally threatened species, including 26 Critically Endangered species, 36 Endangered and 51 Vulnerable species. About 423 species are largely forest or forest-dependent species – including 9 Critically Endangered species, 9 Endangered Species and 23 Vulnerable species<sup>3</sup>. Some of the globally threatened species in found in Cambodia include eld's deer (*Cervus eldi siamensis*), tigers (*Panthera tigris*), sun bears (*Helarctos malayanus*), Asian elephants (*Elephas maximus*), Asian wild dogs (*Cuon alpinus*), and banteng (*Bos javanicus*).

**Table 1. Terrestrial ecoregions in Cambodia (source: WWF)**

Biome	Terrestrial ecoregion	Conservation status	Global 200
Tropical and Subtropical Moist Broadleaf Forests	Cardamom Mountains rain forests (IM0106)	Relatively Stable/Intact	X
	Tenasserim-South Thailand semi-evergreen rain forests (IM0163)	Relatively Stable/Intact	X
	Tonle Sap freshwater swamp forests (IM0164)	Vulnerable	
	Tonle Sap-Mekong peat swamp forests (IM0165)	Critical/Endangered	
Tropical and Subtropical Dry Broadleaf Forests	South-eastern Indochina dry evergreen forests (IM0210)	Critical/Endangered	
	Central Indochina dry forests (IM0202)	Vulnerable	

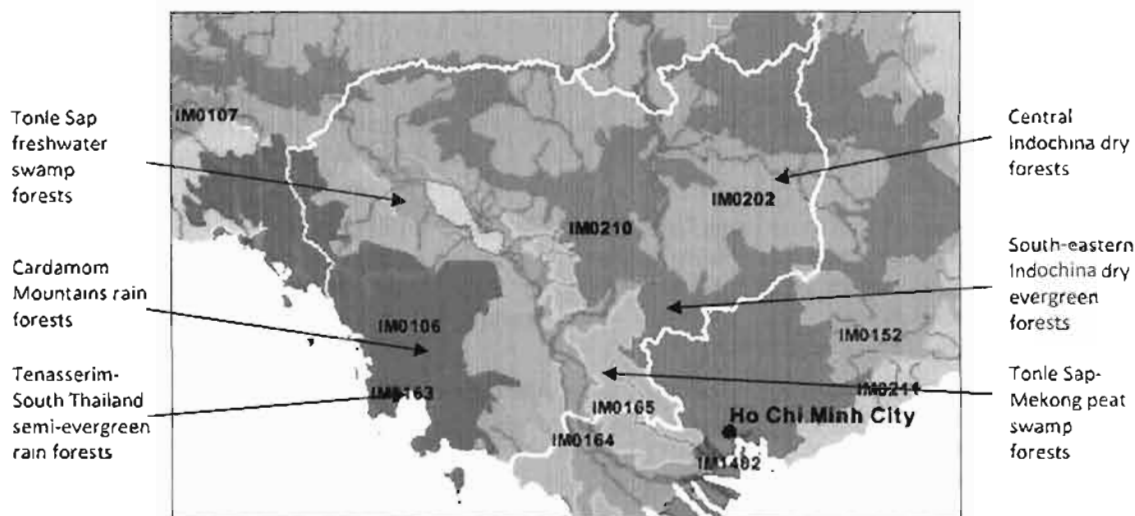
<sup>1</sup> <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/CAMBODIAEXTN/0,,menuPK:293881~pagePK:141132~piPK:141109~theSitePK:293856,00.html>

<sup>2</sup> [http://hdrstats.undp.org/countries/country\\_fact\\_sheets/cty\\_fs\\_KHM.html](http://hdrstats.undp.org/countries/country_fact_sheets/cty_fs_KHM.html)

<sup>3</sup> [www.redlist.org](http://www.redlist.org)



Figure 1. Terrestrial ecoregions in Cambodia (source: WWF)



**Forests in Cambodia**

5. The total area of forest in Cambodia is estimated at 10,864,186ha, equivalent to approximately 60% of the total land area. The principal forest types in the country are shown in Table 2.

Table 2. Area of Cambodia's Forest/Biomass Stocks in 2000

Forest/Plantation Type	Area of Forest/Biomass Stocks (ha)
Acacia spp.	3,700
Eucalyptus spp.	5,549
Hevea brasiliensis	36,000
Evergreen	3,718,000
Semi-Evergreen	1,339,000
Deciduous	4,176,000
Inundated	234,627
Mangrove	69,000
Other (Arbor Day)	119

Source FA 2009

6. The country's forests have suffered from both deforestation and degradation. Around 2.1 million ha of forestlands were converted to agriculture and other uses between 1960 and 1992-93 (see Table 3)

Table 3. Changes in forest cover 1960's to 2002

Year	1960s *1	1973/76 *2	1985/87 *2	1992/93 *2	1992/92 *3	1996/97 *3	2002/2003	2006
Total land area (ha) *4	18,103,500	18,153,500	18,153,500	18,153,500	18,152,985	18,152,984	18,160,670	18,160,674
Forest area (ha)	13,277,100	12,711,100	11,852,400	11,284,200	10,859,695	10,638,208	11,392,347	10,864,186
Forest cover (%)	75.2	71.9	67.4	63.6	61.3	60.2	62.7	59.8

Source: FA, 2003, 2005, 2007 and MoE, 2005

Note: \*4 Including flooded land area

\*1 Total land, Land area (Forest information system (2003), FAO).

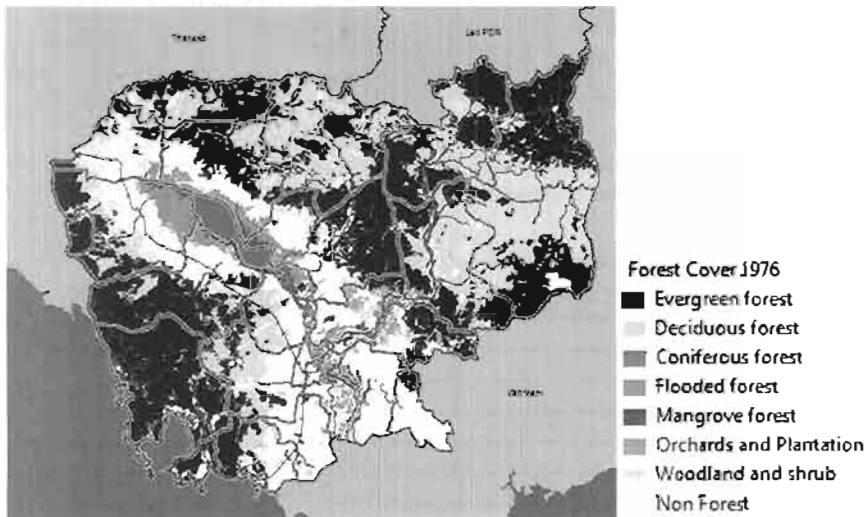
\*2 From MRC, 2004: Cambodia Land Cover Atlas (1985/87, and 1993/95); and UNDP/FAO

\*3 DFV, 1998. Forest Cover Assessment.

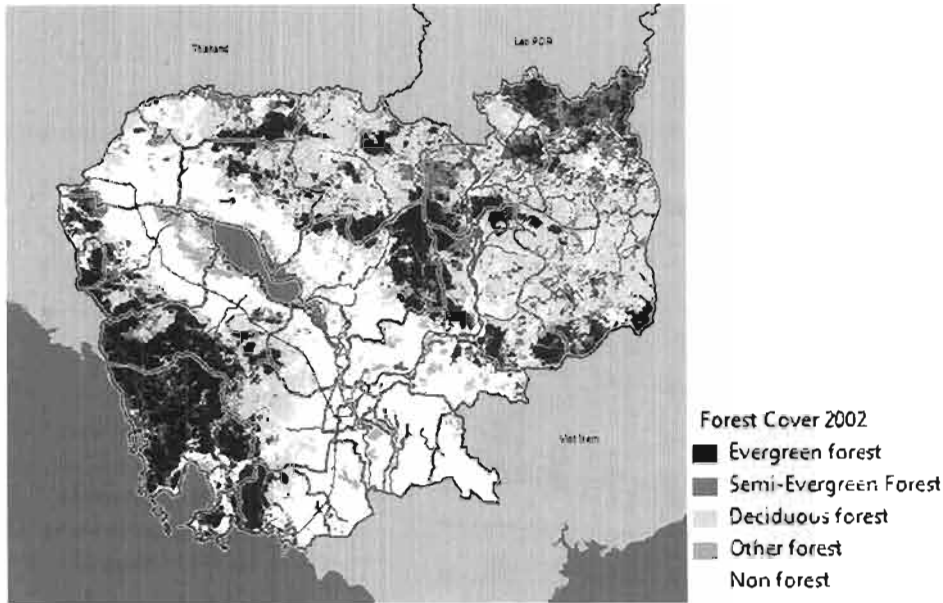
7. Figure 2 shows that deforestation has occurred throughout the country: the limits of the main forest areas have been pushed back and in addition new clearings have been opened up in their interiors. Figure 2 also shows that there are a large number of smaller areas of forest scattered throughout the landscape outside of the main forest blocks.

8. A large proportion of the existing forest estate is degraded: it is estimated that there are around 2,600,000 ha of degraded forest land that require restoration<sup>4</sup>. The causes of this deforestation and degradation are discussed in the Threats section below (paragraphs 38-54), and include logging, firewood extraction, wildfires, encroachment, land grabbing, establishment of rice fields, commercial agriculture, road development and human settlements.

Figure 2. Comparison of forest cover in Cambodia between 1976 and 2002 (source: NFP annexes)



<sup>4</sup> Gilmour, D.A., Nguyen V. S., and Tsehaiicha X. (2000). [assets.panda.org/downloads/lowermekongregionalooverview.pdf](https://assets.panda.org/downloads/lowermekongregionalooverview.pdf)



9. Around 85% of Cambodians depend on agricultural and/or forest production (CDMG 2003) for their primary livelihood, and forest resources contribute from 30% to 42% of the total household incomes of rural people (Hansen and Torp 2006). Local people depend heavily on timber for home construction, agricultural equipment manufacture and cash income, and in addition people living near forests obtain food plants, game and medicinal plants for subsistence use and sale. Rattan and bamboo continue to be the most important non-timber forest products (NTFPs) for both domestic use and export markets. Wildlife and wildlife derivative products that are collected from forests and sold to markets in neighbouring countries include forest turtles, monitor lizards, snakes and large decorative forest bird species such as green peacocks and parrots. Forest products also constitute an important safety net, for example in the form of wild forest yams that are used as an emergency food source when rice harvests fail, and wild game that is used for protein when domestic animals are affected by diseases (Hansen and Torp 2006).

10. A large proportion of the country's forests are located outside of protected areas, but nonetheless have major importance for conservation and for livelihood support. Forests extending beyond the boundaries of formally protected areas serve to increase the effective size of the protected habitats themselves and in some cases function as corridors between the PAs. In other cases, non-PA forests are in the form of dispersed remnants dispersed throughout the surrounding production landscape, providing habitat diversity and connectivity as well as functioning as sources of products on which local villages depend. These non-PA forests are doubly important as a complement to forests in formally declared PAs, given the limited degree of protection that forests in PAs receive in practice.

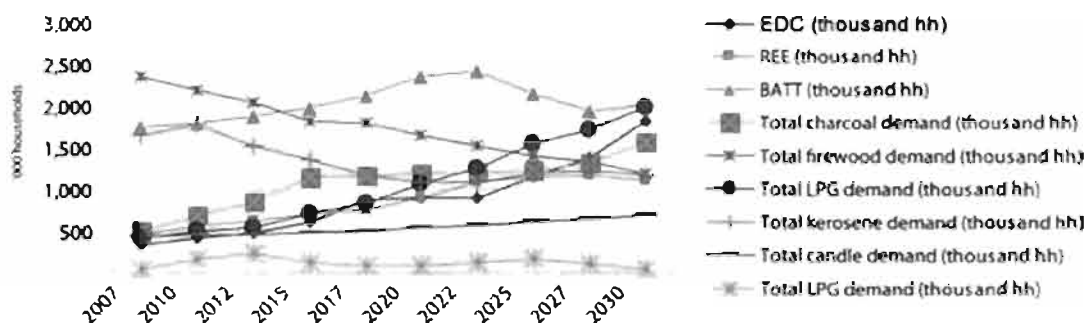
### The wood energy sector

11. Over 84% of households in Cambodia meet their energy needs through fuel wood, which supplies approximately 70% of the total national energy demand. Rural families use on average around 5 kg of fuel wood per day, while urban families use around 2.1 kg per day, mainly in the form of charcoal (urban consumption is complemented by other energy sources such as LPG and electricity)<sup>5</sup>. Total residential firewood demand (including that used directly and that converted into charcoal) in 2007 was estimated at approximately 5,500,000 tons nationally. As shown in Figure 3, the direct use of fuel wood for cooking is set to decrease, due largely to substitution by other energy sources; however, this reduction is estimated at less

<sup>5</sup> Estimations based on several reports including Residential Energy Demand in Rural Cambodia, an empirical study for Kampong Speu and Svay Rieng, MIME-GERES-UNDP 2008

than 50% over the next 20 years, while over the same period the consumption of charcoal (produced from the same raw material as the fuel wood that is used directly) is expected to triple.

Figure 3. Project of households (hh) using different forms of energy



12. Fuel wood that is used directly is normally only subject to air drying<sup>6</sup> during the process of transport and storage. The current technologies for fuel wood use result in large losses of energy: 90% of the calorific value of fuel wood is lost when used in three stone stoves and 86% in traditional stoves, compared to only 75% in improved stoves (Table 4); 75% of the calorific value is lost when fuel wood is converted into charcoal in traditional kilns, versus 58% in the most efficient kilns (Table 5).

Table 4. Energy efficiencies of different cook stove types (1 kg air-dried wood = 16.5 MJ)

Stove	Efficiency (Av)	Effective energy
3 stone stove	10 %	1.65 MJ
Traditional stove	14 %	2.31 MJ
Improved stove	25 %	4.12J

Table 5. Energy efficiency of different charcoal kilns (assuming 1kg air-dried fuel wood = 16.5MJ)

Kiln type	Conversion Efficiency	Charcoal produced from 1kg fuel wood	Energy content of resulting charcoal (MJ)	Effective energy when used in cook stove (MJ)	
				Traditional (25% efficiency)	Improved (30% efficiency)
Very efficient	42%	0,25 kg	7.00	1.75	2.10
Efficient	34%	0,20 kg	5.60	1.40	1.68
Traditional	25%	0.15 kg	4.20	1.05	1.26

13. The capital city of Phnom Penh is a major consumer of wood based energy, much of which is obtained from the provinces of Kampong Speu and Kampong Chhnang that lie to the west (see threats description below). Phnom Penh consumes a total of around 650,000 tons of wood for energy per year, 50,000 tons of which are used directly as firewood and the remainder as charcoal<sup>7</sup>. This would be equivalent to the

<sup>6</sup> Typical figures for wood moisture content and energy value are as follows:

Drying status	Molsture content (%)	Energy value (MJ)
Fresh wood	35	14.8
Air dry wood	20	16.5
Dried wood	15	16.65

<sup>7</sup> Around 100,000 tons of charcoal are consumed in Phnom Penh annually, with a conversion rate of 6:1 in traditional charcoal kilns, this requires 600,000 tons of wood.

production from around 325,000 ha of plantations, assuming an annual increment of 2 tons of wood per hectare. In the province of Kampong Speu, it is estimated that over 8,400 families are involved in making charcoal and 2,700 families are involved in wood cutting (totalling around 11% of the families in the province)<sup>8</sup>.

14. In addition to domestic demand for cooking, commercial activities that use large amounts of fuel wood energy include family-based sugar palm production, noodle-making, soybean processing, brick and tile-making and the garment industry, which uses highly inefficient wood-burning boilers. An estimated 1.6 million m<sup>3</sup> (1 million tons) of rubber wood are obtained annually from old abandoned rubber plantations to supply the brick, tile and garment industry, however this supply is expected to be exhausted by around 2010. At present these industries have already started using other types of wood from land clearing contributing to increased deforestation.

#### Protected areas

15. Cambodia has one of the highest percentages of national territory within protected areas in the world. There are 23 protected areas (PAs) in the country under the responsibility of MOE, covering approximately 18% of the total land area and including a total of 2.8 million ha of forest (25% of the total forest area). In addition, the FA is responsible for approximately 4.2 million ha of Protected Forests (which in reality function as PAs), covering 39% of the country's forests.

16. The PAs under the responsibility of MOE comprise: (i) 1.8 million ha of forest under wildlife sanctuaries; (ii) 0.7 million ha of forest under national parks; (iii) 0.3 million ha of forest under multiple-use protected areas and (iv) 0.06 million ha of forest under protected landscapes. In 2001, the Tonle Sap Multiple Use Area became a Biosphere Reserve and its transition zone increased the forest area under protection by 0.2 million ha.

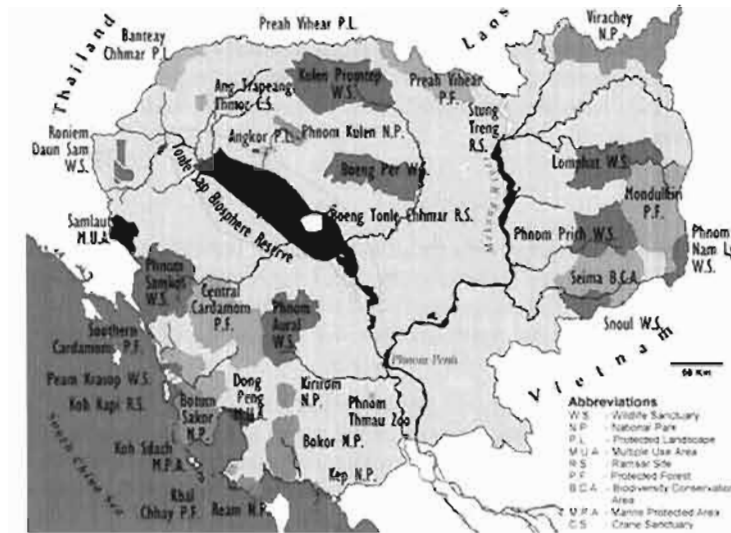
17. Despite this apparently positive situation, a significant proportion of the country's forests (36%) fall outside of these PAs and Protected Forests (see Figure 2 and Figure 4), and those that are located within PAs are subject in many cases to ineffective protection, due largely to the limited financial and logistical capacities of the institutions (FA and GDANCP) that are responsible for them.

18. The Protected Areas Law makes provision for Community Protected Areas (CPAs) within the overall boundaries of MOE Protected Areas. These are located in the sustainable use zones of PAs and as such form an element of broadly-defined community-based forest management and conservation in production landscapes (which corresponds to the definition of sustainable forest management as applied in this project), rather than the more conventional exclusive approach to conservation that prevails in core zones of the PAs.

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<sup>8</sup> Wood Energy Baseline Study for Clean Development Mechanism  
in Cambodia Household woodfuel use and supply in Phnom Penh, E.R. van Mansvelt 2006, Phnom Penh

Figure 4. Protected areas in Cambodia



#### Policy and Institutional, and Context

19. The national policy on sustainable forest management in Cambodia is evolving. The key government policies that are most relevant to sustainable forest management include the government's Rectangular Strategy<sup>9</sup> (2008), the proposed national forest programme and the wood energy strategy.

#### The Rectangular Strategy II (2008)

20. The Rectangular Strategy of the RGC is the principal policy document of the country for its economic and social development. It notes:

- The Royal Government's forestry policy is to ensure sustainable forestry management and the use of forests to improve the livelihoods of people living in rural areas and to contribute to economic growth. Besides banning logging for the present, the Royal Government has established protected and biodiversity conservation areas, undertaken reforestation, formed forestry communities, taken up proper boundary demarcation and strict measures to prevent, reduce and eradicate illegal encroachments and occupation of forest land by private individuals.
- The Royal Government considers forest communities an important element in forest management. Accordingly, the Royal Government will continue to monitor and evaluate the effectiveness and efficiency of this program in terms of the improvement of livelihoods of the rural people, the sustainability of forest resources, and the expansion of forest communities. Moreover, the Royal Government encourages the private sector to establish commercial forest plantations in degraded forest land based on agreed technical standards.
- The Royal Government will continue to monitor forest concessions to ensure that they comply with international standards by seeking external technical and financial assistance and by active and appropriate participation of civil society in monitoring. The Royal Government will continue to strictly enforce the Law on Forestry and take serious measures against forestry crimes, and will

<sup>9</sup> The Rectangular Strategy is so called because it sets out our core areas of priority for the Government: 1) Enhancement of the agricultural sector; 2) Further rehabilitation and construction of physical infrastructure; 3) Private sector development and employment generation; 4) Capacity development and human resource generation.

continue educate people to be aware of obligations to protect forests and stop illegal forest encroachments.

- Since forest is crucial for the livelihoods of the people, the Royal Government will enhance management efficiency of the reserved forests and ensure their appropriate protection and development, including eco-tourism, for employment generation and additional income for the people. Moreover, attention will be given to the management of the protected areas. The Royal Government will mobilize resources, support, and financing to participate in global efforts to address challenges of climate change.

#### ***The National Forest Programme***

21. The Royal Government of Cambodia is in the process of completing the development of the National Forest Programme (NFP), which will be ready by the end of 2009. It consists of 6 areas:

1. *National Forest Demarcation, Classification and Registration Programme.*
2. *National Forest Resource Management and Conservation Programme.* This includes eight sub-programmes where the landscape level approach is highlighted.
3. *Forest Law Enforcement and Governance Programme (FLEGP),* which contains the prescriptions for legal and administrative reform and law enforcement.
4. *Community Forestry Programme,* operating with four modalities for CF, namely CF according the present CF sub decree, Production-based CF, Partnership CF with Commune Council and Community Conservation Areas inside high biodiversity Protection Forests. Its sub programmes comprise CF Identification and Formalization, Institutional and Livelihoods Development and CF Development Support.
5. *Capacity and Research Development Programme,* including human resource development, extension, public awareness and research.
6. *Sustainable Forest Financing Programme,* which outlines implementation strategies and financing requirements.

22. The NFP demonstrates a very high support to SFM, as defined in this project. The project is of particular relevance to Programme 4 on Community Forestry.

#### ***Energy Sector Strategy***

23. A Cambodian Energy Sector Strategy, led by MIME, is currently under preparation. With support from the World Bank, MIME is also preparing a Rural Energy Strategy and Implementation Plan<sup>10</sup>, which includes modules on rural electrification and biomass energy supply and demand (including a biomass energy strategy and implementation plan and a sustainable charcoal pilot project).

#### ***Forest tenure and institutional responsibilities***

24. FA Protection and Production Forests constitute the Permanent Forest Reserve (PFR)<sup>11</sup> and are managed according to the Forestry Law of 2002 and subsequent sub-decrees and declarations (*prakas*). According to Article 10 of the Forestry Law, all natural production forest types are State property. The Forest Administration (FA) of the Ministry of Agriculture, Food and Fisheries (MAFF), is responsible for Protected Forests and Production Forests, while the General Department of Nature Protection and Conservation Administration (GDNPCA) of the Ministry of Environment (MoE) is responsible for Protected Areas (see Table 6). Flooded forests are the responsibility of the Fisheries Administration of MAFF. The Ministry of Environment (MoE) is responsible for Cambodia's Protected Areas (PA). Its line functions are with Departments of Environment at province level and the directors of individual PAs. The MOE's General Department of Administration Nature Protection and Conservation (GDNAPC) has responsibility for

<sup>10</sup> This plan is still under preparation so it is not possible as yet to provide specific information on its content

<sup>11</sup> There is a third category of 'Conversion Forests', which is not relevant to SFM

managing the PAs pursuant to Government policy. The organization in each PA is determined by ministerial *Prakas* (Declaration). By law, the PA management must guarantee the rights of the local communities, indigenous ethnic minorities and the public to participate in the decision-making on the sustainable management and conservation of biodiversity. Each Protected Area is divided into four management zones: *Core zone* with high conservation values containing threatened and critically endangered species, and fragile ecosystems; *Conservation zone* with natural resources and ecosystems comprising watershed areas and natural landscapes; *Sustainable use zone* for local communities' including indigenous ethnic minorities' livelihood; and the *Community zone* which may contain existing residential lands, paddy fields, swiddens and gardens

25. Forestry, as a line function under the FA, does not fall under provincial governors in the way that environment, agriculture, education and health do. The FAs' de-concentrated administrative system comprises of cantonment, division and triage; thus, these divisions do not necessarily coincide fully with administrative boundaries, and the cantonment level is line managed by FA from Phnom Penh<sup>12</sup>.

Table 6. Institutional responsibilities for different forest categories.

Institution	Forest category	Area (millions of ha)	%
Forest Administration (MAFF)	Protected Forest	1.5	13.8
	Production Forest	1.2	11.0
	Production Forest set aside for community forestry	2.0	18.3
	<b>Sub-total FA</b>	<b>4.7</b>	<b>43.1</b>
<b>GDANCP (Ministry of Environment)</b>	<b>Protected Areas</b>	<b>3.0</b>	<b>27.5</b>
Forest concessions		3.2	29.4
<b>Total</b>		<b>10.9</b>	

26. **Protection Forests** are maintained primarily for protection of the forest ecosystem and may consist of forest for special ecosystems, research forest, forest for regulating water sources and forest for watershed protection. Local communities have traditional user rights to collect NTFP. The FA is required to prepare management plans for Protection Forests, which are then subject to approval by MAFF<sup>13</sup>. **Production Forests** include forest concessions, other forms of production forests, rehabilitated forests, forest reserved for reforestation, tree plantations (exotic and indigenous species), natural regeneration, degraded forest land and Community Forestry with legal agreement from Government. The Forestry Law states that rules granting rights to use state forestland (Production Forests) to plant trees shall be prescribed by sub-decree, and that these rules and regulations shall take into account the potential social and environmental impact of the selected species to be planted<sup>14</sup>; this Sub-decree was issued in 2008 as Sub-decree 26.

27. It is the responsibility of the FA to conduct forest demarcation (in accordance with sub-decree 53) in collaboration with relevant local authorities and local communities. Once a parcel of forest has been demarcated and registered by FA, it must be added to the national Land Register kept by Ministry of Land Management (MLMUPC). This provides the maximum level of legal security to the Permanent Forest Estate (PFE).

28. There are in addition a large number of Government-endorsed 'Forest Concessions' and 'Economic Land Concessions' (ELC). **Forest Concessions** were established in order to allow commercial forestry activity. Upon the request of the Minister of MAFF, the Government could previously grant an area of production forest not under use, to a forest concessionaire through public bidding and after consultation with concerned ministries, local authorities and communities<sup>15</sup>; however a moratorium on logging by

<sup>12</sup> This may change in the future (after 2010) when implementation of the new Organic Laws on Decentralization and Deconcentration is expected to commence

<sup>13</sup> Forestry Law Article 23

<sup>14</sup> Forestry Law Article 61

<sup>15</sup> Forestry Law Article 13



concessionaires was declared in 2002, and Concession areas, whether they have already been logged or not, are now in a legal vacuum. As forest demarcation is still lacking it is not known with certainty what is production forest and protection forest, and concessions are found covering large areas in most of Cambodia's forests: some of these areas, which have already been logged, are currently being used on an experimental basis for the establishment of 'commercial community forestry' or 'production based community forestry'.

29. **Economic Land Concessions**, by contrast, are declared with the aim of promoting economic investment through productive activities other than the management of the existing forest. In accordance with Cambodia's 2001 Land Law, ELCs can be issued by central government up to 10,000 ha<sup>16</sup>, and by provincial governments, if below 1,000 ha. The Land Law states that land concessions in excess of these limits must be reduced, however the sub-decrees required to implement this are not yet in place. ELCs have spread to all corners of provinces and are often not put to intended use. The ELCs occupy village traditional lands, which otherwise could have been used for community forestry. Many conflicts have risen in Cambodia in relation to ELCs.

30. Current legislation makes provision for decentralized community-based forestry under a number of modalities. Legal provision for **Community Forestry (CF) in Production Forests** (responsibility of the FA) was made through a Sub Decree on Community Forestry Management that was promulgated in 2003, followed by guidelines for its implementation in 2006. This stipulates that, in order to be recognized as a CF community, the local communities must submit a written request to the Forestry Administration. CF is seen as "an effective means for a CF Community to participate in the reforestation, rehabilitation and conservation of natural resources, forest and wildlife." It requires a *Community Forest Agreement* to be prepared, as a written agreement between a CF Community and Forestry Administration Cantonment Chief, as well as a set of *Community Forestry Management Committee By-Laws*, and a *Community Forest Management Plan*. There are a number of steps stipulated in Technical Guidelines. The Agreement that stipulates GPS-marked boundaries needs to be endorsed by MAFF before the next steps that include management plan development can take place and this often takes a very long time.

31. Other community forestry modalities currently under development, under the FA (but as yet without formal legal basis), are **Production-based Community Forestry** focusing on timber extraction from old forest concessions (it is also called Commercial Community Forestry), **Partnership Forestry** (a shared undertaking between the FA and the Commune Council) and **Community Conservation Areas (CCAs)** (now renamed Community Conservation Forestry in then NFP), a modality for communities inside Protection Forests where activities may focus on eco-tourism development. Of these, only CF proper has a legal basis at present, under the 2003 sub-decree.

32. The PA Law makes provision for community-based management and protection of forests as **Community Protected Areas (CPA)** in the sustainable use zone of PAs, under the aegis of the MoE. The actual implementation of these must be guided by a Declaration from MOE as well as associated Technical Guidelines, which are still in draft form but expected to be completed by the end of 2009. To date, 82 CPA (82) have been set up in Cambodia based on the draft guidelines and lessons from these can inform the finalization. Communities inside a PA can obtain formalized management and withdrawal rights through the development of CPA institutions which are incorporated at village level through a management committee and bylaws.

#### ***Government-donor collaboration***

33. Collaboration between Government and donors in Cambodia is facilitated through sector-based Technical Working Groups (TWG), including a TWG for Forest and Environment (F&E), which includes both MOE and FA. The TWG-F&E provides technical assistance to the Government in identifying priority areas, harmonizing of activities, improving the utilization, mobilization of resources and support efforts to strengthen the sector's capacity to contribute to economic growth. TWG-F&E meetings are regularly called at least four (4) times per year. A Wood Energy Working Group has also been established, however this has

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<sup>16</sup> Previously, provincial Governments could issue ELCs up to 1,000ha, but this provision was repealed in 2008.

received little technical support and has limited financial resources, so has largely been inactive over recent years.

#### *Land use planning*

34. The Ministry of Land Management, Urban Planning and Construction (MLMUPC) is the ministry overseeing the registration and management of State Public Lands, ensuring their registration in the cadastre after a proper state land identification, mapping and classification process.<sup>17</sup> It is the ministry to deal with land tenure of state public land, state private land, communal land and private land. In forestry, once a parcel of the Permanent Forest Reserve has been demarcated and registered by MAFF it needs to be added to the national Land Register kept by MLMUPC. This provides the maximum level of legal security to the demarcation. Procedures for these two steps have not yet been harmonized.

35. The MLMUPC is also the ministry that, in particular, caters to guidelines for land use management. Since 2005 it has operated with a concept for Participatory Land Use Planning (PLUP) which by 2008 has been promulgated as a sub-decree for land use planning at the Commune Level, the sub-decree on CLUP, 2008. Under the Organic Laws of the Decentralization and Deconcentration (D&D) Framework, commune councils (under the Ministry of the Interior) are required to prepare natural resource management plans: Article 39 of the Organic Laws stipulates that each council shall formulate its development plan that includes "basic principles for the use and management of land and natural resources".

#### *Wood Energy Working Group*

36. MIME established by a Ministerial Degree (*prakas*) the National Wood Energy Working Group (WEWG) that coordinates wood energy issues. The WEWG is led by the General Department of Energy, of MIME, and has members from line ministries including MAFF, MoE, MRD, NGOs and research institutions. The WEWG is defined as a national entity dedicated to the formulation and determination of wood energy policy, covering the whole chain of supply and demand and covering all sectors that consume fuel wood. It is a consultative body to provide the government with strategies to: 1. Increase the sources of wood energy supply to meet the demand in sustainable manner and avoid natural forest cutting (see Table 7); 2. Apply improved technology in order to minimize losses in wood energy supply as is currently occurring; 3. Promote and enforce the utilization of energy efficient devices<sup>18</sup> in national scale, to reduce wood energy in national scale; 4. Promote and disseminate appropriate technology to maximize the utilization of under-utilized fuel sources to replace fuel wood<sup>19</sup>; 5. Formulate and promote a national level regulation to administer wood energy production, supply and consumption; 6. The establishment of a monitoring system to enable regular updates of wood energy supply, consumption and prices as baseline to develop Cambodia National Wood Energy Statistics; 7. Facilitate pilot actions in provincial and district level to intensify energy plantation, to substitute the need of wood based energy from natural forest to energy plantation in a sustainable way; and, 8. Promote appropriate energy plantation management system that allow community member to access to wood based energy.

37. These strategies stated by the WEWG demonstrate an interest addressing both supply and demand sides of the wood energy situation in a balanced manner. At the time that the strategies were drawn up, most attention was being paid to end use issues and no activities were being undertaken to look at the sustainability of supply.

#### *Threats and root causes*

38. The country's forests have been and are subject to a wide range of threats, described in the following paragraphs. These have diverse implications, for global environmental values, for national development and

<sup>17</sup> Land Law 2001; Instruction (*Sechkdey Nainom*) relating to the Implementation of the Procedure of Establishing the Cadastral Index Map and the Land Register, 2002; Sub-decree on State Land Management, 2005; *Prakas* on Identification, Mapping and Classification of State Lands, March 2006

<sup>18</sup> It is understood that this refers particularly to devices for increased efficiency of fuel wood use, such as household cook stoves.

<sup>19</sup> Including for example animal dung, rice husks and crop residues

for the livelihoods of local people. Deforestation and forest degradation (in the form of radical alterations in vegetation structure), put in jeopardy the conservation status of the different ecosystems and ecoregions listed in Table 1, both by reducing their overall extent and by affecting their ecological functioning and habitat value, especially for large mammals that are vulnerable to habitat disturbance and range size. Deforestation is also listed in Cambodia's latest report to the UNCCD COP as one of the main causes of land degradation in the country<sup>20</sup>, leading to soil erosion, rapid depletion of organic matter, loss of effective soil depth for root development; and deterioration of plant vigour; the degradation of the structure of vegetation and of the underlying soils (as a result of the loss of vegetative cover or compaction) in turn has long-lasting negative impacts on the productive potential of ecosystems, in the form of reduced ability to generate subsistence and saleable products for local communities, and impeded ability to perform environmental functions such as regulation of hydrological cycles.

#### Nationwide

39. At national level, the nature of threats to forests varies between vegetation types. Deciduous and evergreen forests are threatened in particular by **logging, fuel wood extraction, forest fires, conversion to rice fields, road development and human settlements**. Evergreen forests are threatened by **encroachment**, both by genuinely landless people and by squatters acting as proxies for influential "land grabbers", and by **slash and burn cultivation**. This affects forests both directly, as a result of the land clearance and slash-and-burn agriculture that is carried out by these land grabbers and squatters on the land that is subject to encroachment, and indirectly, given that land grabs in some cases lead to the displacement of existing communities, whose members are obliged to move to new areas of forest, which they then clear for settlement and agriculture. All types of forest, including wood scrub, bamboo, degraded and evergreen forest are subject to being given out as Economic Land Concessions and subsequent conversion to **commercial agriculture**, or just cleared to sell timber and left idle with the prospect of eventual conversion into tree plantations. Land clearing for agriculture is linked to new settlement, and along new roads.

40. The first stage in forest degradation and deforestation is typically logging, which is carried out by commercial actors. National demand for timber is estimated at 400,000 tons/year (around 670,000m<sup>3</sup>). As in other parts of the country, logging typically involves selective extraction ('creaming') of the highest quality and most valuable wood for timber, often using destructive harvesting practices. As shown in Table 7, timber only accounts for 6% of the total national demand for wood; however logging to supply this timber plays a key role in deforestation by opening up forests for subsequent forms of forest degradation and the eventual complete conversion of forests to other uses.

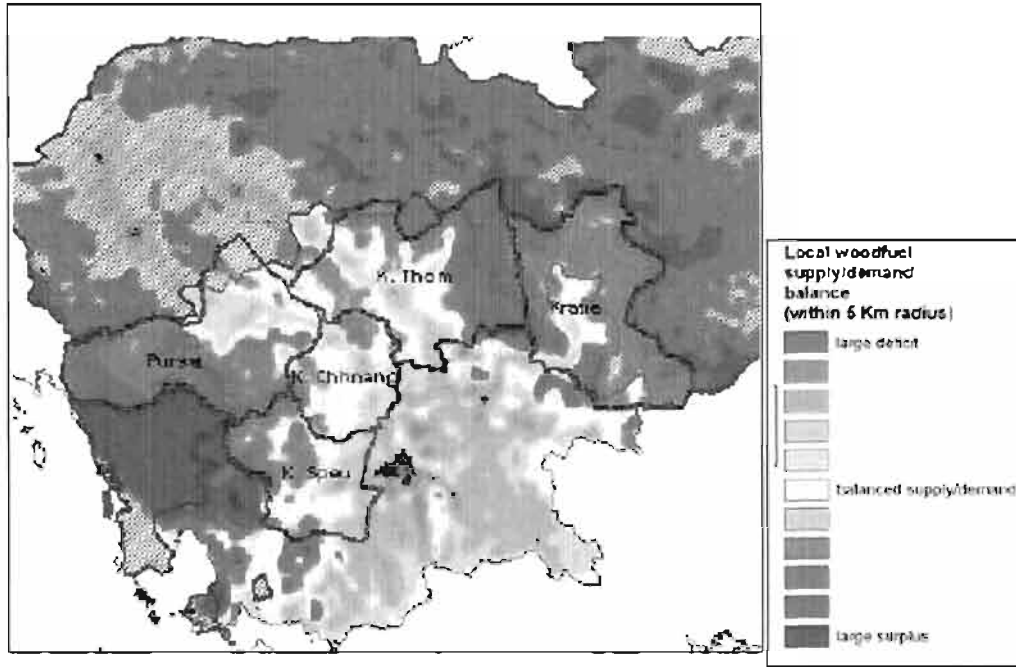
**Table 7. Estimated national wood demand**

	Tons	%
Timber (source: NIS)	400,000	6
Industrial fuel wood (garment and brick industry around Phnom Penh (source: GERES)	1,000,000	14
Rural fuel wood (source: UNDP-MIME-GERES)	5,000,000	70
Fuel wood and charcoal in Phnom Penh (source: UNDP-MIME-GERES)	700,000	10
Total	7,100,000	

41. Unsustainable fuel wood extraction is concentrated in areas that are accessible from urban centres, while in other parts of the country there is a fuel wood surplus (see Figure 5).

<sup>20</sup> <http://www.unccd.int/cop/reports/asia/national/2006/cambodia-eng.pdf>

Figure 5. Geographical variations in fuel wood supply/demand balance (provinces supplying fuel wood to Phnom Penh are highlighted)<sup>21</sup>

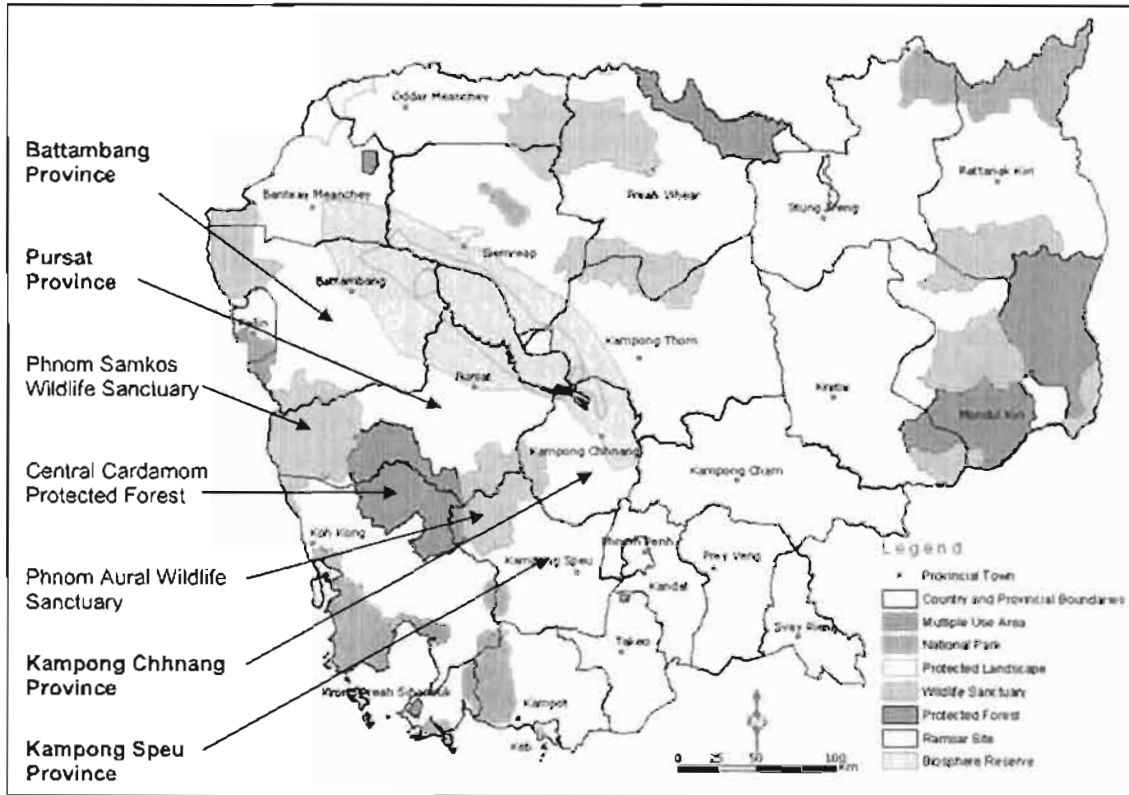


<sup>21</sup> FAO Forestry Department (Urban forestry – Wood energy). “WISDOM for cities - Analysis of wood energy and urbanization using WISDOM\* methodology”. Coordinated and supervised by Miguel A. Trossero and Michelle Gauthier, written by Rudi Drigo and Fabio Salbitano

## Pilot provinces

42. Initially, the project will carry out field level activities directly in 4 provinces in the south-west and west of Cambodia: Kampong Speu, Kampong Chhnang, Pursat and Battambang (see Figure 6 and paragraph 136 for explanation of the geographical focus of the project).

Figure 6. Pilot provinces



43. These provinces have been selected in part because they contain forests that harbour globally important biodiversity (centred on the Cardamom Mountains Rain Forests, a WWF Global 200 ecoregion that occurs only in south-western Cambodia and slightly over the border in Thailand, see Table 1 and Figure 1), and at the same time act as major carbon reserves, and are also subject to a range of severe threats that without GEF support would result in continued high levels of deforestation. This offers the opportunity for the project to generate direct global environmental benefits for the biodiversity and climate change focal areas, in addition to the benefits that will be achieved indirectly in these areas through reduced deforestation elsewhere in the country, as a result of the project's replication effects.

44. In addition, the diversity of threats that are encountered in these provinces qualifies them well to act as pilots of threat reduction measures that have nationwide replication potential. In general (in common with much of the rest of the country), the principal threats to forests in these provinces are the interrelated processes of unsustainable logging, fuel wood extraction and forest conversion to other land uses (particularly agriculture), which are largely carried out by external actors, other than the long-term members of local communities. The principal underlying causes of all of these threats are the *de facto* open-access nature of much of the forest resource, poorly developed governance conditions and the existence of high levels of demand for land and for forest products. In particular, the main underlying cause of the high and unsustainable levels of fuel wood extraction is the existence of high levels of demand for fuel wood and

charcoal, which in turn is due to the prevalence of inefficient cook stoves and the low availability of and access to affordable alternative energy sources.

45. The two provinces of Kampong Speu and Kampong Chhnang are major sources of fuel wood for urban centres, in particular to the national capital Phnom Penh. Much of the wood that is collected is converted into charcoal locally, using highly inefficient artisan kilns. In areas where dead and fallen wood has been exhausted, trees are typically ring-barked and felled for use as fuel wood, and sold by local villagers to intermediaries who transport it to collection and resale centres near the town of Kampong Speu, to satisfy the high levels of demand for wood and charcoal that exists there and in Phnom Penh (see Table 7), principally for household use and for restaurants. Wood for charcoal is collected in degraded and land clearing areas. Firewood cut in Kampong Speu typically comes from large diameter trees (40-50 cm) originating from degraded forest in and around protected areas. As firewood is officially considered an NTFP, provincial departments of FA and MoE only ask small fees for small vehicle loads of hardwood species; these would be of much higher economic value to the communities if sold for timber.

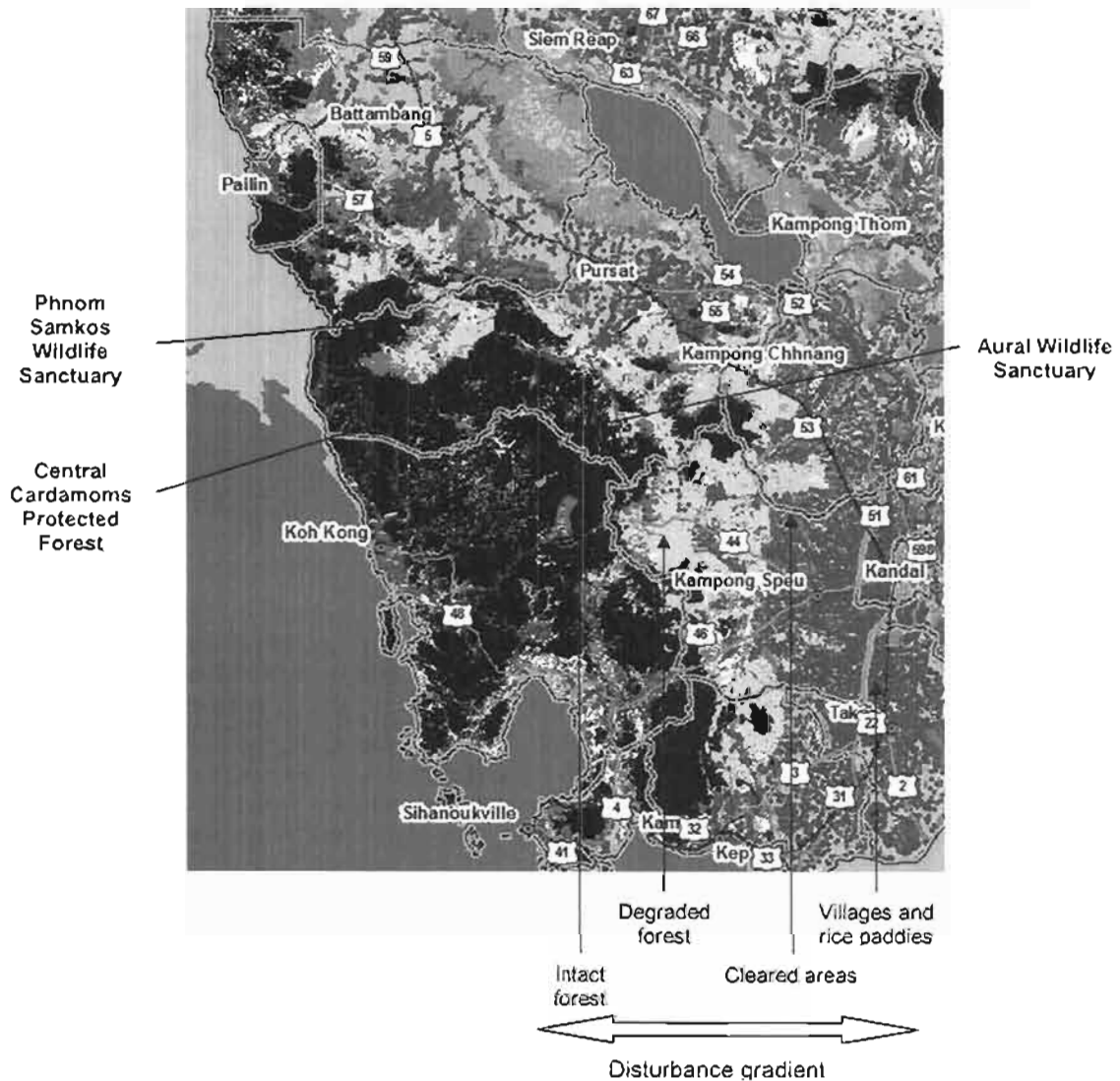
46. A survey carried out in Jan-Feb 2006 and repeated over the same period in 2007 showed that about 90,000 tons of charcoal and 51,000 tons of firewood were transported from Kampong Speu in 2006, increasing in 2007 to 100,000 tons of charcoal and 57,000 tons of firewood in 2007, placing severe pressures on the Aural Wildlife Sanctuary and Kirirom National Park. A part of that was then consumed in Kampong Speu and the remainder transported to Phnom Penh (see 275 Annex 2). Available information also indicate that these are collected from sources that are increasingly further away from Phnom Penh each year and charcoal is obtained now from as far as Sre Ambel in Koh Kong and along the way to Kampong Thom, as sources closer-by are exhausted. The total wood demand for domestic use and restaurant cooking in Phnom Penh (most of which is satisfied from this area) is estimated at around 650,000 tons per year (50,000 tons of firewood, plus 600,000 tons of wood required to produce the 100,000 tons of charcoal consumed every year). Assuming that existing reasonable quality deciduous forest contains around 125 tons/ha of wood and poor deciduous forests around 55 tons/ha, this would equate to the annual clear felling of around 5,200 ha of good or 12,000 ha of poor deciduous forest. In reality, wood is collected over a much larger area, which still causes much forest degradation.

47. The unsustainable nature of this level of extraction is shown by the existence of enormous areas of degraded forests in the lowlands of Kampong Speu province. Each year charcoal producers and wood sellers are collecting trees from areas further away from roads, closer to and inside the Aural Wildlife Sanctuary. A Clean Development Mechanism (CDM) baseline study for the National Biogas Program undertaken by the NGO GERES suggests that only around 23% percent of collected firewood come from sustainable sources: the remainder comes from areas where deforestation is significant. Firewood collectors and charcoal producers report that they have to go further every year to collect firewood, including from National Parks and Wildlife Sanctuaries. Despite the growth in the use of alternative energy sources such as LPG and electricity in urban areas, associated with increases in income levels, it is expected that extraction levels will significantly exceed forest increment levels for a number of decades to come, in forests within reach of existing or new urban centres. In the short term, possible decreases in domestic demand associated with the increasing importance of alternative energy sources is likely to be offset, at least partly, by growth in pressures on natural forests from extraction of fuel for industrial uses, such as the garment and brick industry, as the abandoned rubber plantations from which they currently obtain much of their fuel wood become exhausted.

48. Figure 7 shows how the distribution of vegetation types in different stages of conversion and degradation in these four provinces is related to the physical location of threats (which is closely related to distance from major population centres) and to land use potential (which is closely dependent on topography). In the extreme east, the flood plain of the Mekong and Tonle Sap rivers is dominated by an agro-ecosystem composed principally of flooded rice paddies and scattered palms, with very little original forest remaining. Further to the west the land rises and is no longer suitable for flooded rice production; the areas closer to the population centres in the east have been almost completely deforested, apart from some small forest remnants on hills. Further west are large areas of highly degraded forest (typically deciduous and semi-deciduous, dominated by *Dipterocarp* spp.). This is the main area from which fuel wood is extracted, for

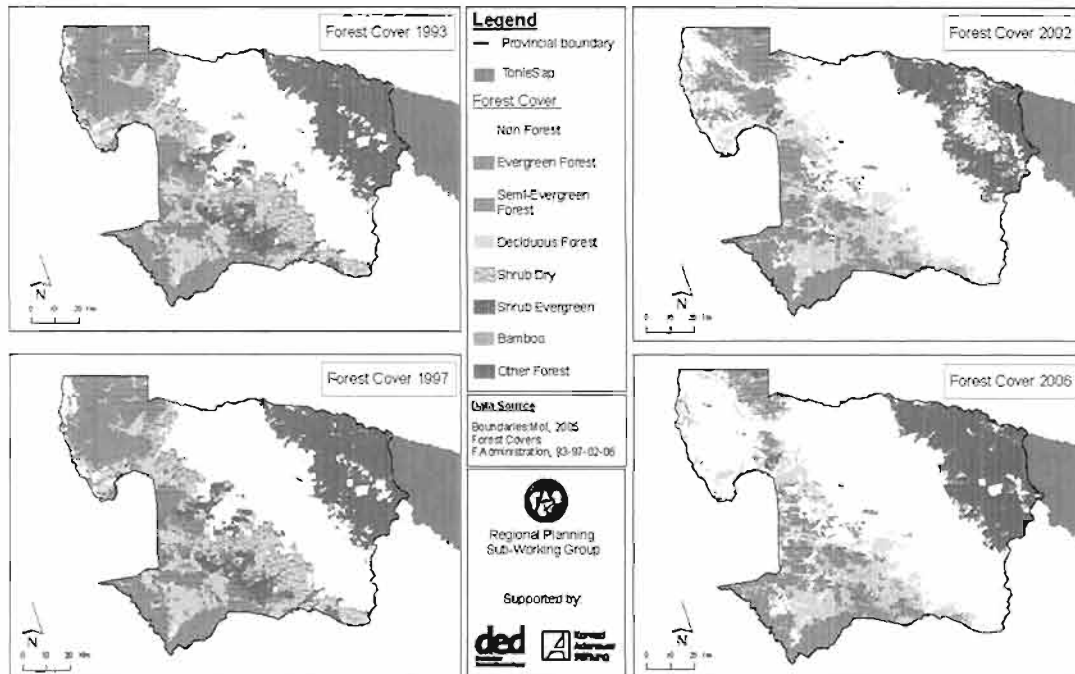
transport eastward to the urban centres. This is also the area where land grabbing is concentrated, due largely to the limited population and the corresponding *de facto* open access nature of the resource. These degraded areas extend well into the interior of the Aural Wildlife Sanctuary, particularly into the community use zone where Community Protected Areas are located. Finally, the more intact forest are found, typically on the more hilly and remote areas. Firewood is increasingly extracted from these areas as well, as evidenced by the large diameters of much of the material that can be observed being transported from the area.

Figure 7. Geographical patterns of land uses and threats in Kampong Speu, Kampong Chhnang, Battambang and Pursat provinces.



49. Forest loss has been particularly dramatic in Battambang province (see Figure 8): in a little over 15 years, forest cover has decreased from 65.8% to 44.4% of the total provincial territory. The clearance has been particularly dramatic in the north-western uplands of the province where virtually all the forest resources have disappeared.

Figure 8. Forest Cover Change in Battambang Province (1993-2006)<sup>22</sup>.



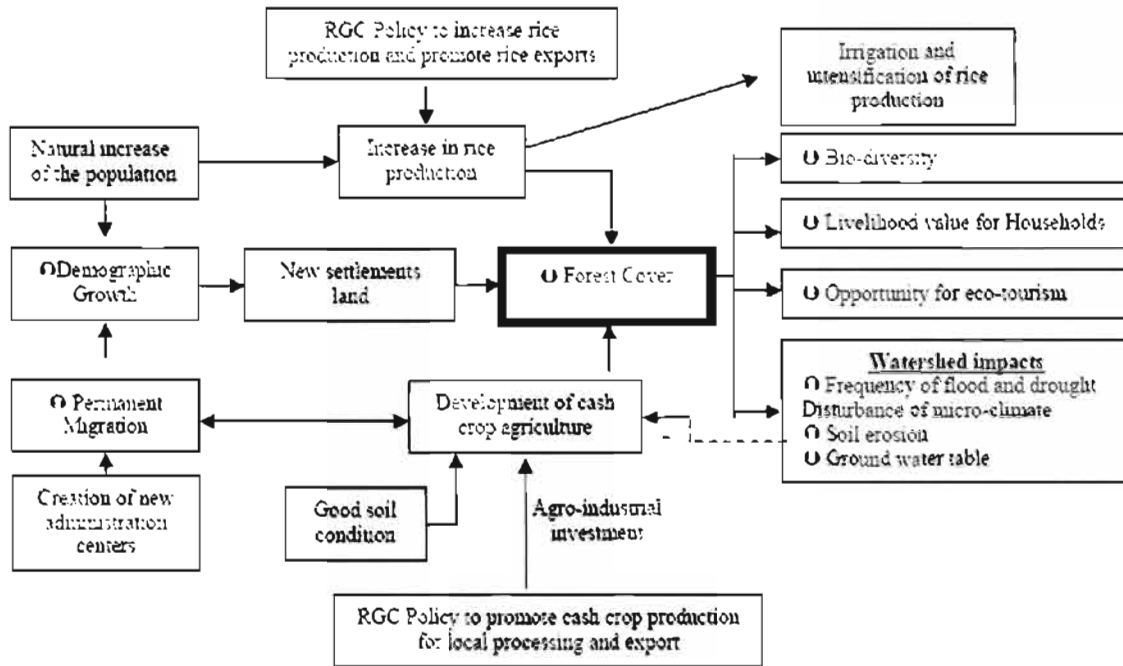
50. Figure 9 provides a summary of the causal relationships determining land use changes and the resulting loss of forest cover and its implications in Battambang province. Although specifically developed in relation to that province, all of the processes indicated are evident as well in the other three pilot provinces.

51. Forests in the target provinces are also subject to continued colonisation and clearance of land by the existing population and by in-migrating settlers (see Figure 9): for example, the number of families in the Veal Veng section of the Phnom Samkos Wildlife Sanctuary (which covers parts of the provinces of Koh Kong, Pursat and Battambang) increased by more than 30% between 2004 and 2006. The demand for fertile land continues. This is also due to the poor quality of much of the land in the area (such as the central Samkos basin in the Phnom Samkos WS), which can barely support cropping for two years before it is exhausted, and partly due to Government policies to increase rice production and promote rice exports, which conflict in practice with FA policy to support the sustainable management and conservation of forests. The problem is particularly prevalent along Route 56, where clearance for up to 500m either side of the road threatens to cut the forested part of the Wildlife Sanctuary in half. The current zoning process in that reserve has done much to negotiate an agreement with communities to limit clearance. This has reduced, but not removed the problem.

<sup>22</sup> Source: Diepart, Jean Christophe and Sem Thol. Going along the river by the bend: entering the village by the country, 2008



Figure 9. Schematization of land use change dynamics in Battambang (1993–2008)<sup>23</sup>.



52. Large areas, particularly in the provinces of Kampong Chhnang and Kampong Speu that are relatively accessible from Phnom Penh, are held *de facto* by wealthy actors, typically based in the capital. These areas are acquired either within formal Economic Land Concessions or through informal “land grabs”. Their motivations may be either commercial, to convert the forest areas to productive use, or speculative. These actors are motivated to clear the forest from the areas involved in order to demonstrate occupancy and to convert the land title into private ownership for eventual sale. They tend to use poor villagers to carry out this forest clearance, by paying them or allowing them to cultivate the land for a short period, producing low value crops such as sesame, tapioca, maize or upland dry rice varieties. Often, high value hardwood trees are cut and burned at the site as transporting or selling is illegal unless chopped small into firewood. If not converted directly into non-forest land uses, these areas typically become transformed into scrubland and grassland with low densities of Dipterocarp trees, which tend to dominate due to their ability to withstand fires.

53. The Phnom Samkos WS again provides a prime example of the conversion and degradation of forest areas, largely at the hands of economically powerful actors. The area in and around the military base at Thmor Da, for example, is badly degraded: here areas have been claimed for various unauthorised plantations, cattle raising enterprises, and even has an authorised mining site (the Cardamom mountains in general are currently subject to mining exploration for deposits of lead, silver and zinc).

54. Fire is also a major threat. Frequent fires reduce species diversity, kill seedlings and saplings, reduce soil fertility, and destroy animal agents of pollination and dispersal. Fires are catastrophic when they spread to semi-deciduous and evergreen forest types during dry spells. If fires are completely prevented, however, the fuel load will build so that when a fire does occur, it could be even more intense and destructive. Fire also increases accessibility to people: indeed, fires are often set by villagers to have easier access to the land for

<sup>23</sup> Source: Diepart, Jean Christophe and Sem Thol, *Going along the river by the bend: entering the village by the country*, 2008

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cattle grazing, hunting and wood collection. Open woodlands and grasslands are more easily crossed on foot or by oxcart, thereby exposing the area to loggers, poachers and land-grabbers.

#### The underlying problem

55. The underlying problem to be addressed by the project is that forests in Cambodia are subject to degradation and deforestation, due to the limited capacities and incentives that exist for the government and local people to ensure that they are managed in a sustainable manner.

#### The long term solution

56. In accordance with the provisions of the Rectangular Strategy II and as proposed in the NFP through which it is implemented, the long term solution to the problems of degradation and deforestation currently affecting forests in Cambodia would be for them to be managed in a decentralized and sustainable manner by local communities, in such a way that provides them with significant and secure long term benefits (with sustainable forest-based businesses playing a major role) and effectively addresses social, demographic, productive and biological processes operating at the landscape level. However, several barriers exist to achieve this situation. These are described below.

#### Barriers

##### 1) Limited capacities and incomplete regulatory framework to support SFM

57. Assessments of the functioning and capacities of the two main Government institutions responsible for forest management – the FA and GDANCP- have revealed a series of weaknesses that impede progress with achieving widespread adoption of community-based forest management and conservation, and the sustainable supply and efficient use of wood energy. The results of these assessments are presented in 275. Annex 14. Among the most important points highlighted by those assessments are the following:

- Inadequate financial and logistical resources
- Excessive complexity and slowness of bureaucratic procedures
- Limited institutional experience in working with the public
- Limited incentives for staff performance, due to inadequate procedures for staff performance evaluation
- Limited inter-institutional communication between stakeholders relevant for SFM

58. The limited experience of many Forestry and Protected Area staff members in working with rural communities in a truly participatory manner, or awareness of how in practice the protection of forests can be combined with their active use by local communities, limits the ability of these institutions to provide effective support to community-based forest management and conservation. In addition, many district governors and commune councils do not fully understand, and have limited means to implement, the legal framework, a situation which impedes their active participation in the promotion of CFs and CPAs and thereby slows down the rates of uptake of these models.

59. Specifically, analyses carried out during project preparation showed that full legal and regulatory provisions exist for Community Forests (CFs) and Community Protected Areas (CPAs), but not for other models of community-based forest management and conservation, with which promising experiences have been developed in pilots, such as Production-Based Community Forestry, Community Conservation Forests and Partnership Forests. Stakeholders consulted both in local communities and in Government institutions also cited the slowness of the process of formalizing CFs and CPAs as a significant obstacle to putting effective management and protection into practice. The fact that the regulatory framework does not as yet cover all models of community-based forest management and conservation limits the range of options to which local communities legally have access for the management of their forests and for taking advantage of their full productive potential.

60. There is in addition limited collaboration between the two main institutions, FA of MAFF and GDANCP of MoE, which have responsibility for supporting forest management and conservation in different parts of

the landscape. This means that little advantage is taken of opportunities to exchange lessons learnt on CFs (which are responsibility of FA) and CPAs (which are responsibility of GDANCP), between which much similarity exists in practice, with the result that mistakes are repeated and efforts duplicated, leading again to slow uptake. There is also a risk that increased effectiveness of forest management and conservation initiatives under the aegis and jurisdiction of one institution will result not in the net reduction of pressures on forests in the landscape as a whole, but rather in the diversion (leakage) of pressures from one part of the landscape to another. Cooperation is largely limited to occasional calls by local provincial level staff of the Department of Environment<sup>24</sup> (DOE) on their counterparts in the FA, to help combat encroachment and illegal timber logging in the borderlands between their respective territories. The provinces of Kampong Speu and Kampong Chhang, which make up part of the area in which the project will work at field level, are a case in point: there is strong potential for community forestry initiatives in the landscape of production forests (which are responsibility of FA) to act as a buffer between the charcoal markets in the urban centres of Kampong Speu and Phnom Penh on the one hand, and the globally important forests in Aural Wildlife Sanctuary (AWS) and Central Cardamom Protected Forest (CCPF) on the other (responsibility of MoE and FA respectively), however in practice there have been limited attempts to plan their location or the management in such a way as would enable such synergies to be realized.

61. Collaboration is also limited at central level: the MOE, despite being responsible for 18% (3.0 million ha) of forest area in Cambodia, has not played an active role in the TWG F&E to date and in the ongoing work on the preparation of the NFP. As a result, MOE may not be able to take full advantage of available funding opportunities to support community-based conservation, and there is also a risk that its initiatives may in fact be unintentionally undermined by policy and strategic decisions taken in their absence through these mechanisms. Likewise, there is little effective coordination between MIME, MAFF and MOE that would allow wood energy use to be linked with forest management. There are also obstacles to vertical integration and collaboration between different levels in the institutional structure, belonging to different line ministries such as MAFF and Ministry of Interior (MOI): for example, the Forestry Law precludes local authorities from having any say in forestry matters within their communes, and the role of commune councils in relation to forest management is still unclear. Limited communication between communities, and from community to cantonment and national level, constitutes a barrier for sharing information, solving problems, and monitoring and managing forest and land in a sustainable manner.

62. The ability of the Government to support community-based forest management and conservation is furthered limited by the inadequate financial resources at its disposal (although it was not possible during project preparation to obtain reliable data on the actual levels of funding available to these institutions). Both FA and GDANCP are highly dependent on short-term external funding for their day-to-day operations, including the payment by funding agencies of salary supplements to motivate staff participation in project activities (the practice of providing salary supplements is currently being phased out, under agreement by a number of major donors in the country including UNDP).

63. Effective forest management at the landscape level depends on clarity regarding the legal status of different units within the landscape, and regarding land tenure and user rights of forest areas. Large areas of forest are not yet classified, however, and unresolved conflicts remain in relation to forest demarcation between government institutions, local authority, and local communities. The detailed procedures for such classification are in place but approach to public involvement is in the process, and the costs of forest classification and demarcation are high. Despite valuable progress with spatial mapping and planning, including initiatives such as Commune Land Use Planning (CLUP), capacities to put these tools into practice, and to reflect them in the realities of institutional investments, are still severely limited (CLUP does not make specific reference to the integration of land development activities that would facilitate the sustainable supply of fuel wood or woody biomass).

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<sup>24</sup> The dependency of the Ministry of Environment at the province level

64. A number of studies have been carried out on the magnitude and dynamics of fuel wood supply and demand<sup>25</sup> (see e.g. 275. Annex 2); however, despite attempts by MfME and the formulation of the Wood Energy Working Group, these have yet to be brought together into a clear and integrated strategy at national level that would permit the development and implementation of fully relevant and workable solutions to the problem of unsustainable levels of fuel wood extraction from the country's forests. Development of such a strategy to date has been hindered by factors such as the recent nature of these studies, limited inter-institutional communication and coordination (despite the formation of the Wood Energy Working Group) and lack of capacity in MfME for data collection and analysis (which in turn is largely explained by its limited budget).

**2) Local communities are not able to realize potential benefits from forests, and therefore have limited motivation and/or means for their sustainable management and conservation**

65. The fact that local communities are not able to realize the full benefits potentially provided by forests raises the possibility that they may be motivated to convert forest land to other uses which provide them with greater, or more immediate, benefits (such as through maize or rice production), or that they will lack the motivation to invest resources and effort in protecting their forests against land grabbing and conversion by outsiders (for example for commercial monocultures). In fact, consultations carried out during the project preparation phase revealed a high degree of motivation among local stakeholders to protect their forests against external and internal threats, due to the environmental services, subsistence products and minor cash crops that they provide (such as timber, game, traditional medicines and mushrooms). What is lacking among such stakeholders is the means, rather than the motivation, for sustainable management and conservation (for example financial rewards to those patrolling forests, to compensate them for time lost from other productive activities, radios and fuel).

66. The potential of CFs and CPAs to contribute to biodiversity conservation, even if they are well managed and conserved, is limited in part by the fact that their promotion is carried out on an *ad hoc* basis, with little attention paid to landscape-wide conservation priorities. This *ad hoc* approach is positive inasmuch as it is 'bottom up' and therefore responds to needs and interest expressed by local communities; however it has possibly negative implications for forest-based businesses as it may result in missed opportunities for synergies between different community forests, for example through improved access to technical support and markets as a result of clustering.

67. The ability of most local communities to generate increased income from their forests, in order to support their livelihoods and to motivate and fund forest protection, is in turn limited by the fact that they have not yet gone through the full series of procedures required by the law, including formal declaration of their forest lands and the development and approval of community forest management plans. This is due to a combination of limited awareness of regulatory requirements, limited financial and logistical capacities in FA and GDANCP to support these processes, and the length of time that it takes for applications to be processed in the institutions in question.

68. In addition, given that they have until recently been largely excluded from formal forest management, most members of rural communities lack the skills required to carry this out in a sustainable and profitable manner. Specifically, most communities lack the capacities to evaluate the productive potential of their forest resources, identify viable management options, develop workable management plans, or to establish and manage sustainable forest-based businesses that would make SFM a competitive option capable of yielding significant and lasting benefits (much of the support provided to local communities to date has been disjointed, short term in nature and limited in scope). Women in particular are missing opportunities to participate in forest-based economic activities that have the potential to improve their relative economic status and influence over natural resource management, such as NTFP processing and marketing.

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<sup>25</sup> e.g. "CDM Baseline study on fuel use and manure management at household level" National Biodigester Programme/GERES (Rogier van Mansvelt and Eric Buysman), 2006; "Energy and Poverty in Cambodia: challenges and the way forward" Regional Energy Programme for Poverty Reduction, UNDP Regional Centre in Bangkok (2007).

69. Community-level forest-based enterprises face a number of barriers, including lack of access to information on key markets, technologies, and potential partners, limited access to finance, weak business skills, lack of secure tenure over, and deterioration of, the resource base; and high transport and transaction costs all along the value chain (both official and unofficial). Barriers faced by business based on energy-efficient technologies are described below.

70. Furthermore, governance conditions in many rural areas are weak, with the result that forests continue to be subject to over-exploitation by outsiders and the products of sustainably-managed forests face unfair competition from illegally-obtained products. The establishment of community-based forest management and conservation initiatives, and forest-based businesses, is further hindered by the limited access that most rural communities have to financial resources for initial investments.

71. These barriers at community-level are compounded by the barriers at institutional level described above, particularly the limited experience of many institutions in working with the private sector or with local communities in a truly participatory manner.

### **3) Limited dissemination of available energy-efficient technologies for the use of fuel wood and woody biomass**

72. Although a number of technological options exist to reduce levels of demand for wood for energy (see 275. Annex 3), and thereby the quantities of wood that are extracted in an unsustainable manner from forests, their large scale uptake has been impeded by limited technical, business management and financial management skills among current or potential manufacturers, and limited access to financial resources needed for investment in equipment. For example, although large numbers of efficient New Lao Stoves have been introduced to date, producers of traditional cook stoves do not have the capacities and skills to start producing these efficient cook stoves themselves<sup>26</sup>.

73. The widespread adoption of efficient cook stoves is also constrained by the limited development of distribution mechanisms. Many villages in Cambodia have no markets and only small village stores exist: both store owners and potential purchasers tend to lack the financial liquidity required to purchase the stoves.

74. Businesses based on the production of energy-efficient cook stoves are also, at present, inadequately integrated into market and value chains, and links with other existing actors in the private sector are poorly developed. As a result, they have limited market penetration and the proportion of the final sale price for their products that is fed back to them is limited. Overall, the uptake of efficient technologies has been promoted by only a very few NGOs. There are no research institutions available that support testing and developing or changing existing technologies to fit Cambodian culture and environment.

75. Businesses based on energy-efficient practices furthermore do not realize their full potential as they fail to take adequately into account the magnitude and characteristics of the energy resources on which they depend. There is little information on the potential of different vegetation types to yield fuel wood and woody biomass in a sustainable manner, and the limited information that does exist is not communicated in an effective manner to business managers, nor do they have the capacities at present to interpret it.

76. The promotion of energy-efficiency technologies has also been hindered by the limited institutional capacities in MIME, which is the sector head, described in paragraph 64.

#### **Stakeholder analysis**

77. The key stakeholders of relevance to the situation described above are as follows:

- The **Ministry of Agriculture, Forestry and Fisheries (MAFF)** and in particular, the **Forest Administration** and its **Community Forestry Office**, which is in charge of the National Community Forestry Program.

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<sup>26</sup> The justification for the focus of the project in household cook stoves rather than industrial energy uses is provided in paragraph 219 on cost-effectiveness

- The **Ministry of Environment (MOE)**, given its position as head of the environment sector and home to the GEF Operational Focal Points and, in particular, its **General Department for the Administration of Nature Protection and Conservation (GDANCP)**, which is responsible for protected area management.
- The **Technical Working Group for Forest and Environment (TWG-F&E)** which provides a mechanism for government-donor coordination for supporting and strengthening development activities within forestry and environment, and plays a key role in the development of the National Forest Programme. It is financially supported by Danida, JICA and FAO and through a Secretariat it coordinates donor inputs and monitors the TWG's Action Plan.
- The **Ministry of Land Management, Urban Planning and Construction (MLMUPC)** deals with the registration of land tenure of state public land, state private land<sup>27</sup>, communal land and private land. It is responsible for the registration of State Public Lands such as forests and ensuring their registration in the cadastre.
- The **Ministry of Industry, Mines and Energy (MIME)**, is lead government agency for the energy sector and therefore needs to be involved in initiatives related to energy efficiency and renewable energy development and utilization.
- The **Ministry of Interior (MOI)** is in charge of the de-concentration and devolution (D&D) of administrative management and budgets to provincial, district and commune levels. The MOI hosts the Organic Laws (2008) for D&D, including the D&D Framework (2005) which includes a call for the role of commune councils in land use planning
- The **Ministry of Economy and Finance (MEF)**: revenues generated by FA go to MEF, which in turn decides the annual budget allocation to all government agencies. The budget provided to FA is substantially below the requirements for implementing its programs.
- **National Community Forestry Programme Coordinating Committee (NCFPCC)**: an inter-ministerial committee intended to coordinate activities in support of community-based forest management and conservation, which is currently (late 2009) inactive.
- **FA cantonment offices**: these are the main entities with responsibility at regional level for putting FA policies into practice. These are represented at more local level by division and triage offices.
- **Provincial departments of MoE**: these have responsibility at provincial level for putting MoE policies into practice. They work on environmental sink as well as source functions. For the source functions they support the PAs in the province.
- **PA superintendents and rangers** are the government staff in daily contact with local communities
- **Commune councils**: legally recognized elected bodies representing groups of villages which are responsible for endorsing a large number of local initiatives, including villages' arrangements with FA for community forestry. Commune councils are themselves eligible for the Partnership Forestry modality within the overall community forestry framework to lead forest management.
- **Rural communities**: relevant to SFM given that they are one of the stakeholder groups that contribute directly to forest loss and degradation, they consume wood energy and other forest products, and their livelihoods depend on the existence of a forest resource. They include villagers collecting fuel wood, timber and NTFPs for domestic use, those involved in extraction of fuel wood for sale, those collecting NTFPs (such as mushrooms) for sale, and those carrying out land clearance (in some cases used by more powerful 'land grabbers' to clear forested land in order to claim *de facto* occupancy rights). These actors, typically located in areas such as the buffer zone of the Aural Wildlife Sanctuary, are at the cutting edge of firewood-related deforestation and forest degradation.

<sup>27</sup> State Private Lands can be converted to other uses such as Social Land Concessions for the landless; forests are always considered as State Public Lands.

Characteristically, they cut trees from forests which, in theory, belong to the Government (either MoE or the FA) but are in practice open-access resources, and then sell them at the roadside to firewood and charcoal merchants. This group accounts for almost the entirety of the rural population and for 71% of total fuel wood consumption nationwide and is therefore a crucial target group for project activities. To date, levels of uptake of energy efficient cook stoves among this group have been limited, due largely to the fact that these are mostly marketed in urban areas.

- **Urban consumers of wood energy:** a major source of demand for wood energy, yet in general rather more receptive to energy efficiency technologies than the rural population, due to the higher prices that they have to pay for wood and charcoal. The levels of demand for wood and charcoal among this group also shows high level of elasticity in response to increases in income levels, which tend to lead them to shift to alternative energy sources such as electricity and LPG.
- **Firewood and charcoal merchants:** the main link between the production of firewood and charcoal and markets. Typically these are members of small family businesses with modest levels of finance and equipment, such as minibuses and *remorques* (motorbikes with large trailers attached), by which the firewood and charcoal are hauled.
- **Wealthy actors with interest in land grabbing:** these actors, who are often based in urban centres such as Phnom Penh, claim de facto rights over large expanses of land that in theory belongs to the Government and in practice are open access resources. In order to stake their claims, they typically clear forest, often using poor small farmers to do the actual clearance work in return for temporary rights to cultivation. They are commonly more interested in land speculation than in putting the land to productive use in the short term. In some cases economically and politically powerful actors are formally granted Economic Land Concessions by the Government.
- **Private sector stakeholders** (essentially a typology of business enterprises and institutions with existing or potential interest in SFM and forest-based businesses)
  - Micro, Small and Medium Enterprises (MSMEs) in the target areas, including cook stove producers
  - MSMEs outside the target areas
  - SMEs and larger enterprises in the provincial urban areas
  - Larger enterprises in Cambodia
  - Financial institutions (MFIs and banks)
  - Investment funds – in Cambodia and abroad; purely commercial as well as social funds
  - Business development service providers in the target areas and outside
  - Other service providers in various areas (including technical artisans supporting cook stove producers)
  - Chambers of commerce and sectoral business associations

78. There are in addition numerous international funding agencies and NGOs active in relation to forestry and conservation in Cambodia (these are listed below and their activities are also described in the following section on Baseline Analysis).

#### Baseline analysis

79. Cambodia's forest resources have been under immense pressure over the last two decades. Throughout the 1990s, national policy discussion focused on commercial timber concessions as the primary method for state forest management. The forestry situation worsened in 1993 when the then military and political leadership started to promote the leasing of forest logging concessions for income generation. The push for forest concession management was built on the belief that responsibilities for forest management could be delegated to the private sector while the government in return would harvest desperately needed income through revenue collection. In 1996 both the World Bank and the Asian Development Bank endorsed the idea of forest concession management as a way to achieve up to US\$100 million per year in revenues.

However, developments went off track and it soon became clear that forest concessions were not working and the anticipated revenues were not being realized.

80. By 1997, over half of all forest land in Cambodia was licensed to 30 companies, covering about 6.5 million hectares. Furthermore, illegal logging was widespread and in 1997 an estimated 4 million m<sup>3</sup> of timber—eight times the total sustainable yield—were illicitly extracted. Decades of illegal logging and exploitative concession management, with no significant replanting, have taken their toll and it is estimated that only 6% of Cambodia's forests retain commercially valuable dense evergreen forests.

81. The failure of the logging concession license system to contribute to the welfare of the country and its devastating impacts on Cambodia's forest resources led to their suspension in 2001. This has led donors and the Forestry Administration to look into alternative forms of forest management and rehabilitation, including community forestry (CF).

82. Baseline programmes may be divided into three main areas, corresponding with the three project outcomes. These are described below.

### **1) Policy, institutional and regulatory environment in relation to community-based forest management and conservation**

83. Significant progress has been made in establishing the legal and regulatory framework, and procedural instruments, required to support community-based forest management and conservation. In addition to the Forest Law and Protected Areas Law, formal provisions in the form of sub-decrees and declarations (*prakas*) now exist for both Community Forests and Community Protected Areas, stipulating the steps that need to be gone through in order to achieve their formalisation.

84. In response to the need for an overall framework for forestry development and for Government-donor cooperation in the forest sector, the Government, with support from DANIDA and FAO, has developed a National Forest Programme (NFP) in 2009, based on extensive stakeholder consultations at different levels. This has a strong emphasis on community-based approaches to forest management and conservation. The TWG (F&E) constitutes an important forum for coordinating Government and donor initiatives in support of the NFP. In addition, integration of donor initiatives is promoted through the Multi-donor Livelihood Facility, under which DANIDA, DFID and the New Zealand Government coordinate the provision of support to local people's livelihoods. The NFP highlights gaps in capacities in the forest sector, that impede the effective implementation of the programme, as follows:

- Candidates from the universities and diploma schools are not able to meet the challenge of the future. It is vital that existing forest managers and other forest stakeholders develop skills to meet these new demands and changing roles, in order to best support communities, commune councils, private partners and independent organisations that play an important role in development and implementation of SFM models.
- Protocols for transparency and information sharing need to be developed, and it will be necessary to develop efficient communication strategies to inform and support policy makers, NGOs, local forest managers, and other stakeholders, as well as to publicise research information and extension materials, and to make them available to relevant stakeholders
- There is a need to improve the capacity and efficiency to develop extension strategies, and deliver extension services which actively support ongoing local forest management and reforestation activities
- Institutional reform is required within the FA, with clearly defined roles and responsibilities for central and local staff, training needs to be fulfilled and a performance incentive programme, to enhance productivity of FA staff, needs to be developed and implemented
- Extension service staff require training in facilitation and conflict resolution
- Experienced central FA staff designated to forest demarcation need to be trained to provide backstopping support to local government units, including planning and training local FA staff in national guidelines and provide other support when needed



- For community forestry, a national training programme is required, including Training of Trainers (ToT), field-level training, standardised modular curricula and materials, standard setting, refresher courses, inclusion of CF principles, and practice in formal education courses
- Awareness campaigns are required, specifically aimed at teachers, students and pupils, to raise awareness on the important sustainable NRM issues

85. The FA is working with the Wildlife Conservation Society (WCS) and with support from DANIDA on the generation of experiences to address several related land issues, including overlapping boundaries with Economic Land Concessions, the identification of Social Land Concessions by Commune Councils, protecting indigenous peoples' communal land rights, resolving State Public Land occupation by both small and large farmers and management of non-forest areas within a forested landscape. This will result in the development and testing of the public consultation aspects of the Sub decree 53 on Forest Demarcation, with the definition of national forest demarcation processes and responsibilities. To this end, it is foreseen that by 2010 they will have achieved the demarcation of around 320,000ha of forest (600 km of forest boundary) in the pilot provinces of Kampot, Kratie, Mondulkiri and Preah Vihear.

86. The application of a landscape approach to conservation and forest management is being promoted by the French Development Agency AFD, which, working together with the FA, Conservation International and other NGOs has supported studies leading to the development of a 'Vision' for the Cardamom Complex. The draft document presents three scenarios with different degrees of protection and safeguards. A forest management plan for the Central Cardamom Protection Forest has been developed by the Forestry Administration, with support from CI, and is in the final stage of consultation. Reports on local land use and attitudes to conservation have been completed and monitoring protocols for globally important species in the Thma Bang and Areng valley areas developed. Community-based rangers and wardens have been recruited and are conducting extensive patrols within their communes throughout wetland and forested areas. The participatory land use planning process in Thma Dan Poev and Prolay communes has been completed and draft maps produced with support from CI.

87. The Asian Development Bank (ADB) is executing the Biodiversity Conservation Corridors Initiative (BCI), which is a regional technical assistance program that aims to mainstream environmental management and biodiversity conservation in the Greater Mekong Economic Cooperation Program and sub-regional development. In the medium term (2009-2011), it is expected that sustainable management regimes will be established for restoring ecological connectivity and integrity in a selected set of important biodiversity areas. This is to be combined with provision of natural resource goods and services that contribute to improving livelihoods of peoples living in and around the biodiversity conservation corridors. The BCI has five sub-components: (i) poverty alleviation through sustainable use of natural resources and development of livelihoods; (ii) clear definition of optimal land uses and harmonized land management regimes; (iii) restoration and maintenance of ecosystem connectivity; (iv) capacity building in local communities and government staff and (v) sustainable financing mechanisms and structures integrated with government planning and budgeting procedures. Phase II of the BCI (2010 – 2012) will see the methodology and framework of action that was developed in phase I scaled up in pilot sites, one of which is the Cardamom Mountains where a corridor area has been defined that coincides with the catchment of the Areng river.

88. The decentralization and de-concentration of natural resource management functions to local and provincial levels under MOI is being supported by DANIDA, through the Decentralization and De-concentration component of the Natural Resource Management and Livelihoods Programme (NRMLP). The immediate objective is *improvement of local government processes for pro-poor sustainable natural resource management*. The outputs are: 1. Policy coherence on NRM in decentralization and de-concentration improved; 2. Legal and regulatory framework for mainstreaming natural resource management into decentralized and de-concentrated planning activities developed; 3. Investment in natural resource management and livelihoods projects enhanced at the *commune* level through greater opportunity for civil society participation and decision-making in commune development planning; 4. Development planning and investment at *provincial* level in natural resource management and livelihoods strengthened; 5. *District* responses to inter-communal needs for enhanced investment in natural resource management and livelihoods

improved. It channels additional NRM funds through existing mechanisms - the Commune/Sangkat Fund and the Provincial/District Investment Fund.

89. In summary, the baseline situation would be as follows, with relation to the overall institutional, policy and regulatory environment for SFM:

- National initiatives in support of SFM, including those specifically provided for in the NFP and others, would continue to occur in an *ad hoc* manner and would therefore fail to provide the balanced, integrated and relevant supportive environment, integrating SFM with the energy demand issues, that is required to if SFM is to be sustainable and become applied on a widespread basis;
- Institutional capacities, in terms of awareness, knowledge, systems and resources would continue to be inadequate, especially at provincial levels, to ensure the effective and relevant provision of support to SFM;
- Gaps would continue to exist in the regulatory framework, specifically in relation to regulations that would the formalization of alternative models of community-based forest management and conservation;
- There would continue to be inadequate integration between initiatives at central, provincial and local levels in relation to SFM, perpetuating the disjointed nature of field level operations, hindering the development of genuine decentralized capacities and impeding the effective representation of local interests in decisions taken at provincial and policy levels.

## 2) Community forest management practices and forest-based businesses

90. To date, most communities have only been using forests for subsistence use, for the collection and sale of fuel wood and timber, or for the small scale collection and sale of minor forest products, such as mushrooms and medicinal plants. The revenue that they gain from these is far below their true potential value. Community members' interactions with forests are almost exclusively of an individual and extractive nature, with little attempt made to manage forests actively to ensure sustainability, to protect them against threats. The fuel wood market, meanwhile, is supplied almost entirely by unplanned and in many cases unsustainable extraction (see Figure 5).

91. The Government (FA and GDANCP), with support from a wide range of NGOs and donors, has worked with local communities in establishing a total of 377 CFs (as of June 2009) and 82 CPAs nationwide, covering a total of 312,000 and 347,740 ha respectively. Table 8 shows the numbers and areas of CFs and CPAs in the four provinces where the project will demonstrate its landscape level approach to SFM. The project will work directly in Kampong Speu, Kampong Chhnang and Pursat, and indirectly in Battambang and Koh Kong. To date, these initiatives have been carried out on a largely *ad hoc* and opportunistic basis, with no plans at cantonment level guiding the geographical location of CFs; in the case of CPAs, while the management plans of the Phnom Samkos and Phnom Aural Wildlife Sanctuaries specify that these should be located in the multiple use/community zones of these protected areas, there is no planning framework determining their specific locations within those zones. Although DANIDA has supported 60 communes nationwide by mid 2009 in preparing Commune Land Use Plans (CLUPs), these do not as yet make specific provision for sustainable forest management or for the mainstreaming of biodiversity considerations into SFM.

**Table 8. CFs and CPAs in the provinces around the Cardamom Mountains area**

	CFs				CPAs					
	Total no.	Total area (ha)	Approval status*		Total no.	Total area (ha)	Approval status*			
Kampong Speu	22	12,915	Not approved	22	12,915	14	11,063	Up to stage 3	7	3,255
			Approved	0	0			Up to stage 5	7	7,808
								Approved	0	0
Kampong Chhnang	33	10,908	Not approved	28	5,399	5	3,525	Up to stage 4	2	2,429
			Approved	5	5,509			Up to stage 5	3	1,096

								<b>Approved</b>	<b>0</b>	<b>0</b>
Pursat	52	6,256	Not approved	52	6,256	10	7,179	Up to stage 5	10	7,179
			Approved	0	0			Approved	0	0
Battambang	21	6,274	Up to stage 3	4	518	5	1,906	Up to stage 5	5	1,906
			Up to stage 4	2	1,709					
			Up to stage 6	15	4047					
			Approved	0	0					
<b>Totals</b>	<b>129</b>	<b>37,001</b>	Not approved	123	30,844	<b>34</b>	<b>23,673</b>	Not approved	34	23,673
			Approved	5	5,509			Approved	0	0

\*Steps in approval status:

#### CFs

1. Establishment
2. Information gathering
3. Establishment of community forestry management structure
4. Preparation of internal bylaws of CF management committee/Board of Directors/Commune Council
5. Demarcation of community forest boundaries and mapping
6. Preparation of CF regulations by CF MC and cantonment
7. Preparation and approval of the CF agreement to be signed by CF MC representative and MAFF
8. Preparation of CF management plan
9. Enterprise development
10. Implementation
11. Monitoring and evaluation

#### CPAS

1. To carry out participatory assessment and consultation
2. To submit for approval on establishing a CPA (MOE ministerial declaration)
3. To develop management structure for a CPA
4. To delineate boundary of a CPA
5. To develop a CPA by-law
6. To develop a CPA agreement
7. To develop CPA management plan
8. To monitor and evaluate CPA management

92. In addition to the 320,000ha of forest (600 km of forest boundary) that FA will have demarcated by 2010 with support from WCS and DANIDA in the pilot provinces of Kampot, Kratie, Monduliri and Preah Vihear, the Wildlife Alliance, supported by funds from the Biodiversity Conservation Corridors Initiative (BCI) of the Asian Development Bank (ADB) has supported the delineation of 9 zones with specific regulations for each zone, and zoning and demarcation (with posts on-the-ground) has been carried out along national road 48 with specific regulations. Five communes have been zoned and demarcated and around 287 km of forest demarcated.

93. Pilot implementation of the modality of Community Forestry in Production Forests, provided for in the 2003 Sub-Decree has been underway over the last five to six years. As the Guidelines require many steps and endorsements by commune council, province and MAFF in order to get an Agreement, as well as the preparation of bylaws and management plans, only around a sixth (59) of the 300-400 currently identified potential sites had received official recognition of Agreement by mid 2009. Many of these are the results of support from the Capacity Building for Sustainable Forest and Land Management Project (CBSFLMP) executed by the FA with technical assistance from RECOFTC<sup>28</sup>, and funded by the Japanese Social Development Fund through the WB. This project has worked with 173 communities in five cantonments, managing some 143,800 hectares under CF. In Kampong Chhnang province, nine sites (5,530 ha) have received *prakas* (Agreements) and twenty-eight (5,379 ha) are under review by MAFF by mid 2009, while Kampong Speu province has 26 potential sites under consideration (18,943 ha). In addition, JICA is supporting community forestry through the provision of support to the Forestry and Wildlife Training Centre and of training to FA cantonment staff in Kampong Chhnang, through the project "Community Forestry with Contribution to Livelihood Improvement of the Local People". Under the baseline situation, this process is set to continue, but at a slow pace due to the cumbersome nature of the administrative procedures involved. The Community Forestry Office (CFO) of the Forestry Administration is supporting a pilot experience of "partnership forestry" in O'Krieng commune, Sam Bour District, Kratie province in eastern Cambodia and is planning to have at least 10 partnership forest sites established in the country between 2010 and 2020 and ten commercial production based community forestry enterprises.

<sup>28</sup> RECOFTC has also developed a series of modules to train the trainers in CF practices, including some innovative modules on business and enterprise development.

94. PACT and its Community Forestry Initiative (CFI) are supporting networks of different types and assisting in drafting legislation. They started with national workshops of community forestry operators but, due to the high cost of these, now concentrate on provincial level workshops that have been shown to be effective in promoting enforcement of forestry laws. PACT has also developed community forest-level training modules on NTFP business development (for honey, rattan, bookkeeping, value chain analysis, etc.) and on all aspects of the CF development process.

95. In parallel, there are initiatives aimed at supporting community-based protected area management in areas under the control of the MoE. Flora and Fauna International (FFI), for example has supported the establishment of ten Community Protected Areas (CPAs) in the Aural Wildlife Sanctuary and a similar number in Samkos WS. Four By-Law CPA regulations have been approved by district level staff of the MoE, and submitted to the Provincial Governor, and five letters of CPA establishment have been granted final endorsement up to the Senior Ministerial level. Community Wardens undertake regular patrols in villages and communes covered by this initiative.

96. The Lutheran World Federation (LWF) supports CF as part its Integrated Rural Development and Empowerment Project in Kampong Speu, Kampong Chhnang and Battambang. It is also supporting CPA inside Aural WS as part of this work. Advocacy around land issues - e.g., land concessions, forestry abuse - is an important element of this project.

97. A number of initiatives have been undertaken, aimed at helping communities to obtain financial benefits from forests. The FA, with support from WCS, is piloting a community forestry modality termed 'Commercial Community Forestry' or 'production-based community forestry' in Monduliri Province, in the southeast of the country, in previous forest concessions with timber trees still standing. WCS has supported feasibility studies of this model; however its viability remains to be proven in practice. Subject to the results of pilot studies in Monduliri, FA intends to extend this model to other parts of the country. Under the baseline situation, the rates of replication of this model nationwide would be limited by the fact that skills to support it would be limited, and it does not as yet have a formal legal basis or established rules for revenue sharing with FA. The International Timber Trade Organization (ITTO) has supported the FA through the "Improvement of Sustainable Management and Utilization of NTFP in Cambodia" project, which functions in five cantonments, one of which coincides with Kampong Chhnang province. That project supported a survey of existing NTFPs used by local communities, resulting in a list of 344 species, from which ten were selected (including rattan) to be promoted through regeneration and planting. The community is divided into groups for harvesting, processing and marketing.

98. At present, value chains for Cambodian forest products are mostly informal and highly inefficient at all stages. There are a number of NGO and donor programs working on improving local management and value added, for bamboo, rattan, wild honey, medicinal plants, ecotourism, and wood energy. Some progress has been made, and linkages between CF/CPAs and the local and international private sector are being developed in a few cases. Sector-wide business development efforts are starting for selected commodity groups.

99. Efforts to increase the sustainable supply of fuel wood, and thereby to reduce extractive pressures on existing forests, have been limited to a few pilot initiatives, such as the woodlots supported by GERES in Kampong Speu province. There has been limited formal systematization to date of these experiences, due to their novelty: however the case of Tram Kok CF in Takeo Province provides some indication of the economic benefits that can be gained from tree planting (see Box 1). GERES has in addition carried out a number of studies of the productive potential of dry deciduous forest, such as that which dominates much of the productive landscape of Kampong Chhnang and Kampong Speu (see Box 2).

**Box 1. Tram Kok CF, Takeo Province: an early example of community forestry and income generation**

The first Community Forest was established in Tram Kok District, Takeo Province in 1992. It received a certificate of honour for good development issued by the Prime Minister. The Community Forestry was established with support by the Mennonite Central Committee organization. 18 Villages are members of the

CF, and its total size is 472.17ha (277ha for tree planting, 55ha for natural resource and 27.83ha private forest land, with some land reserved for fruit trees and vegetables). The benefit from cutting trees from the 277ha woodlot is controlled by the Community Forest Management Committee. All villagers were invited to participate in tree planting: around 40% of the villagers actually participated and they received financial benefits 5 years later by selling the trees for over \$4000 (277m<sup>3</sup> at \$15 per m<sup>3</sup>).

**Box 2. Example of increment and product breakdown data for a deciduous dry forest around Meanork, Kampong Chhnang**

Increment: 6-7 m<sup>3</sup>/ha/yr (average 6.64 m<sup>3</sup>/ha/yr).

Potential product breakdown (to be decided by community on basis of needs and markets): 3m<sup>3</sup>/ha/yr fuel wood harvested on short rotation, 4m<sup>3</sup>/ha/y timber on long term rotation.

Volume data for a less degraded forest plot (GERES, 2009):

	% of trees	Volume per ha (m <sup>3</sup> /ha)
Future potential trees:	20%	12
Harvestable (malformed, etc):	80%	80
Branches		37
Total Biomass (standing)		129

In the current condition up to 80% of the total standing biomass can be used as a source of fuel wood, and will not be able to be marketed as valuable timber; while 20% of the trees would be promoted and managed as future potential valuable tree.

100. Markets for forest products are diverse, some only local as for example mushrooms and forest vegetables, and some involving global value chains as for example the beginning involvement in the Cambodian rattan industry of the household furnishings giant IKEA. A large number of studies have been carried out of other products that have potential to form the basis for forest-based small businesses, such as bamboo<sup>29</sup>, rattan<sup>30</sup>, honey<sup>31,32</sup> and medicinal plants<sup>33,34</sup>, as well as ecotourism<sup>35</sup>. Large numbers of rural people are at present involved in the extraction of such minor forest products on an individual basis, selling surplus over and above own consumption needs. FAO has developed a robust set of market analysis and development (MA&D) tools for community forest enterprises, which have already been piloted in Cambodia by RECOFTC; however apart from this there are few serious initiatives of any scale to convert such activities into viable businesses that generate significant benefits for rural people, and those initiatives that do exist (see Table 9) are dispersed and have had relatively limited impact.

**Table 9. Examples of existing forest-based businesses**

Activity	Status	Promoters
Woodlots	• Important component of rehabilitation of degraded forest areas,	Geres

<sup>29</sup> Cambodia Bamboo Sector Feasibility Study, Andrew McNaughton et al., Oxfam Hong Kong and IFC Mekong Private Sector Development Facility, Draft Final Report, 22 May 2006

<sup>30</sup> Cambodia Rattan Value and Supply Chain Survey & Research Report, John McGinley for World Wide Fund for Nature (WWF), Phnom Penh, Cambodia, October 2007

<sup>31</sup> Community Forestry and Honey Enterprise Development: A Case Study Report from Phnom Toub Cheang, Koh Kong Province, Cambodia. Amanda Bradley and Andrew McNaughton, Community Forestry International (CFI) 2007

<sup>32</sup> Cambodia Honey Value Chain Assessment. Andrew McNaughton & Meang Sotha. USAID Cambodia MSME Project, May 2009

<sup>33</sup> Trade And Sustainable Wild Harvest. David Ashwell, On Behalf of the TRAFFIC Greater Mekong Programme, Work In Progress. Presentation to a workshop in Phnom Penh, 30 May 2008

<sup>34</sup> Market Chain of Tepirou bark and Krakoa fruits. Study for Traffic International by Khou Eang Hourt et al, February 2009

<sup>35</sup> Cambodia Community based Ecotourism Network (www.ccben.org)

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Activity	Status	Promoters
	<ul style="list-style-type: none"> <li>providing entry-level business opportunity for many CFs</li> <li>Important for sustainable supply of fuel wood to meet growing energy demand for domestic cooking and some industries</li> </ul>	
Charcoal Production	<ul style="list-style-type: none"> <li>Efficient kiln introduced from Indonesia and tested. Charcoal in high demand by rural middle class and urban consumers. Carbon credit possibilities from reduction of CH4 emissions need exploration.</li> </ul>	Geres, EcoBiz, other private sector.
Commercial Community Forestry	<ul style="list-style-type: none"> <li>Modality under development by FA, with pilot project by WCS in Mondulhiri. First results will be available by mid 2010.</li> <li>Timber from Community Forest Enterprise (CFE) managed operations can be certified as sustainably harvested if the supply chain is appropriately monitored.</li> <li>Legal aspects of CF as businesses (CFE) need work.</li> </ul>	FA WCS Tropical Forest Trust
Bamboo	<ul style="list-style-type: none"> <li>Depleting in target areas. Bamboo management approaches well developed elsewhere but not practiced in Cambodia</li> <li>Home level basketry industry offers important opportunities for modernization and private sector development.</li> </ul>	Prosperity Initiative (IFC & Oxfam Hong Kong)
Honey	<ul style="list-style-type: none"> <li>Extensive resources of wild bee populations, keystone species (obligate pollinators) in forest conservation</li> <li>Cambodian/ export markets for wild forest honey growing.</li> <li>Some (not much) traditional management of the honey-bees, done by traditional honey hunters. Supply chain informal and quality assurance uncertain.</li> <li>Some important public-private experience in Cambodian wild-honey, and a very good model in Danau Sentarum National Park in Indonesia.</li> </ul>	USAID MSME, WWF in Mondulhiri, Cambodia Biologicals Co. Ltd in Koh Kong province
Medicinal and Aromatic Plants	<ul style="list-style-type: none"> <li>Medicinal and aromatic plants (MAP) are an important resource in Cambodian healthcare, and represent a significant opportunity to manage supplies and add value to products for local and international markets.</li> <li>Existing supply chains are characterized by poor information flow, lack of stable trading relationships, and missed opportunities for value addition.</li> <li>The international NGO TRAFFIC has begun to inventory and prioritize opportunities, and to implement in Cambodia the International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants (ISSC-MAP).</li> <li>ISSC-MAP can provide the basis for incorporating sustainable MAP harvest into CF/CPA management plans, providing the supply-side predictability needed for successful businesses.</li> </ul>	TRAFFIC South-east Asia Greater Mekong Programme. International Union for the Conservation of Nature (IUCN)
Ecotourism	<ul style="list-style-type: none"> <li>Tourism visits to Cambodia are concentrated on the Angkorean temples, and an opportunity exists to market ecotourism destinations to tourists already arrived in the country, as well as tourists seeking "green" holidays. Numerous small potential ecotourism destinations in its many parks and community protected areas, but these remain mostly undeveloped.</li> <li>Some very promising community-based initiatives could be linked to boutique private sector tourism industry</li> </ul>	Cambodia Community-based Ecotourism Network, SNV, GTZ, Private boutique tourism enterprises
Cook stoves	<ul style="list-style-type: none"> <li>Fuel-efficient cook stove designed in Cambodia showing encouraging consumer acceptance, though supply is presently limited</li> <li>Pilot work with groups of traditional stove producers to generate supply of efficient stoves needs to be put on sound commercial footing.</li> </ul>	SNV, World Bank, MIME, Geres.
Palm Sugar	<ul style="list-style-type: none"> <li>Already demonstrated new technology saves up to 40% of fuel</li> </ul>	EcoBiz, Confred,

Activity	Status	Promoters
Stoves	<p>wood requirement for very poor local producers of palm sugar.</p> <ul style="list-style-type: none"> <li>The new stove also makes possible a much improved final product in the form of granulated palm sugar, with significantly higher market value and potential for regional and global export.</li> <li>Production of the new stoves by local masons has been piloted, and a commercialization strategy is in place making the stove accessible to very poor producers.</li> </ul>	Microfinance institutions
Biogas Digesters	<ul style="list-style-type: none"> <li>The National Biodigester Programme (NBP) has supported the transformation of many individual masons into 15 construction enterprises, providing construction and after sales services for household-level biodigesters in six provinces. This will be extended to a total of twelve or more provinces over the next 2 years.</li> <li>These enterprises are supported by business development services provided by a local/international training institution</li> <li>Biodigester units cost the household about US\$350, plus a subsidy of US\$150 paid to the enterprise through local banks and MFIs. The subsidy is paid from carbon credits now in place via SNV from HIVOS, a voluntary carbon credit scheme</li> </ul>	SNV, CIEDC, World Bank, GERES, and Amret and Prasac Microfinance Institutions

101. A number of agencies are working on improving the livelihoods of local forest-dependent people. Foremost among these initiatives is the Natural Resource Management and Livelihoods Programme (NRMLP), which is supported through a Multi-donor Livelihood Facility by DANIDA, DFID and the New Zealand Government in association with MLMUPC, FA and the MOI. This programme, which runs from 2006 to 2010, operates in 12 provinces including Kampong Speu, Pursat and Koh Kong. Working through existing provincial, district and commune planning systems the programme provides investment funds and technical advice to enable rural communities to diversify their livelihoods, and play a more active role in natural resource governance. In addition, the international NGO Concern, working through the local NGO PNKA, is promoting community forestry as part of livelihood support at 23 sites in Kampong Chhnang province, and Oxfam UK has also been implementing an EU-supported project aimed at improving livelihoods for poor forest-dependent women and men based on sustainable and productive use of forest resources, in 9 provinces across the country.

102. With support provided to CI from the ADB Biodiversity Conservation Corridor Initiative, conservation agreements have been signed that promote poverty reduction as a means of securing the protection of local biodiversity values in five communes in Koh Kong province, the Srueng Tatai valley and the Areng valley, in the pilot area. In Phnom Samkos Wildlife Sanctuary and Phnom Aural Wildlife Sanctuary, the Centre Developpement Agricole Cambodge (CEDAC) has commenced agricultural assessments in pilot communities for the diversification of livelihood strategies and improvement of farming techniques.

103. Under the baseline situation, community forestry and conservation initiatives would remain highly dependent on external support from funding agencies and NGOs. There are a number of initiatives in course that aim to mitigate this situation of dependence. The Vision for the Cardamoms, being developed by CI and AFD in association with the FA and various NGOs, proposes the establishment of a Trust Fund for the 15-20.000 km<sup>2</sup> Cardamoms Complex, which would lay the bases for the financial sustainability of conservation and management initiatives that may be chosen there. Over the next two years a unit will be created within the FA with adequate technical and financial resources to supervise the effective protection and management of the Central Cardamom Protection Forest (CCPF). The ADB-funded BCI project is developing plans for the establishment of mechanisms for the payment of environmental services associated with the projected development of hydroelectric dams in the Cardamoms. PACT, through its CFI office, is supporting the first experience in Cambodia with payments for Reduced Emissions from Deforestation and Degradation (REDD) in the province of Oddar Meanchey in the north of the country. There are high expectations in Cambodia

that REDD will in the future constitute a major source of finance for SFM, however under the baseline situation uptake is likely to be limited due to the fact that the institutional arrangements for its implementation are as yet inadequately developed.

104. The Association of Buddhists of the Environment (ABE) has received funding from UNDP/GEF Small Grants Programme to implement the 'Environmental Education through Pagodas Project' which promotes the special role of monks in guiding local populations in understanding and protecting natural resources, as well as improving the environment. In a previous "Green Pagodas" project the ABE undertook capacity building of monks and teachers on Environment and Conservation, awareness raising to local villagers, school children and other stakeholders, green activities such as germinating seedlings, plantings and other environmental events. The objective has been to make local villagers turn away from living from logging woods, poaching wildlife and other illegal activities.

105. In summary, despite these significant investments in SFM to date, under the baseline scenario efforts will continue to be dispersed in nature (with different actors addressing different aspects), non-strategic and *ad hoc* (in practice and especially at province level, despite the overall planning framework provided by the NFP) and will not adequately prioritize how to mainstream biodiversity considerations into community-based forest management and conservation, or how to make this truly viable and attractive for local communities. As a result, local communities would continue to lack the incentives and capacities to protect forests against threats (external or internal), resulting in a continuation of the current trends of deforestation and forest degradation; local people would continue to suffer from livelihood vulnerability, in form of limited access to environmental goods and services, limited incomes and high exposure to the effects of climate change and other forms of environmental risk; and fuel wood markets will continue to depend on unsustainable extraction from natural forests.

### 3) Wood energy production and markets for sustainable energy

106. The NGO GERES Cambodia has supported the production of improved cook stoves and their introduction in urban areas. At present, 1.4 million cook stoves are produced per year, of which 240,000 are efficient New Laos Stoves (produced by around 25 producers), and 30,000 are Neang Kongrey Stoves (produced by 12 organized producers in 1 production centre supported by GERES). GERES has documented, studied and analyzed all aspects of stove production and user characteristics and based on this received 182,402 T/CO<sub>2</sub>e carbon credits verified by DNV. At present the level of production of efficient stoves, by about 25 Small and Medium Enterprises, (SMEs) is about 300,000 per year. These stoves are distributed in towns and district markets and mainly used by urban households, who mostly use charcoal as the primary fuel for such stoves. There is, as yet, limited uptake of improved cook stoves among rural households. The World Bank ESMAP Program estimated that all rural households in Cambodia, 2.1 million, could be potential users of the Improved Cook stove. Each stove could save about 0.22 ton of CO<sub>2</sub> per year and, therefore, the program could generate large amounts of money from carbon sales to sustain funds for quality control, standards, regulation and product and production improvements.

107. There has also been significant progress with the promotion of other technologies with the potential to save energy: in 2009 about 5000 biodigesters have been installed through support of the National Biodigester Program (NBP), supported financially by SNV, the Dutch Development Organisation, while RDI and IDE have both disseminated around 50,000 water filters, which eliminate the need for using fuel wood for boiling water prior to drinking. Recent evaluations have suggested that the use of biomass gasifiers to provide electricity to small village grids is difficult and only a few donor funded pilot projects are operating. Some larger rural enterprises, such as rice mills are saving large amounts of diesel by using gasifiers fuelled by rice husks, SME-Renewables installed over 30 gasifiers mainly in the Province of Battambang. A few dozen ice plants have also installed self made gasifiers but are using large amounts of rubber and hardwood causing an additional threat to existing forests as the rubber wood supply is decreasing.

108. Under the baseline situation, the production of cook stoves would continue, however their adoption would fail to 'take off' significantly at national level due to the limited development of marketing chains and of channels for their distribution to rural families. As a result, national levels of fuel wood consumption, and



the associated unsustainable extractive pressures on forests, would continue at or close to their present high levels, resulting in the continued loss and degradation of forests and their carbon reserves.

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## 2. STRATEGY

### Project Rationale

109. Despite sustainable forest management being a priority for the Cambodian government, it has been managed in a fragmented way – with responsibilities for the management and conservation of forests in declared Protected Areas lying with one government agency (GDANCP of MoE) and for non-PA forests with another government agency (FA of MAFF), with limited coordination and collaboration. In the context of increasing decentralized development planning and implementation, forest management also remains poorly coordinated with local governments' development agenda. In absence of GEF support, forest management in Cambodia will continue to be uncoordinated and negatively impacted by development plans; and global environmental benefits will be lost through loss of globally important habitats and species as well as through accelerated emissions of GHGs from land use changes, and unsustainable levels of energy use and resource extraction. Without GEF funding, efforts at the local and provincial levels will have limited success in reversing land and forest degradation at landscape level and will not have wider national policy impacts. GEF support will strengthen inter-sectoral and inter-provincial coordination, mainstream community-based approaches in policy implementation and provincial-level planning, and capacity development of key stakeholders and agencies and make use, through effective knowledge management, of the rich knowledge on best practices that are currently insufficiently shared, and support national policy strengthening.

110. The proposed project is well timed to support improvements in the regulatory framework, which needs to be amended and expanded to cater to all available modalities of community-based forest management and conservation, to become more efficient and effective through the use of business models, and to have less bureaucratic procedures. In addition, existing community forestry arrangements need to be strengthened for communities to enjoy greater user and access rights as well as improve in particular the productivity of their forests. Though there has been some baseline work on the promotion of several renewable energy and energy efficiency (EE) technologies, there has not been a systematic effort to promote them alongside sustainable forest management. Examples of countries in various parts of Asia (such as in Nepal and India) suggests that a coherent approach to promote renewable energy and EE with sustainable forest management can be a win-win approach. Forests and protected areas also benefit from reduced demands for biomass fuels as well as by the good relationship that such actions build between local communities and government agencies. Without GEF investment, work on linking community-based SFM and renewable energy promotion will be weak and non-strategic, and therefore not achieve the greater global environmental benefits. The proposed demonstrations will focus particularly on the testing and development of self-financing and self-sustainable arrangements for both forest management and the promotion of the utilization of sustainable biomass energy, which have received insufficient attention till date.

111. Sustainable Forestry Management requires sustainable business development in the community forests to ensure improvements of community livelihoods and well-being. In order to provide the incentive for forest communities to be the principal stewards of the forests, a key element of the UNDP/GEF project strategy will be to promote increased forest-based sustainable livelihoods for CF/CPA members. Increased sustainable livelihoods, in turn, depend on the involvement of private enterprises which add value to the range of forest products, and which link the producers to local and distant markets. This includes both actual products and marketable carbon credits (as well as laying the foundation for REDD). Maintaining these value chains depends on effective partnerships between private enterprises (large and small) and the management committees of the CFs.

112. This provides the rationale for a GEF-funded SFM project that will take an integrated approach to the development of community forests – covering technical, social, and business aspects. Specifically, from the business perspective, sustainable enterprise development entails the following essential ingredients:

- An improved legal framework, with faster procedures, to ensure secure property rights, enhanced user rights<sup>36</sup> and clear royalty arrangements – these are critical both to provide incentives to the community forest groups to devote time and efforts to develop their forests, and to private sector investors to enter the community forestry space through engagement with communities;
- Institutional development at the community forest group level in all areas, incorporating business inputs and competencies at all steps in the registration and development process and especially in the management plans and enterprise development plans. In addition, enterprise development will require support to create a better enabling environment for SFM businesses by assisting CF/CPAs in the effective management of their territories and resources (sign-posting of boundaries, assistance with patrols, etc.);
- Business development and promotion, both at the community forest group level and in business areas that lead to value added in the form of marketable products and the more efficient use of wood resources for energy generation at household level. This will include definition of the productive potential of forest resources and forest-based businesses, identification of possible business partners for identifying and planning enterprises, linking with sources of finance, determining accessible markets, and developing business management skills.
- Local technical capacity development in aspects including assessment of the quantity and quality of available biomass energy resource, the design, engineering and installation of biomass-based energy systems and facilities, the design and local manufacturing of equipment or components of biomass-based energy systems, the operation and maintenance of biomass-based energy systems and facilities and R&D on alternative/innovative biomass-based energy systems.

### Policy Conformity

#### National Policies

##### *The National Strategic Development Plan (2006-2010) and the Rectangular Strategy II (2008)*

113. The project is aligned with both of these documents, which outline the development path of Cambodia. They both call for forest sector reform, improved sustainable forest management and preservation of forest cover. Macro-goals under the NSDP include objectives to maintain forest cover at 60 percent until at least 2015 and the reduction of fuel wood dependency from 83.9 percent of households (2005) to 52 percent by 2015. The more recent Rectangular Strategy II includes a call for the adoption of climate change adaptation and mitigation measures as well as forest reform.

##### *National Forest Programme*

114. The project's goal is to support the implementation of the National Forest Programme (NFP), 2009, with which its focus and design will therefore be closely aligned.

115. The first component of the NFP emphasizes the issue of demarcation, which is vital to the long term planning of forest resources. Forest classification and demarcation are essential in order to identify, among other things, which areas are still left and eligible for the establishment of community-based forestry initiatives. Demarcation will enable efficient land use planning, land allocation, afforestation, protection and development of forests. Demarcation will work towards improving the collaboration between FA and relevant provincial, district and commune authorities in order to speed up the process and link forest demarcation to Participatory Land Use Planning (PLUP) and Commune Land Use Planning (CLUP) at the local level.

116. The second component of the NFP, 'Forest Resource Management and Conservation' aims to improve national land-use planning, support implementation of forest management systems, contribute to the conservation of genetic diversity of forest resources and support post-harvest management and marketing. Within the context of sustainable forest management (SFM) it calls to identify systems, mechanisms and activities that will contribute to the implementation of future SFM practices impervious to regime change.

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<sup>36</sup> Property and user rights are taken here to include community rights to use common property resources and usufruct rights on State-owned land.

This includes developing plans for post concession management and effective control of forest crime as well as presenting various options for an institutional reform such as setting up sustainable forest management systems at Forest Management Unit level.

117. The means of implementation for the second component calls for the development of SFM around a landscape approach as a basis for ensuring public accountability through representation mechanisms for provinces, districts and communes, as well as other concerned ministries. This approach will also combine (a) the planning of the landscape and (b) the approval and monitoring of the landscape plan. According to the NFP, SFM with a landscape approach involves the development of alternative sustainable forest management models with a wide range of alternative sustainable forest management systems that integrate benefit sharing with local communities, environmental protection, environmental services, watershed protection and carbon sequestration.

118. The fourth programme, on community forestry, details the justification for decentralized forest management over almost 2 million hectares of the permanent forest reserve. Based on an acceptance of the principle of subsidiarity – that communities are best placed to make appropriate decisions regarding natural resource use for their own benefit – CF in its four modalities is seen in the NFP as having the potential to contribute to enhancing rural livelihoods and poverty reduction by communities obtaining direct and secure access to resources that they are likely to use effectively to fulfil their own needs and reinvest in SFM.

119. The project will contribute to the objective of the NFP (“The forest resources provide optimum contribution to equitable macro-economic growth and poverty alleviation particularly in rural areas through conservation and sustainable forest management, with active participation of all stakeholders”) by creating capacities for community-based forest management and conservation that allows local people to establish viable and equitable forest-based businesses while at the same time respecting the regenerative capacity and biodiversity of the forests. Specifically, the project will form part of Programme 4 of the NFP on Community Forestry. This approach to achieving the objective of the NFP will be complemented by addressing ‘demand-side’ issues, specifically the unsustainable levels of demand for fuel wood that are putting in jeopardy the potential for forests to be managed in a sustainable manner. This will be achieved through support to the production and dissemination of energy efficient cook stoves, under Outcome 3 of the project.

#### *United Nations Development Assistance Framework*

120. The project is in accordance with Priority 2 of the United Nations Development Assistance Framework (UNDAF) in Cambodia (Agriculture and Rural Development for Improved Livelihoods), particularly Outcome 3 “National and local authorities and communities are better able to conserve biodiversity and respond to climate change”, and Output 3.1 “Capacities of government and local communities enhanced for biodiversity conservation and livelihoods improvement”. It will also contribute to the delivery of Output 3.2 “Capacities of government and local communities enhanced to respond to climate change”; as a result of the role that community-based SFM will play in buffering the impacts of climate change through diversifying livelihoods and reducing the risk of environmental shocks. It will also contribute to Output 4.2 “Government capacities strengthened to support pro-poor private sector investment at a provincial level” under Outcome 4 “National and local authorities are able to promote pro-poor investment and expand economic opportunities”, by promoting viable businesses, with community and private sector involvement, based on SFM and energy efficiency technologies.

121. The project is also in accordance with the Goal of UNDP in the area of environment and energy, as stated in its Strategic Plan (paragraph 109), which is “to strengthen national capacity to manage the environment in a sustainable manner while ensuring adequate protection of the poor”. The Strategic Plan also identifies the following specific results: “to mainstream environmental and energy issues into development planning; mobilize finance for improved environmental management; address increasing threats from climate change; and build local capacity to better manage the environment and deliver services, especially water and energy. UNDP recognizes that disaster risk reduction has many elements in common with climate risk reduction and, where appropriate, will combine its efforts in these two areas.”

122. The activities under the project fit well with all major relevant plans and strategies governing UNDP's private sector activities. The UNDP Strategic Plan recognizes the private sector as a key partner to UNDP

and private sector development as a crucial element of UNDP's operations. All of the proposed outputs support, either directly or indirectly, both enhanced private sector engagement and private sector development in the community forestry area. The project's outputs also contribute to the five priorities of the UNDP Private Sector Strategy – (a) strengthening the policy and institutional infrastructure; (b) facilitating value chains; (c) promoting investments in pro-poor goods and services; (d) fostering inclusive entrepreneurship; and (e) engaging the private sector in policy dialogues.

123. The project will include a balance between 'upstream' activities focused on institutional capacity building and regulatory frameworks, which correspond closely with the speciality and comparative advantage of UNDP, and 'downstream' activities (investments and capacity building at field level), given that the generation of significant and convincing results at field level will be essential for the credibility of the upstream activities, as well as for the delivery of concrete global and livelihood benefits.

#### *GEF Strategic Guidance*

124. The project is consistent with the cross-cutting Sustainable Forest Management Strategy of GEF-4 and integrates priorities across three focal areas aiming for synergies between biodiversity conservation, land degradation and climate change and to reduce threats to sustainable management of Cambodia's extensive forests.

125. It meets the objectives of the GEF-4 Biodiversity Strategy, particularly Strategic Objective 2 on Mainstreaming of Biodiversity in Production Landscapes/Seascapes and Sectors and its Strategic Programme 4 on Strengthening the Policy and Regulatory Framework for Mainstreaming Biodiversity (BD SO2/SP4), which supports the removal of critical knowledge barriers and development of institutional capacities. The project will also, incidentally, contribute to SO1 on Catalyzing the Sustainability of Protected Area Systems, as under its landscape approach it will work in a number of protected areas: specifically, it is of relevance to BD SO1/SP1 on Sustainable Financing of Protected Area Systems at the National Level, as it will pilot measures for revenue generation and co-management of PAs that will have potential to be replicated at national level. Community management of forest areas is expected to contribute directly to biodiversity conservation through a number of ways. Avoidance of deforestation is expected to lead to better maintenance of biodiversity compared to the alternative scenario of forest losses. Secondly, once communities manage forests, biodiversity conservation is expected to be enhanced through conservation agreements for species, maintenance of critical habitats and corridors for biodiversity. Such sites will be identified and their conservation will be agreed between the government and communities. This will be periodically reviewed by communities and mechanisms will be identified for cost effective monitoring by government and others. It is assumed that in most cases, steps to be taken by communities to enhance biodiversity in their forest ecosystems will be compatible with the communities' own expectations from forest management. In some exceptional cases, where community management of forests and biodiversity conservation are clearly contradictory, mechanisms will be developed to provide incentives for communities to become more conservation oriented. These may include cases of human-wildlife conflict or where traditional cultural practices require utilization of globally threatened species. Lessons from other parts of Cambodia and rest of the world will be used to address such issues.

126. Under the Land Degradation Focal Area, it will contribute SO1 (To develop an enabling environment that will place Sustainable Land Management in the mainstream of development policy and practices at the regional, national and local levels) and also to SO2 (To upscale SLM investments that generate mutual benefits for the global environment and local livelihoods), and specifically to SP2 on Supporting Sustainable Forest Management in Production Landscapes, through its integrated approach in addressing the issues of management of forests in the wider production landscape and reduction of forest fragmentation (LD SO1/SP2, LD SO2/SP2).

127. The project is also consistent with the Climate Change Focal Area Strategy, in particular Strategic Priority 1 on Promoting Energy Efficiency in Residential and Commercial Buildings and Strategic Programme 4 on Promoting Sustainable Energy Production from Biomass and their link to Sustainable Forest Management through the reduction of forest degradation by fuel wood and charcoal producers and the use of biomass for dedicated energy purposes, as well as sustainable biomass production through woodlots

for dedicated energy purposes, consistent with sustainability criteria and the promotion of energy efficient biomass appliances in rural households and local enterprises (such as energy efficient cook stoves and furnaces) (CC SO1/SP1, CC SO6/SP4).

128. Under the cross-cutting SFM focal area, the project will therefore contribute to both SO1 (To protect globally significant forest biodiversity) and SO2 (To promote sustainable management and use of forest resources) and specifically to SP1 (Sustainable financing of protected area systems at national level), SP3 (Forest conservation as a means to protect carbon stocks and avoid CO2 emissions), SP4 (Strengthening the policy and regulatory framework for mainstreaming biodiversity), SP6 (Promoting sustainable energy production from biomass) and SP7 (Supporting sustainable forest management in production landscapes)

#### **Country Ownership: Country Eligibility and Country Drivenness**

129. Cambodia is a party to the Convention on Biological Diversity since 9/2/1995, ratified the United Nations Framework Convention on Climate Change on 18/12/1995 and ratified the United Nations Convention for the Combat of Desertification on 8/8/1997.

130. In the Third National reports to the UNCCD and the CBD, the Government of Cambodia has confirmed its commitment to continuing the reform of the land and forestry sectors and its commitment to implementing the Convention on Biological Diversity. Under the National Strategic Development Plan 2006-2010 (NSDP), Cambodia is committed to strengthening the contribution of forestry sector to poverty reduction and socio-economic development. According to the 2006 Poverty Reduction Strategy Paper (PRSP), the ongoing Forestry Reform has reached a critical stage where institutional strengthening and improvement in coordination are priorities. Macro-goals under the NSDP include objectives to increase of forest cover to 60 percent by 2015 and the reduction of fuel wood dependency from 83.9 percent of households (2005) to 52 percent by 2015. Under its NFP (2009), Cambodia will promote the forestry sector's contribution to poverty reduction by strengthening community forestry. The Cambodia Forestry and Environment Action Plan 2007-2010 of the Technical Working Group (TWG) on Forestry & Environment stresses opportunities to improve socio-economic conditions of the rural people through improved governance and partnerships in the management of the natural resource and emphasizes the upscaling of community forestry to more communities as a major development priority. The TWG recognizes joint priorities among major national institutions and external stakeholders and in alliance with local government, as the optimal mechanism for combating the challenges such as forest rehabilitation. The Rural Energy Strategy and Implementation Plan (currently under formulation) and the National Wood Energy Working Group are cognizant of the importance of reducing the wood demand in for residential and restaurant cooking.

#### **Design Principles and Strategic Considerations**

##### **Project focus**

131. The project will adopt an innovative, integrated approach to addressing the threats that affect Cambodia's forests. It will promote, simultaneously, the protection of forests against identified threats, the reduction of such threats by addressing demand side issues of forest products, and, where possible, the increase of the supply of such products in order to divert unsustainable extraction pressures away from threatened forests. Forest protection, in turn, will be based on a combination of improved local governance conditions, the development of increased capacities in local communities and the government, and increased collaboration between local communities, other stakeholders and Government institutions. As such, the project will deliver simultaneous and significant global benefits, in terms of improved conservation status of biodiversity, reduced land degradation, reduced loss of carbon stocks and reduced GHG emissions, as well as improved local livelihoods.

##### **Lessons learnt**

132. The project will build on lessons learnt from other projects supported by UNDP, GEF and other agencies in Cambodia and other countries in the region. Experiences from Nepal, India and several other countries have shown that local communities can be effective agents for sustainable forest management. Lessons suggest that effective local forest management is possible when the communities are fairly stable

(without a significant influx and out flux of people or newly established settlements), that they have had some experience of collective actions, some recognized local leadership, that such communities have reasonable guarantees of tenure security over their land and for forests they are expected to manage, and that they receive tangible and short term benefits for forest management. Ostrom (2004)<sup>37</sup> has noted that for effective collective action, the resources that local communities are expecting to manage must have a fairly predictable flow of resources, indicators of condition of resource system are locally available at low cost and that the resource system is well within the capacity of local management (i.e. not too large). She notes that national agencies can support such actions through provision of accurate information about natural resource systems, especially those not easily available to local people, providing low cost conflict resolution, and designing mechanisms that allow local users to discourse and debate and learn from one another and design new strategies. She further adds that outside agencies can help through disseminating information about successful organizations and the design principles that characterize them; and creating institutional mechanisms that local participants can use to organize themselves, such as through special districts, private associations, and local/regional governments. It is also important that policymakers do not presume that they are the only relevant actors in efforts to solve collective action problems.

133. Many of these recommendations are also mirrored by a study that examined lessons learnt on sustaining communities and forests through the SE Asia regional project *Small Grants Programme: Operations to Promote Tropical Forests in Southeast Asia 2002 - 2007* (SGPPTF). It noted:

- Where there are already laws that enable the communities formally to access and manage forests, collaboration between communities and strong local institutions such as NGOs can help communities reduce the costs of navigating the laws.
- Opening national forest policy processes to inputs from the community and other government agencies facilitates the acceptance and successful implementation of such policies.
- If economic returns from forest-based resources are high enough, they provide communities an incentive to shift from unsustainable to sustainable harvesting practices.

134. That study recommended that procedures should be initiated with communities and local authorities (local government and line agencies), whereby legal frameworks for community access/tenure exist and ensure that forest management programs complement and work with existing community organizations, support strengthening local forest governance, and link with other government agencies to promote active inclusion of forest communities in poverty reduction programs.

135. The diverse experiences with community-based natural resource management and community forestry in Cambodia to date have also generated country-specific lessons, including the following:

- Increasing heterogeneity of rural people and the strong linkages to global economic process has also led to the deterioration of traditional management systems. People living in and around forest area are often amongst the poorest in the country, a situation in which conservation becomes a luxury they might not be able to afford.
- Where communities are poor, it is difficult to engage in forest management if there is no return to labour and where the land can be easily converted to farm land or sold. Communities need to derive visible benefits from SFM within a short time period (ideally 1 or 2 years), OR complementary activities that support livelihoods need to be integrated with SFM to ensure villagers refrain from cutting down the forest and/or (illegally) selling the land to business interests. Livelihood activities must go beyond forest management to food security, energy, and non-forest based livelihoods. These activities can help decrease local pressure on forests, while securing basic livelihood assets for households. Addressing food, water, and energy requirements through improved forest management helps communities plan beyond subsistence activities. This strengthens the viability of non-forest based livelihoods and allows communities to develop enterprises while managing the forests.

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<sup>37</sup> Elinor Ostrom 2004 "Collective action and property rights for sustainable development: Understanding Collective Action" <http://www.ifpri.org/sites/default/files/publications/focus11.pdf>

- Growth in the governance capacities of local development institutions contributes to forest protection and rehabilitation. Support to local governments and community networks engaged in local forest governance combined with small grants to generate capital for community forest management (e.g., micro-credit, village development funds) can allow people to expand their financial base and to invest in forest management and community development.
- Forest-based enterprises have provided venues to increase local capacity in enterprise planning and management, local understanding of how markets operate, value addition, and equitable governance of enterprises. Removal of barriers to the development of small-scale enterprises, tolls and taxes and transport tariffs and simplification of permit systems is necessary. The future application and development of these capabilities to new market opportunities could be more important than the financial gains that such enterprises bring about. Communities must be supported with market analysis and enterprise planning early in the process and follow up with mentoring to build local capacity and facilitating market linkages and the capacity of communities to negotiate with different market actors, including middlemen. This may also include networking and facilitating coordination among neighbouring communities on planning, production, and marketing, bearing in mind the landscape management unit that they share.<sup>38</sup>
- Long term solutions to the threats affecting forests require the development of permanent capacities in Government institutions and local communities. This was evident, for example, in the Phnom Aural and Phnom Samkos Wildlife Sanctuaries, where FFI provided financial support to cover the costs of patrolling: the financial limitations of MOE meant that it was unable to continue this patrolling once this limited term support was withdrawn.

#### **Geographical focus**

136. The project will have nationwide scope and impact; however its activities at field level in CFs and CPAs, under Component 2, will be focused on four provinces located in the south-west and west of the country: Kampong Chhang, Kampong Speu, Pursat and Battambang, in which the project will base field staff. These provinces have been selected for the following reasons:

- The existence of globally important biodiversity that is affected by threats that also have major global implications in terms of land degradation and climate change.
- The fact that they are among the most important sources of the fuel wood and charcoal that is consumed in Phnom Penh and nearby provincial urban centres (see Figure 5)
- The existence of a major baseline of Governmental, NGO and community activity on which the project will be able to build
- The existence of large adjacent areas of land under the responsibility and ownership of FA and MOE, allowing the promotion and generation of experiences on inter-institutional collaboration
- The fact that they are contiguous, and grouped around the Cardamom Mountains area (yet also include major areas of adjoining production landscape), which provides an excellent opportunity to develop and demonstrate a landscape approach to the planning and management of community-based forestry and conservation
- Their proximity to Phnom Penh, which increases their accessibility, visibility and therefore utility for the establishment of demonstrations.

137. These four provinces are referred to as “pilot provinces” throughout this document, given that they will be used to generate lessons on SFM that will be replicated nationwide. Project strategies intended to

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<sup>38</sup> “Forest Lives. Lessons on sustaining communities and forests” The Small Grants Programme for Operations to Promote Tropical Forests. Published by and financed by the European Commission (EC) and implemented by the United Nations Development Programme (UNDP) through the SEAMEO Regional Center for Graduate Study and Research in Agriculture (SEARCA)

*Handwritten signature*

maximize replication are summarized in paragraph 225. The activities in the pilot provinces will not however be limited to initial experimentation with alternative models but, rather will result in real and significant impacts in terms of fully functioning forest-based businesses.

138. Component 1 will have a nationwide focus, with its aim of creating a nationwide enabling environment for SFM; however staff working on this component will also carry out activities specific to the four pilot provinces, particularly in relation to the development and strengthening of constructive relations between different sector institutions.

139. The province of Kampong Chhnang will also be the main focus for the project's activities in support of the production and dissemination of improved cook stoves, under Component 3. However the project will also be flexible in relation to the geographical focus of this Component 3, given that there is also a strong baseline of activity and opportunity in other provinces such as Kampong Cham. As with Components 1 and 2, the geographical emphasis of Component 3 will be reviewed at the time of project inception and also subject to continuous analysis throughout the life of the project.

140. In order to support the project's objective to promote forest-based businesses nationwide, the project will extend the business development element of the project to other provinces as well, based on competitive proposals to be submitted by the FA, GDANCP and other stakeholders. Criteria for such selection will be developed during project implementation. This will enable the project to identify and demonstrate from the start more developed community forests that could quickly benefit from business development activities in pushing ahead with management plans and enterprise development plans, and will support the project's national replication objectives.

141. Other provinces that are particularly strong candidates for additional inclusion in the project, if this proves to be feasible, include Koh Kong to the southwest of the Central Cardamoms (where CI pilots 'community conservation areas' in protection forest), Mondulkkiri (where the model of Commercial Community Forestry has been piloted with support from the Wildlife Conservation Society) and Kampong Thom, where RECOFTC is developing a strong baseline of activity, including support to community forest establishment and management planning. FA and GDANCP staff from the provinces will be invited to present proposals of particularly promising CFs and CPAs that could be supported in any possible geographical expansion of the project, thereby contributing to national outreach by the project.

142. In the final selection of CF/CPAs to be covered in the pilot area (at the time of project start-up), and in selecting possible business development initiatives in other areas, the potential for clusters of CF and CPAs will be explored. Such clusters will allow the member CF/CPAs to attain economies of scale in many areas of relevance to SFM businesses, such as patrolling and security, entering into business arrangements with larger enterprises, carrying out market research, technology transfer, and other service activities, and applying for carbon credits. The formation of clusters will also reduce the logistical complexity and costs of providing project support to the CFs and CPAs.

#### **Capacity development**

143. In line with UNDP's institutional comparative advantage, project activities will focus strongly on capacity building. This will focus on a range of aspects, including individual capacities (knowledge, awareness, experience and skills), institutional capacities (for learning, planning, monitoring and adaptive management) and creating the enabling environment, including legislation, regulations, fiscal and financial instruments and financial capacities, as well as more concrete technical capacities. The project will adopt a systematic approach to capacity development. This will be strongly linked to and dependent on ground level activities, and will be in addition to specific training, to create mechanisms whereby capacities can be maintained, renewed and updated.

144. As many of the senior staff in FA and GDANCP already have a high level of awareness of community forestry issues (having in many cases participated in overseas training and visits to experiences elsewhere in the region, such as Nepal), capacity development will focus principally, but not exclusively, on provincial, cantonment, division and PA staff. It is also they that are more directly involved with putting community-based forestry into practice.



145. Particular emphasis will be placed on developing staff capacities through 'learning through doing' (practical field exposure to challenges and successes), and the development of capacities to monitor and respond to changing circumstances. To this end, field based project staff based in province and cantonment offices (provided by contractors, see Management Arrangements section), will have designated counterparts who will participate directly in project field activities and in developing relations with local authorities and community-level stakeholders (UNDP funds will be used to provide DSA to facilitate this participation). Each of the project's short-term consultants will also be required to work directly with designated institutional counterparts and mentor them to build their capacities as well as to generate concrete products, such as manuals and other documents, to be used as training and reference resources for Government institutions.

146. The project will put particular emphasis on institutionalizing mechanisms for learning and capacity development, for example through the establishment, of permanent channels for communication, lesson sharing and joint problem solving between community members, local authorities and province/cantonment level Government staff. The project would also support the establishment of mechanisms to monitor the level of contact that staff have with field level processes. The detailed definition of these provisions for capacity building will be a major part of the responsibility of the full time institutional strengthening and policy specialist, who will be hired with project funds and will be supported by periodic inputs from specialized international consultants. These proposals will be developed in conjunction with headquarters staff of the Government institutions in question, in order to ensure that they are incorporated formally into staff procedural guidance.

#### **Partnerships**

147. The project will build upon a strong baseline of activities both at national level and in the pilot/target provinces by a wide range of Government and non-governmental entities. A central feature of project design will be that the team specifically assigned to this project<sup>39</sup> will work in close partnership and collaboration with staff from other entities (Government and NGOs) already working in the area, complementing their activities and adding incremental value to them. A summary of proposed partnerships (the nature of which in reality will depend on the state of play with each partner at project start-up, and the results of the competitive bidding process for the execution of project components in which a number of them are expected to participate) is presented in 275. Annex 15.

148. In both cases project will hold in-depth meetings with staff of the partners at technical and strategic levels, starting at the moment of project inception, to review site- and issue-specific lessons learnt and ensure that transitions are as seamless as possible and that ongoing partnerships deliver the maximum possible synergies and efficiencies. In the case of ongoing partnerships, effectiveness will be reviewed on a regular basis through a mutually agreed programme of joint planning and review meetings, and specific operational arrangements will be defined in order to allow as much personal interchange as possible between staff of the respective partners. Joint planning meetings to be held at project start-up will also result in the harmonization of the monitoring and evaluation procedures between the project and its partners, according to the principle that the GEF project consists of a joint effort between its specific staff and its partners. The TWG (F&E), through its secretariat, will also play a vital role as a mechanism for the monitoring and coordination of partnerships between the different actors supporting the implementation of the NFP.

#### **Project objective, outcomes and outputs/activities**

149. The objective of the project is to strengthen national SFM policy, integrate community-based sustainable forest management into policy, planning and investment frameworks and create markets for sustainable bio-energy technologies that reduce CO2 emissions. This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD: 3 "National and local authorities

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<sup>39</sup> Consisting of technical staff provided by competitively-selected contractors and paid for by a combination of GEF and UNDP funds, and staff from the implementing partner FA and various other Government entities, in their roles as executing agencies, paid for by the Government (see section on Management Arrangements)

and communities are better able to conserve biodiversity and respond to climate change, which will constitute the project's goal.

**Outcome 1: National capacities, policies and regulations exist to facilitate the widespread implementation of SFM, integrating energy efficiency, biodiversity, sustainable land management and livelihood considerations<sup>40</sup>**

***Output 1.1: A supportive legal framework for SFM***

150. By the end of the project, a supportive legal framework will exist for all models of community-based forest management and conservation mentioned in the NFP, providing for multi-stakeholder involvement. Legal security of use rights to forests for local communities is an essential precondition to them participating in their sustainable management and conservation, and to investment by the private sector in forest-based businesses with the potential to motivate and fund forest conservation. As stated in paragraph 59, legal provisions are complete for Community Forests and Community Protected Areas, but not for Community Conservation Forestry, Community Production Forestry or Partnership Forestry. The project will facilitate the development of ministerial declarations (*prakas*) and Technical Guidelines for these additional forms of community-based forest management and conservation. This will broaden the range of management and income generation options to which communities have legal access, increasing their motivation for sustainable management of their forests. These will be developed by FA with relevant partners. Particular attention will be paid to ensuring that these declarations and Technical Guidelines make adequate provision for environmental and social sustainability, give due consideration to bioenergy and the conservation of globally important biodiversity, strengthen communities' tenure rights and clarify benefit sharing arrangements necessary for viable forest-based businesses. The project will in addition promote the incorporation of considerations of business planning and development into the process of CF and CPA development management (Box 3).

151. The project will reduce the average time taken by MAFF to issue declarations on Community Forests, allowing communities to embark upon effective management and conservation without undue delay. Using as a guide the proposals for streamlining developed with support from RECOFTC (and also eventually drawing on the findings of a study proposed by DANIDA on the factors affecting the rate of community forest development in Cambodia), the project will work jointly with staff from these institutions and from local communities in order to review the history of a selection of applications received to date, to identify the bottlenecks that slowed down the approval process and discuss opportunities for improvement. Subsequently, a number of new applications will be used to pilot the improved procedures. As a result, it is foreseen that the time taken by MAFF to issue declarations on Community Forests will be reduced to an average of less than 4 months, compared to a current situation where approval normally takes more than 6 months.

**Box 3. Business inputs into the steps of CF/CPA development**

Comprehensive guidelines have already been developed by the FA and GDANCP on the various steps that need to be followed to establish successful CF/CPAs, including a template for a management plan. The FA explicitly introduced in 2009 an additional step (No. 9) into the CF process, on Enterprise Development.

While providing well thought out guidance to the CF/CPAs in progressing through the various stages of development, the present documentation and procedures focus more on the technical and social aspects than on the business aspects. However, a number of donors have concentrated on business development issues in certain locations. The SFM project will, accordingly, focus attention on developing a stronger business approach throughout the process, blending together the technical, social and business elements in the CF development process and in our interventions:

- In the pre-agreement steps, the project will: (a) inject the findings and information in the business

<sup>40</sup> Equivalent to Component 1 of the PIF

scoping studies into the early stages; (b) provide business inputs into the development of association structures; (c) support the preparation of business-related capacities for post agreement activities, scoping exercises (resources, business, etc.) and internal benefit sharing arrangements<sup>41</sup>.

- In the post agreement steps: all inputs into the Integrated Management Plan and the Enterprise Business Plans will be supported, including: (a) capacity building; (b) community involvement in all business-related activities; (c) injection of "landscape" business information that may not be easy for CFs or groups of such to access, etc.
- With the templates for Integrated Management Plans (already developed) and Enterprise Development Plans (to be developed), the SFM project will suggest modifications in order to strengthen the business dimensions of these two critical documents and to ensure successful development of CF businesses that includes equity in benefit sharing.

152. The project will also result in the formulation and implementation of a national Wood Energy Strategy that will provide a coherent framework for initiatives nationwide aimed at addressing issues related to wood energy. This strategy will be developed, with support from the project, by the Wood Energy Working Group (WEWG) and its members (including MIME, FA, MOE and other governmental and non-governmental stakeholders). It will be linked to the Rural Energy Strategy that is currently being developed and will be harmonized with the provisions of the National Forestry Programme.

153. It is foreseen that the strategy will clarify institutional responsibilities related to different wood energy-related issues (for example financing, monitoring, technical support, marketing and supervisory roles), provide for a knowledge platform to share data and lessons learnt, set national level targets and indicators, define how wood energy initiatives will relate to parallel initiatives with other forms of energy (particularly rural electrification), and identify needs for technical and financial support and institutional capacity strengthening in order to implement the strategy. Project support will consist largely of facilitation, advice and the generation of information necessary for the development of the strategy, with emphasis on ensuring the ownership of the strategy by WEWG and its members.

154. The strategy will in particular take into account the need for the identification of viable, sustainable, cost-effective and conservation-friendly alternatives for meeting the country's needs for wood energy, ensuring that solutions are tailored to the specific nature of the demand and supply situation in different parts of the country. The project will support this process through the provision of inputs from an international specialist in wood energy. The outputs of this process, in the form of analyses and technical recommendations, will permit the subsequent formulation of solid proposals with which project partners (including FA, MIME and GERES) will be able to access significant funding from other sources to support the implementation of key elements of the strategy, such as a possible national woodlots programme.

155. Indicators of the impacts of this Wood Energy Strategy, which will be monitored and fed into its design and management, will include the area of woodlots established (those proposed under Outcome 2 will constitute an initial pilot) and the volumes of fuel produced in a sustainable manner.

***Output 1.2: National capacities and political will in FA and GDANCP promote SFM through a decentralised landscape-based approach, integrating commune land use planning***

156. The project will result in improvements in the institutional capacities of FA and GDANCP to coordinate and integrate development of CFs and CPAs in a decentralised landscape-based approach, and to clarify forest tenure and user rights. To this end, it will support MAFF, MOE and their respective decentralized dependencies with responsibilities related to SFM, in the development and implementation of a programme of systematic, strategic and highly targeted capacity development at all levels (in particular at lower levels), in order to ensure that they are able to provide the support that is required for ensuring sustainable forest management viable.

<sup>41</sup> Tool kits for participatory identification and planning of forest business opportunities have already been developed, as for example "Community Based Tree and Forest product enterprises: Market Analysis and Development" from FAO and RECOFTC. These will be used in the process to identify and assess opportunities quickly and effectively.

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157. This will focus in particular on the following aspects, leading to improvements in capacities as proposed in the UNDP Capacity Development Scorecard presented in 275. Annex 14:

*1) Community-based approaches to forest management and conservation.*

158. In order to address the problem of limited awareness and experience of community-based approaches to forest management and conservation, the project will act as a “knowledge platform”, supporting the systematization of experiences and the socialization of their results and lessons learned. This will be aimed, on one level, at forestry and conservation practitioners (in particular, the provincial staff of FA and GDANCP and provincial and district governors), and also at a broader audience of policy makers in other ministries. This will result in a progressive change of mindset and increased consultative skills among the members of staff of these institutions and greater receptivity to decentralized, community-based approaches, in contrast to the centralized approaches that have dominated Cambodian forestry, and the experience of many of the country’s foresters and resource managers, over much of recent history. It will also expose them to specific examples of strategies for putting the community-based approach into practice: this process will initially focus on the experiences that have already been gained throughout the country (highlighted in the baseline section above), but will progressively incorporate as well the lessons that will be learnt in the activities to be developed under Outcome 2, as these emerge.

*2) Management planning*

159. The FA has produced guidelines for its staff on how to prepare management plans for community forests<sup>42</sup>, which are highly focused on technical silvicultural aspects and place little emphasis on social and organizational issues. There are also draft guidelines for CPAs, which are due to be finalized by the end of 2009. The project will support FA and GDANCP staff in putting these guidelines into practice, principally through involving them directly in the preparation of management plans in community forests in the pilot/target areas, in conjunction with local community members and with a focus on options for environment friendly business development. Particular areas in which capacity development will be required are the following:

- Participatory approaches to consultation, situation analysis, resource assessment and joint management planning with local community members, in order to maximize the social sustainability of management and its potential to deliver livelihood benefits and business opportunities.
- Assessment of aspects of environmental and ecological sustainability, such as the identification of physically or biologically fragile areas and the definition of corresponding mitigation measures, in order to maximize the potential of forest management to contribute to biodiversity conservation and minimize the risk of unintended negative impacts, such as the favouring of a limited number of more productive elements of biodiversity at the expense of less productive elements that may be of conservation concern.

*3) Business development support*

160. The FA guidelines on CF management plan preparation require those using them to identify and quantify important NTFPs. In Cambodia, these include fuel wood and pole-wood, in addition to the usually understood medicinal plants, mushrooms, honey etc. The project will develop capacities of FA staff to support business development and links between local initiatives and national enterprises, and to facilitate assessments by community members of the social and livelihood viability and implications of the business opportunities identified. This again will be carried out largely through ‘on-the-job’ participation in real cases of forest-based businesses in the pilot/target areas. Project staff and consultants will advise institutional counterparts (including FA, GDANCP and MIME) on the establishment of permanent institutional mechanisms to support forest-based businesses and to interact productively with the private sector to promote such businesses. The nature of these mechanisms will be defined in discussion with senior management of these institutions during the implementation phase of the project; options include the

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Annex 1. <sup>42</sup> Guidelines on Community Forest Management Plan Development, Forestry Administration

establishment of Business Promotion Centres in these institutions, or the assignment of specific responsibilities for the promotion of businesses and private sector involvement to designated institutional staff members. The institutions' capacity development will be supported by the project, led by the full-time institutional strengthening and policy specialist and short term consultants. This capacity development would largely be in the form of learning through doing, based on concrete examples of the forest-based businesses to be supported under Outcome 2, followed by the development of systematization and procedural documents.

4) *Sustainable financing*

161. The project will facilitate and advise on the preparation by MAFF, MOE, MIME and their respective dependencies, of financial strategies that will increase the availability and consistency of financial resources to support SFM and reduce their dependence on short term funding from external sources and to cover the costs of carrying out demarcation of community forests. Although developed by these Government institutions, these strategies will also take into account the private sector and NGOs. They will seek to define the institutions' financial needs in order to carry out their responsibilities in support of the country's expanding network of areas under community-based forest management and conservation, to identify funding sources in order to cover these needs and to define mechanisms for ensuring the sustainability of this funding, paying particular attention on reducing dependence on short term support from NGOs and cooperation agencies.

162. Attention will be given in particular to opportunities for generating funding through REDD and REDD+ mechanisms as well as voluntary carbon funding mechanisms. Working as part of evolving regional initiatives, the project will work with FA, GDANCP and MIME to explore these opportunities to contribute to covering their institutional operating costs, paying particular attention to ensuring that mechanisms exist for these benefits to be channelled appropriately to the institutions in question. In addition, the project will work with these institutions to explore opportunities for building on experiences gained to date with channelling carbon funds, particularly those of the NGO GERES in relation to the promotion and development of energy-efficient technologies, whereby part of the funds received are used to cover the costs of the facilitating institution and the remainder is reinvested in the further promotion and replication of the technologies. Similar mechanisms are potentially applicable to, for example, woodlot establishment and forest management, and have the potential to make a significant contribution to removing the financial barriers for large-scale replication and sustainability. In addition, the project will provide grants<sup>43</sup> for start-up of sustainable forest-based businesses, whose revenues will contribute to SFM at the local level, and will work with commercial banks and other financial institutions to promote the establishment of loan mechanisms that meet the investment needs of such small businesses.

163. Estimates of the increases in funding support to SFM from various sources, as a result of the project, are presented in Table 10.

**Table 10. Estimated increases in funding support to SFM as a result of the project\***

2009		Year 4	
Source	\$	Source	\$
Forest/wood energy related carbon credits (average 2003-2007)	500,000	Forest/wood energy related carbon credits	1,500,000
Other funding sources (banks, green funds etc.)	Near zero	Other funding sources (banks, green funds etc.)	500,000

\*It is not possible at this stage to define specific targets for REDD and REDD+ funding.

5) *Institutional coordination*

<sup>43</sup> The provision of grants in the short term is justified by the need to 'get the ball rolling' with businesses whose viability may not be fully proven at the start of the project, making the producers unwilling to taken on loans. In cases where loans are more feasible and appropriate, these would be provided by existing financial institutions in order to avoid creating parallel structures.

164. In response to the problem of limited communication and collaboration (both horizontally – between institutions, and vertically – between different levels ranging from institutional headquarters through provincial Governments down to communes and communities), highlighted in paragraphs 60-61, the project will support the development of mechanisms to facilitate such linkages. The project will pilot such mechanisms to establish relations of mutual trust and communication between these different actors. Following the approach of learning through doing, the aim will be that the *ad hoc* mechanisms for communication and collaboration established by the project (such as working groups involving FA and MOE staff and commune councils) will be converted into permanent mechanisms by the end of the project. To this end, project staff will aim progressively to reduce the level of their direct participation in and control of these mechanisms over the life of the project.

**Outcome 2: Community-based sustainable forest management is being implemented effectively within a context of cantonment/province, district and commune level planning and delivering concrete benefits to local communities**

165. Local communities are best placed to manage and benefit from forest management across the landscape – both to reduce threats and pressures from within the community and potentially from outsiders (if adequate support from government). However, unless viable economic benefits are flowing to local communities, the active participation of local communities may not be forthcoming. Hence, the project aims to demonstrate how communities can quickly benefit from forest management so that there is an increased local demand for forest management. At the same time, the generation of benefits to local community development through SFM could be an incentive for local and national government to see SFM in a different light; that the focus should not necessarily be on maximizing national revenues through unsustainable and inequitable use of forests but their sustainable use for achieving the MDGs.

166. The principal focus of project support under this component will be on demonstrating how forest management and conservation can constitute a socially, financially and environmentally viable option for local communities. The generation of convincing results at this level, backed up by an appropriate level of funding from both GEF and UNDP, is essential to ensure significant impacts (directly and through replication) on global environmental values and local livelihoods, and the credibility of the policy- and capacity-related activities under Outcome 1. Emphasis will, therefore, be placed on supporting the development of forest-based businesses with the potential to generate the revenue that local communities need in order to manage and protect their forests and improve their livelihood conditions, in parallel with the development of conditions of forest governance and technical capacities for forest management. Selection of the businesses to be supported will also be based on their potential to contribute to reduce deforestation and thereby to deliver benefits in terms of improved conservation of biodiversity, reduced loss of carbon stocks and reduced land degradation. These benefits will be delivered either at the level of the individual CF/CPA in question (by providing the incentive and means to local communities to conserve CFs/CPAs which themselves contain important biodiversity, carbon stocks or sustainable land management functions) or at the landscape level (by helping to stabilize economic or demographic processes that are affecting biodiversity and forests outside of the boundaries of the CF/CPA in question). Safeguards, in the form of strict criteria for project support and biological monitoring, will be applied to ensure that the business activities do not lead to a ‘specialization’ of the ecosystem to favour more profitable elements at the expense of less valuable elements that may be of conservation concern.

167. Examples of businesses that may satisfy these criteria, and that may therefore be candidates for support by the project, are presented in 275. Annex 7. Box 4 and Box 5 provide examples of the approach that the project will use in relation to the development of forest-based businesses. In cases where businesses based on the sustainable extraction and sale of forest products themselves use energy, for example in product processing, the project will wherever possible support the introduction of energy efficient technologies into these processes (such as the use of biomass or combustible waste material). Businesses related directly to the supply of fuel wood or woody biomass (such as the production of cut firewood, air dried/kiln dried wood and pelletized/briquetted biomass) could be eligible for support as long as it could be shown that they were based

on sustainable forest management and acted as active incentives for conservation. Businesses related specifically to reducing the demand for fuel wood would be supported under Outcome 3.

#### **Box 4. Bamboo Business Development and CF/CPA Clusters**

In the target area, bamboo is used extensively for basketry, mostly by women working at home. The value chain extends into markets in Thailand and has been well studied. The natural supply of bamboo is declining. Management and cultivation are commercially feasible.

Simple hand-powered mechanization of raw material preparation (splitting and trimming bamboo stems) could make these women's labour much more profitable for their households. This mechanization could be done by local micro-enterprises.

Village level centralization of the splitting and trimming consolidates the flow of waste material, so that additional products can be made from them, including charcoal and bamboo-cement wall board. The wall board is already being commercially produced in other countries, as a long lasting component for low-cost housing.

Charcoal production will be done by local micro-enterprises using the efficient kilns which have already been developed. Bamboo-cement wall board requires a small to medium enterprise with more than \$250,000 capital, for hydraulic presses and other processing equipment.

The project will negotiate the development of a franchise model to be implemented jointly between private sector investors along with clusters of CF/CPAs. In principle, the lead firm will provide (or at least coordinate and facilitate the input of) management, financing and technical support to local micro-enterprises (splitters, weavers, charcoal makers) and establish larger scale facilities for production and marketing of wall-board.

#### **Box 5. Woodlots**

Cambodia has a huge demand for fuel wood (5 million t/yr), which represents 7.8 million tCO<sub>2eq</sub> emissions per year (IPPC standard value is 1.56 ton CO<sub>2</sub> per ton of wood burned). This demand is highly unlikely to be satisfied by fossil or solar alternatives in Cambodia in the medium-term future. Prices for fuel wood are set to increase significantly when the present supply of rubber wood (from the re-development of old rubber plantations) runs out. Prices for charcoal have increased by more than 100% over the last three years.

Many community forests have extensive degraded forest areas, which provide an opportunity for silvicultural management emphasizing native and fast-growing trees for fuel wood and charcoal. This is an important entry point for landscape regeneration, and for building local capacity to manage.

Under the National Forestry Plan, business planning is an integral part of management planning in the development of Community Forestry Groups. The project will support CFs in resource inventory and assessment, opportunity identification, business planning, and start-up capital provision, for joint ventures between CFs and private enterprises. These may use a franchise model, in which the lead firms would supply technology, training, market access and capital to the producers.

This emphasis on woodlots for fuel wood and charcoal is a key element of the project design, linking strengthening of community forest associations with the fuel wood supply issue (Component 2); with the wood energy demand side (Component 3); and with the need for focused interventions at the regulatory level (component 1) to enable forest-based businesses to prosper in a sustainable way. The project's support to woodlots will build upon experiences to date by the NGO GERES, which will be systematized at project start up.

168. The project will provide capacity development support to forest communities and their constituent organizations, forest user groups and businesses, as well as to commune councils and to the Government

institutions at provincial, cantonment, district and triage level with responsibility for promoting and overseeing the management and protection of forests under their respective jurisdictions.

169. Fundamental to the logic of working in specific pilot provinces under this Outcome is the effectiveness of nationwide replication of the models developed and lessons learnt. Strategies for promoting such replication are summarized in paragraph 225.

**Box 6. Project strategies for addressing the risk of Economic Land Concessions (ELCs)**

An important challenge for the project will be to mitigate the risk of ELCs being established in competition with SFM initiatives. In many cases ELCs constitute mere land grabs and are put to no use except clearing of trees. According to the 2005 sub-decree on ELC, a social and environmental impact assessment must be completed with respect to plans for ELC land use, but this is not often done. Instead, a proactive approach for delineation of CF sites will be applied in the project, combined with careful consideration of the sensitive political issue of land in general. The commune council and the cantonment in target communes must urgently map forest land available for CF management in addition to the sites already in process (see Output 2.2). This can be done without undertaking the whole forest demarcation process prescribed in the NFP and which FA would like to see implemented nationally. A possible (apparently trivial but important) incentive for FA staff to do this is the good reputation a person acquires when known to work hard with communities and known to communicate the CF site plans to Phnom Penh informing the agencies concerned, including regarding the issue of ELCs. A few officers in FA cantonments are already well known for such qualities that are appreciated by NGOs and donors as well as by FA senior management, community forestry being the main and indispensable approach to SFM in the new NFP. The Project will seek introduction of action-learning approaches, iterative cycles rather than linear-sequential implementation and rely on TA with cantonments to implement this (see Output 1.2). Meeting in confidence with key individuals that can influence the necessary changes is one entry point.

The new Organic Laws for the decentralization process call for commune councils to prepare land use plans (CLUP). Project staff will proactively discuss CLUP with the collaborating Commune Councils in order to undertake an initial identification of CF sites in each commune. This has worked out well in Battambang province, where also one of the progressive FA cantonment staff was in charge. A challenge is to feed the information to Phnom Penh, where ELC sites are endorsed, and make it effective there. Lessons from Battambang will be applied. Project staff will provide support to communities on their use rights to forests in accordance with the legal procedures defined by MAFF and MOE regulations (see Output 2.2), resulting in the documentation of communities' uses of forests and the inclusion of this in potential commune land use plans. Where CFs and CPAs already exist the project will support to the development of networks and clusters between CFs and CPAs, and links with private sector business interests, in order to increase communities' lobbying power against risk of ELC. As ELCs can no longer (since 2008) be issued by provincial Governments, there is a diminished risk of local corruption and bribes to get an ELC. Finally, the project will be in a position through its Board to call upon the provisions of PM Circular 2 of 2007 to combat illegal occupation of state land.

**Output 2.1: Plans in FA cantonment and MOE PA offices for development of community-based forest management, integrated with local development plans**

170. The project will seek to maximize the overall livelihood, development and conservation benefits of community-managed forests and protected areas by ensuring that these are carried out within a framework of planning at landscape, regional and local levels, in contrast to the *ad hoc* approach that currently predominates.

171. At regional level (in the cantonments and provinces in which project field level operations will be focused), the project will support cantonment-level offices of FA and Protected Area-level offices of MOE in developing plans for the appropriate location of CFs and CPAs within the landscape, based on regional



development priorities and regional-level threats, demographic trends and biological processes, as well as the nature, magnitude and location of demand for fuel wood (linking these plans to those that will be developed under Outcome 3).

172. At the local level, the project will support community-based participatory forest identification, linked to Commune Land Use Planning (CLUP) wherever this is carried out. This will build on experiences to date with Participatory Land Use Planning (PLUP) in many parts of the country. The project's approach will be to ensure that SFM and energy issues are included in such processes, that they incorporate a landscape perspective, and that these approaches are subsequently replicated at national level. Project support to these processes will aim to ensure that these plans promote coordination of the actions of different actors on SFM in the landscape, and incorporate actions that facilitate better biodiversity conservation and livelihood outcomes, for example by identifying key high biodiversity forests that are under threat and may require special attention through community-based approaches to management and conservation.

173. By the end of the project, all of the FA cantonments corresponding to the four pilot/target provinces of the project will have developed plans for development of community-based forest management, and processes of CLUP in the communes included in Phnom Samkos and Phnom Aural Wildlife Sanctuaries (which together cover 587,602ha) will be guiding the provisions of the management plans of the CPAs in those two PAs.

#### **Output 2.2: Models for rapid CF allocation and quick benefit generation from community management of forests**

174. The project will result in an increase in number of community-managed forests nationwide that have businesses based on the sustainable management of forest resources, which take into account management plan provisions and have business operations ongoing, resulting in an increase in the income received by community members from profitable enterprises based on the sustainable management of forest resources. It will also ensure that community forests (CFs and CPAs) are managed in accordance with management plans that provide for environmental and financial sustainability and opportunities for business development.

175. In order for communities to be able to manage and conserve their forests in a sustainable manner, it is necessary for them to enjoy security of tenure and use rights. For CFs and CPAs, legal provision and political support already exist for the formal recognition of these rights in favour of local communities, and the administrative steps required to bring this about have also been defined (under Outcome 1, the project will also support the broadening of legal provisions and the streamlining of procedures); however, for the reasons set out in paragraph 67, none of the CFs or CPAs in the project's pilot/target provinces have yet completed these legal requirements. The project will provide support for the completion of these legal steps/procedures in CFs and CPAs in its four pilot/target provinces (see baseline and target situations in Table 11). It is also foreseen that this support will extend to other models of community-based forest management and conservation, once the procedural steps and legal provisions for them are developed, under Outcome 1.

176. The project's support at field level to the formalization of legal procedures in these selected community forests and protected areas will be used as an opportunity to provide practical training in supporting these processes to staff of FA and GDANCP.

**Table 11. Project impacts on legal status of CFs and CPAs in pilot/target provinces**

<b>Baseline (2009)</b>	<b>Target for end of project</b>
0 CFs have completed all legalization requirements to operate	125 CFs covering 36.000 ha have completed all legalization requirements to operate
20 out of 34 CPAs in Kampong Speu, Kampong Chhnang, Battambang and Pursat, covering 16,083 ha, have completed CPA by-laws (none have management plans)	All 34 existing CPAs in Kampong Speu, Kampong Chhnang, Battambang and Pursat, covering 23,673ha, have completed all procedural requirements to operate

177. In accordance with the legal procedures for CF and CPA establishment and the FA Guidelines on Community Forest Management Plan Development, the project will facilitate the development of management plans in selected CFs and CPAs in the pilot/target provinces. None of the CFs or CPAs have such plans at present. This process will allow the capacity development on management plan preparation, that are expected to be delivered as part of Output 1.2 above, to be put into practice, with particular attention being paid to ensuring that the plans make adequate provision for environmental and social sustainability, the realization of opportunities to develop viable and sustainable forest-based businesses, and the incorporation of a strategic vision of community-based management of forests within the broader landscape. This support will include biological and silvicultural studies that will provide technical information on the management potential of different elements of the biodiversity in the pilot sites, silvicultural options and the implications of different management options for biodiversity conservation, sustainable land management and carbon stocks; and the facilitation of participatory resource assessments by local people.

178. The project will assist FA and GDANCP in ensuring that the preparation of management plans is carried out with the full participation of the members of the target communities (based on multi-stakeholder analyses of problems, needs and opportunities), in order to maximize their local relevance and benefits and to contribute to the development of lasting capacities in local communities for updating plans in future. By the end of the project, it is expected that 20 CFs (covering 6,000ha) and 10 CPAs (covering 7,500ha) will have such management plans.

179. The long term sustainability of forest-based businesses is dependent on continuous monitoring of the condition of the resources on which they are based, in order to ensure that they do not lead to a degradation of their regenerative capacity. The project will assist FA, GDANCP and members of local communities in developing relevant and easily applicable indicators of resource sustainability, and incorporating them into management plans, together with provisions and protocols for their measurement, the analysis of the results and their feedback into adaptive management.

180. In addition to the provisions for resource management made in the management plans, the project will support the members of local communities in integrating business plans into them, providing for the establishment, development and management of businesses based on the sustainable use of resources in CFs and CPAs. This support will be focused principally on the four target provinces, but the option will also be left open to support businesses in other parts of the country: invitations will be issued to stakeholders such as FA cantonment and GDANCP provincial heads to nominate promising CFs and CPAs for such support. This approach will contribute to the replication potential of project activities by increasing the geographical area over which businesses are piloted.

181. These business plans will make provision for aspects including the following:

- Definition of product types to be obtained from the CFs/CPAs
- Identification of markets and strategies for marketing
- Business organization and benefit sharing agreements, with equity concerns mainstreamed
- Production and processing practices and corresponding needs for investment
- Definition of needs and sources of technical and financial support
- Projections of financial flows (capital investments, recurring costs, income)

182. The project will adopt a pragmatic approach to the promotion of forest-based businesses, taking into account cultural and socio-economic/gender considerations and capacities in the target communities. Efforts will be made, for example, to ensure that sustainable market access (product and value chain development) and equitable benefit sharing arrangements are assured before entering into specific businesses, and to provide community forest associations with the capacity to absorb and utilize new technologies, and also to develop the business skills to support this process. Careful attention will be paid to linking activities related to this output and the previous one related to management planning, ensuring that attention is paid to the restoration of degraded forests and the enhancement of the resources that are utilized in the business development plans, combined with the maintenance of biodiversity (as appropriate, depending on the results of biological assessments). The project will support the application in each case of market analysis and

development (MA&D) tools for community forest enterprises, which have been developed jointly by FAO and RECOFTC and which have already been piloted by the latter in some of its focal countries.

183. The project will also explore opportunities for certification of the products of forest-based businesses, in order to permit them access to niche markets that pay premium prices, under schemes such as Fair Trade and (particularly in the case of woodlots) the Forest Stewardship Council. The project will assist producers in establishing links with such schemes and advise them on how to meet the eligibility requirements, as well as on organization into clusters in order to achieve group certification, as appropriate, in order to reduce per capita costs.

184. As a result of these actions, together with the following ones that correspond respectively to funding, training and market information for forest-based businesses, by the end of the project it is intended that 20 community-managed forests in the pilot/target provinces and 10 elsewhere in the country will have businesses based on the sustainable management of forest resources, which take into account management plan provisions and have business operations ongoing. This will in turn generate livelihood benefits in terms of increases in income received by participating households: baseline and target values of household incomes will be determined at project start-up.

185. The identification and design of forest-based businesses to be supported by the project will be demanded; therefore the exact numbers and types of such businesses will be defined at project start-up. In the case of woodlots, on the basis of evaluations of demand and conditions carried out to date by the NGO GERES, it is foreseen that at least 617ha will be established in the province of Kampong Chhnang, divided between 5 Community Forests (see Table 12).

**Table 12. Provisional identification of Community Forests for management of secondary regrowth and woodlots for fuel wood production in Kampong Chhnang province (source: GERES)**

Name	Managed regrowth (ha)	Planted woodlots (ha)	Total (ha)
Tropeang Chan	121.8	81.2	203
Tropeang Pkam	42.6	28.4	71
Sa Ang	313.2	208.8	522
Tropeang Am Pil	122.4	81.6	204
Bro Snib (Mern Kong)	326.4	217.6	544
<b>Totals</b>	<b>926.4</b>	<b>617.6</b>	<b>1544</b>

186. The project will support the development of competitive mechanisms to allow forest-based businesses access to the funding that they require to start up operations, and to encourage private investment, by such means as risk sharing loan guarantees and collateralization of inventory. For smaller-scale businesses, direct grants will be provided for a number of pilots, for a limited period. For larger businesses it is foreseen that a grant fund will be established that will be subject to competitive application, based on criteria of business viability, replication potential and potential to deliver livelihood and conservation benefits simultaneously.

187. In the short term, the funding required will be provided from UNDP co-financing. The use of grant funding in this way will be justified given the need to generate visible functioning models of such businesses during the lifetime of the project, in order to set in motion processes of nationwide replication. The project will also work to convert these initiatives into permanent sustainable mechanisms, for example by capitalizing the funds with income gained from sources such as REDD, REDD+ and voluntary carbon markets (see Output 1.2 above).

188. In order to ensure that forest user groups have the technical capacities to carry out SFM successfully, as the basis for viable businesses and livelihood support, the project will provide support directly to local communities, on aspects such as the silvicultural treatment of natural regeneration in degraded areas leading to a more productive and valuable growing stock, the establishment of woodlots of fast-growing species, practices for the collection of NTFPs in such a way as not to affect the regenerative capacity of the species that provide them, and techniques for the processing of forest products in order to maximize local value added.

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189. In order for the forest business plans to be put into practice, the project will also build the capacities of local communities for the establishment and management of forest-based businesses, and for the troubleshooting of problems that may arise. This support will focus on aspects such as business organization, financial management and accounting, benefit-sharing and marketing. Business training in the field will be done by experienced business development specialists, such as the Cambodian Indian Enterprise Development Centre that have been involved in selecting, setting up and training small businesses.

190. In addition to the direct provision of support to community members by project staff and consultants (hired by the contractor that will execute this component of the project and working alongside Government counterparts), the project will facilitate horizontal exchanges of experiences between different communities engaged in the management of CFs and CPs and related businesses.

191. The provision of this technical and business support will not be regarded as a one-off exercise: the project will assist FA and MOE in ensuring that SFM businesses have permanent capacities to address issues that may arise in the future. The project will explore opportunities for private sector entities to provide technical support in the long term, this may require orientation and strengthening of such entities, and also orientation of the members of the SFM businesses themselves in order to help them define their technical support needs and include provision for its costs in their financial planning. Finally, the project will support the development of capacities among the forest user groups themselves to analyze and resolve their problems.

192. The security of local communities to use forests will be further strengthened through a programme of targeted education and awareness raising, aimed at clarifying knowledge at community level of what the legal provisions regarding decentralized SFM really are. This programme will form part of a broader communication strategy that will form part of the project's mechanisms for monitoring, evaluation and adaptive management.

193. In the short term, the project will act as a clearing house for information on markets (opportunities and prices) for SFM products, feeding this information down to the SFM businesses themselves and developing their capacities for interacting with other actors in the market chain in order to maximize the benefits that they receive. The project will also ensure that this clearing house role and these negotiation capacities are continued in the long term and scaled up to national level, by developing capacities in FA and/or the private sector for the gathering, management and communication of market information, and by promoting the establishment of networks of local producers capable of channelling such information and of exercising influence on markets by virtue of scale.

194. The project will in particular seek to increase the area of woodlots managed by local communities for the sustainable production of wood energy, in order to address the imbalance between demand and sustainable supply highlighted in the Threats section (see Figure 5). To this end, the project will assist FA, in coordination with MIME, the WEWG and relevant NGOs, in the design and initial implementation of a National Woodlots Programme. GEF involvement will in particular help to ensure that the woodlot programme reflects geographical variations in the fuel wood supply/demand balance (see Figure 5), that community members have access to an adequate range of silvicultural options that combine immediate income with maximum overall economic viability and biological, productive and social sustainability.

195. It is foreseen that woodlots will principally be established on degraded lands (see Figure 7); either by individual farmers or community-based organizations (the precise arrangements will be defined by the communities themselves, through participatory processes that will be facilitated by the project). The design of the Programme will be based upon a review of existing experiences with woodlots and of existing studies of wood energy demand, wood flow patterns and the location and nature of threats to forests from unsustainable firewood extraction, and will make provision for sustainable financing mechanisms (based on a combination of recurrent Government budgets, donor funds, carbon finance (see Box 10) and community/farmer in-kind contributions); technical, organizational and entrepreneurial support to participating communities/farmers; and mechanisms for monitoring of uptake and adaptive management based on the results of this monitoring. Design of the Programme will also include provision for mechanisms

allowing woodlot managers to certify their products (for example through the Forest Stewardship Council scheme).

**Box 7. Project strategies for delivering biodiversity benefits through SFM**

The project will ensure the generation of Global Environmental Benefits (GEB), in the form of reductions in biodiversity loss, through the following strategies:

1. Development of capacities among FA and GDANCP staff, in collaboration with community members, for including BD safeguards into CF and CPA management plans
2. Selection of the forest-based businesses to be supported based on their potential to contribute to reduce deforestation and thereby to deliver benefits in terms of improved conservation of biodiversity
3. These benefits will be delivered either at the level of the individual CF/CPA in question (by providing the incentive and means to local communities to conserve CFs/CPAs which themselves contain important biodiversity, carbon stocks or sustainable land management functions) or at the landscape level (by helping to stabilize economic or demographic processes that are affecting biodiversity and forests outside of the boundaries of the CF/CPA in question).
4. Safeguards, in the form of strict criteria for project support and biological monitoring, will be applied to ensure that the business activities do not lead to a 'specialization' of the ecosystem to favour more profitable elements at the expense of less valuable elements that may be of conservation concern.
5. Project support to CLUP processes will aim to ensure that these plans promote coordination of the actions of different actors on SFM in the landscape, and incorporate actions that facilitate better biodiversity conservation and livelihood outcomes, for example by identifying key high biodiversity forests that are under threat and may require special attention through community-based approaches to management and conservation" (para 171, ProDoc).

**Outcome 3: Strengthened demand and supply chain for energy efficient cook stoves**

196. The project will adopt an integrated approach to addressing threats to forest resources in Cambodia by complementing the sustainable management of forest resources (as proposed under Outcome 2) with actions, under this Outcome, to reduce the currently unsustainable demand for wood energy. As explained in 275. Annex 3, one of the most cost-effective means of achieving this is through the promotion of energy-efficient cook stoves, however a number of barriers exist at present to achieving this. Three types of cook stoves will be promoted:

- The 'New Lao Stove' (NLS), which offers a 22% energy saving compared to the 'Traditional Lao Stove' (TLS) that currently dominates the market, and a profit to producers of \$0.57 per unit compared with \$0.37 for the TLS.
- The 'Neang Kongrey Stove' (NKS), which is much cheaper (\$1.50 per unit compared to \$4.00 for the NLS)
- The **Vattanak Palm Sugar Stove**, which costs around \$80 and is therefore more suitable for micro and small enterprises (such as tofu, noodle, soy sauce, and fish sauce production as well as palm sugar) than household cooking use.

197. Based on the lessons learnt set out in 275. Annex 3, the GEF strategy will be that during the first two years of the project stove producers, such as the Vietnam Cook stove producers in Kampot and similar local low income generating stove centres, will be trained to produce the Neang Kongrey Stove (NKS). The income of the women producers will increase compared to their traditional stove production. At the same time a hydraulic press will be designed and tested based on the water filter press, developed by Resource Development International (RDI) that could increase the production capacity to make the NKS more profitably than the New Lao Stove (NLS). During the last two years some Traditional Lao Stove producers will be trained to produce the NKS. The quantitative targets of activities foreseen under this Outcome are

summarized in Table 13, and the emissions reductions foreseen as a result of activities related to this Outcome are presented in Table 17.

**Table 13. Summary of project inputs and costs for Outcome 3 (see also Atlas Budget and Budget Notes in Section 3)**

Inputs <sup>44</sup>	Quantity	Financing source	
		GEF	UNDP
Component manager (coordination of project activities under Outcome 3, and provision of technical backstopping to field staff and consultants)	48 person months	144,000	
International consultant on business development (business development support, recommendation of strategies and opportunities for promotion of private sector linkages and for gaining access to premium markets for products)	7.5 person months	60,000	
Stove production expert (provision of technical advice, training and troubleshooting to stove producers in cook stove production centres)	48 person months	72,000	
Stove production business development facilitator (provision of advice, training and troubleshooting support to stove production businesses)	48 person months	72,000	
Business Development support	100 cook stove distributors	80,000	
Technical training on stove pressing, improved kilns and clay mixing		70,000	
Training of palm sugar stove producers	800 palm sugar stove producers	150,000	
Business support to palm sugar cook stove producers and cook stove distributors	9 palms sugar cook stove producers and 17 cook stove distributors	99,335	
Development and Monitoring of carbon payment mechanisms for palm sugar, NKS stove production, biogas digesters, and Charcoal Kilns		100,000	
Start-up grants for cook stove production centres	6 cook stove production centres		180,000
Risk sharing for loans from micro-finance institutions	100 cook stove producers		24,000
	800 palm sugar stove producers and ceramic parts producers		40,000
DSA for external experts/advisors			13,440
	<b>Totals</b>	<b>847,335</b>	<b>257,440</b>

**Output 3.1: Local technology suppliers capable of producing, distributing, maintaining and financing improved cook stoves**

198. The project will support the establishment of 6 production centres for Neang Kongrey Stoves (NKS), in strategic locations relative to the principal areas of demand (the provinces of Kampong Chhnang, Kampong Cham, Kampong Speu, Pursat, Kandal and Takeo) (see Box 8).

<b>Box 8. Indicative project activities in support of the establishment of cook stove production</b>
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<sup>44</sup>See also Annex C of CEO Endorsement Request for staff responsibilities

**centres**

- Realisation, in conjunction with cook stove producers, of technical studies resulting in the definition of needs for investment support
- Development, in conjunction with cook stove producers, of business plans for cook stove production centres
- Provision of initial kick-start investment funding, co-financed by UNDP, for the establishment of production centres, based on the results of the above studies
- Realisation of studies and plans for the development of permanent competitive funding mechanisms
- Realisation of detailed training needs assessments for cook stove producers
- Provision of training to cookstove producers on issues such as ceramic production, entrepreneurial skills, and the identification of and access to markets
- Initial placement of stoves in retail outlets in order to facilitate market penetration
- Provision of training and facilitation in accessing carbon finance mechanisms.

199. The target for production of NKS as a result of the project is shown in Table 14. This support will also result in increased incomes for cook stove producers: the magnitude of this benefit will be quantified at project start-up.

**Table 14. Baseline and target levels of improved NKS cook stoves**

<b>Baseline</b>	<b>Target</b>
12 organized NKS producers in 1 production centre producing 30,000 stoves per year	37 (12+25) organized NKS producers in 7 (1+6) production centres producing 210,000 stoves per year (additional 180,000)

200. Initial investment funding for these production centres, in the form of grants, will be co-financed by UNDP. This will provide an essential “kick start” for the process of making cook stoves widely available throughout the country. The project will support the development of permanent competitive funding mechanisms (see Box 9), permitting the further replication of cook stove production centres nationwide. It is foreseen that these mechanisms would consist of the provision of grants, using funding generated from carbon payments based upon the emissions reductions that will result from increased use of energy-efficient stoves. This will build upon experiences to date, developed by GERES, with generating and channelling voluntary carbon payments (see Box 10).

**Box 9. Indicative project activities in support of the development of permanent competitive funding mechanisms**

- Financial feasibility studies for the development of competitive funding mechanisms
- Initial funding of the costs of studies to assess carbon benefits
- Identification of institution(s) responsible managing these schemes
- Capacity development of institution(s) responsible for managing these schemes (e.g. training, development of protocols for assessing eligibility of applicants on a case-by-case basis)

**Box 10. Promoting financial sustainability through carbon credits**

GERES has already proven the potential to generate carbon credits from energy efficiency initiatives (see 275 Annex 3). Based on this experience, it is proposed that an institutional mechanism is set up for GERES-like entities to function as ‘brokers’ for carbon credits: a part of the credits received would be used to cover administration and other costs of the ‘broker’ but the bulk would be passed on to be used to invest

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directly in supporting further replication of initiatives with climate change benefits, such as the establishment of cook stove production centres, stove dissemination mechanisms and woodlots. GERES has received carbon credits of 0.7 CO<sub>2</sub> equivalents per stove per year: the replacement of 200,000 TLS by NLS between 2002-2007 totalling 182,000 tCO<sub>2</sub>3q. DNV audited and verified the scheme and VER's (1tonCO<sub>2</sub>eq) are sold between 6 and 25 dollars per ton.

Indicative project activities in support of the establishment of such schemes include:

- Identification and capacity assessment of candidate institutions capable of functioning as brokers for carbon credits
- Development and negotiation with such institutions of protocols for the management of these schemes, including the proportion of the credits that would be used to cover administration and other costs
- Negotiation and formalisation of commitments by such institutions to fulfil this role.
- Provision of ongoing support, in the form of advice and troubleshooting, for the operation of such schemes.

201. To date, the use of carbon credits to support cook stove production has largely focused on urban areas; the project will expand these into rural areas. Initial project funding is needed to cover the costs of the assessment of the carbon benefits achievable from each initiative. Subject to further exploration of legal and institutional aspects (proposed under Outcome 1), a proportion of the carbon payments will be used to cover the administrative and technical costs associated with generating the payments, and the remainder will be reinvested in the businesses.

202. In addition to this financial support, the project will provide training to the cook stove producers (see Table 13) in aspects such as ceramic production, entrepreneurial skills and the identification of and access to markets for cook stoves in order to ensure their abilities to continue and expand production after the project ends.

203. In addition to stimulating the production of improved cook stoves as described above, the project will remove barriers to distribution (explained in paragraphs 72-74). To this end, the project will facilitate communication between technology producers and possible retailers or consumers in the private sector. It will also provide direct support to ensure wide-scale market penetration by efficient stoves, by financing the initial placement of stoves in retail outlets subject to appropriate contractual arrangements and guarantees. As the required mechanisms are developed, the use of project funds to finance this initial placement will be substituted by carbon funding (see Box 10).

204. Uptake of stoves will further be promoted through the provision of training (see Table 13), for example to palm sugar producers in the improvement of the quality of granulated palm sugar and the proper use of the Vattanak palm sugar stove, in order to increase the economic viability of the stoves; and to stove installers in practical aspects of stove installation and entrepreneurial development. The distributors of improved cook stoves will also receive training on how to promote stoves among the target audience, including demonstration of the cost and labour savings achievable.

#### *Indicators*

205. Project indicators are presented in the Strategic Results Framework (see section 3) and in Table 15 below. The project will deliver impacts in the three focal areas of biodiversity, climate change and land degradation, and its progress will therefore be measured in accordance with impact indicators related to each of these three focal areas.

206. Indicators of project impact on the biophysical environment, over the 4 year project period, will be limited to the pilot landscape (see Table 15): significant impacts on the biophysical environment outside of the pilot landscape can only be expected towards and after the end of the project, once the expected replication effect of project actions in the pilot landscape become evident at national level. This is normal for



projects which focus on capacity building, the biophysical impacts of which typically do not become evident immediately.

207. Key impact indicators related to each of these focal areas are as follows:

- **Biodiversity:** The proposed demonstration provinces include parts of two Global 200 ecoregion identified by WWF - Cardamom Mountains rain forests and Tenasserim-South Thailand semi-evergreen rain forests. The global biodiversity benefits would be accrued through better management of these globally important ecoregions. The definition of BD indicators for each site will be based on site-specific studies to identify appropriate indicators for the ecosystem in question. These will include indicators for ecosystem level – such as intactness of the ecosystem and/ or through selection of indicator species that are considered good proxies for overall ecosystem health. –Additional indicators may be chosen for globally important species' populations or other measures (such as nesting sites increase for birds for example). These will be built on lessons from past GEF funded projects – such as in the UNDP-GEF project Establishing Conservation Areas Landscape Management (CALM) in the Northern Plains. These indicators would normally be measured through repeated transect walks, carried out by FA/MOE staff and by communities themselves- in the long term, but will be supported by trained biologists in the short term (under project support). Deforestation rates will be assessed through analysis of satellite imagery and/or aerial photographs (subject to availability) and the status of keystone and indicator species will be assessed by transects carried out by community members with the support of officials from FA or MoE, following training provided by the project.
- **Climate change:** reductions in rates of emissions of CO<sub>2</sub> due to reduced levels in the consumption of fuel wood and charcoal due to the use of efficient cook stoves, reductions in the rates of loss of forest carbon stocks as a result of reduced deforestation, and increases in forest carbon stocks as a result of the establishment of plantations. Reductions in fuel wood and charcoal use will be measured through annual censuses of the movement of these products along the main road routes from the pilot landscape into the urban centres where demand is concentrated, repeating the exercise whose results are depicted in 0. Reductions in the rates of loss of carbon stocks in natural forests will be deduced from the data on rates of deforestation which will be measured as a biodiversity indicator, as described above. Increases in the rates of carbon stocks in plantations will be deduced from data managed by participating communities on the rates of establishment of forest plantations, combined with field inspections of growth rates.
- **Land degradation:** given that the main form of land degradation to be addressed by the project is the conversion of natural forest cover to other uses and the degradation of existing forest (reduction in canopy density and change in species composition), the main indicators to be used will be rates of deforestation and changes in canopy density, both of which will be assessed through satellite imagery. Data on changes in forest density and quality from satellite imagery will be ground truthed and complemented by field assessments of species composition and regeneration rates.

Table 15. Plan for Measurement of Project Indicators

Key Impact Indicator	Target (Year 4)	Means of Verification	Sampling frequency	Location
<b>Objective</b>				
Stability of indices of ecosystem health, diversity and condition in target community-managed forests	Indices remain at 100% of baseline levels	Participatory resource assessments carried out by community members	Project start, midterm and end	Target CFs and CPAs in Kampong Chhnang, Kampong Speu, Battambang and Pursat
Reduction in deforestation rates in Kampong Chhnang, Kampong Speu, Battambang and Pursat, due to increases in the effectiveness of combating of threats due to strengthened community-based management, and reductions in demand for wood energy	Average between years 1 and 4 is 10% below existing rates (baseline values to be determined at project start-up)	Satellite and/or aerial photography cross-checked with wood flow analyses and interviews with provincial staff and community forestry groups	Midterm and end	Whole of Kampong Chhnang, Kampong Speu, Battambang and Pursat
Improvement in the canopy density and structure of forests in Kampong Chhnang, Kampong Speu, Battambang and Pursat, due to improved management and protection by forest communities and reductions in the levels of demand for wood energy	XX ha of degraded forest, representing XX% of total forest cover (baseline and target values to be determined at project start-up)	Satellite and/or aerial photography	Midterm and end	Target CFs and CPAs in Kampong Chhnang, Kampong Speu, Battambang and Pursat
Reduction in CO <sub>2</sub> emissions nationally due to adoption of improved cook stoves	A reduction in emissions of 163,000 tCO <sub>2</sub> e by the end of the life-time of the efficient stoves produced during the project	Official VER emission reduction audit reports	Annually	Nationwide
<b>Outcome I</b>				
A supportive legal framework exists for all models of community-based forest management and conservation mentioned in the NFP	By Year 4 ministerial declarations ( <i>prakas</i> ) and Technical Guidelines also exist for: -Production-Based Community Forestry -Community Conservation Forests -Partnership Forests	Legislative instruments	Continuous	Central
Enhanced national capacities and political will in FA and GDANCP to coordinate & integrate development of CFs and CPAs in a decentralised landscape-based approach	Communal land use planning in communes where the project supports CFs and CPAs reflects SFM by integrating CF and CPA development plans	Provincial Local Administration Unit (MOI), Cantonment and PA authority interact, reported by PLAU	Annually	Kampong Chhnang, Kampong Speu, Battambang and Pursat
No. of CF and CPA development plans that incorporates SFM by Year 4	X			
No. of budgeted local land use plans that incorporates specific provisions for SFM by Year 4	X	Interviews with commune councils; Inspection of development budgets and plans prepared by Commune Councils	Annually	Kampong Chhnang, Kampong Speu, Battambang and Pursat

Key Impact Indicator	Target (Year 4)	Means of Verification	Sampling frequency	Location	
Capacities enhanced in FA and GDANCP to clarify forest tenure and user rights enhanced	Management plans in selected CFs and CPAs in Kampong Chhnang, Kampong Speu, Battambang and Pursat incorporate landscape and ecosystem approach	Review of management plans	Annually	Kampong Chhnang, Kampong Speu, Battambang and Pursat	
	Criteria, procedures and technical means to classify and demarcate forest lands developed giving priority to areas suitable for CF	TWG F-E Action Plan and Annual Reports	Annually	Central	
	1 mill ha (out of 1,6 mill) for CF identified		Annually	Nationwide	
National Wood Energy Implementation Strategy exists, incorporating private sector modalities	Strategy exists by year 4	Draft Strategy document	Continuous	Central	
The average time for MAFF to issue declarations on Community Forests is shortened nationwide	By year 4, average time: less than 4 months	MAFF records	Annual	Central	
Financial strategies exist in MAFF and MOE to support SFM, including opportunities for REDD and carbon financing	Strategies exist in MAFF and MOE by year 4	Draft Strategy documents	Continuous	Central	
Increased funds become available in a sustainable manner to support community-based forestry	<b>Source</b>	Financial records of institutions (e.g. MAFF, MOE and MEF)	Continuous	Central	
	Forest/wood energy related carbon credits				\$ 1,500,000
	Other funding sources (banks, green funds etc.)				500,000
<b>Outcome 2</b>					
Increase in number of community-managed forests (CFs and CPAs) nationwide, supported by the project, that have businesses based on the sustainable productive management of forest resources, which take into account management plan provisions and have business operations ongoing	- 20 in Kampong Chhnang, Kampong Speu, Battambang and Pursat (with project support), covering 8,000ha	CF and CPA management and business plan documents Visits to CFs and CPAs and assessments using standardized monitoring tools (to be developed at project start-up)	Annual	Kampong Chhnang, Kampong Speu, Battambang and Pursat	
	10 elsewhere in the country (with project support), covering 4,000ha		Annual	To be defined	
Community forests (CFs and CPAs) are managed in accordance with management plans that provide for environmental and financial sustainability and opportunities for business development	20 CFs, covering 6,000ha	CF and CPA management and business plan documents Visits to CFs and CPAs and assessments using standardized monitoring tools (to be developed at project start-up)	Annual	Kampong Chhnang, Kampong Speu, Battambang and Pursat	
	10 CPAs covering 7,500ha				
Increase in income received by households in target forest communities from profitable enterprises based on the sustainable management of forest resources	XX households (XX% of total) derive income by year 4 (to be defined at project start-up)	Focus groups, interviews with forest users, Sustainable Livelihoods Framework tools, UNDP tool	Midterm and end	Kampong Chhnang, Kampong Speu, Battambang and Pursat	
	Average of \$XX received per household in year 4 (to be determined at project start-up)				
Increase in area of woodlots management by local communities for the production of wood energy	617 ha in Kampong Chhnang province	FA records, field inspections	Midterm and end	Kampong Chhnang, Kampong Speu,	

Key Impact Indicator	Target (Year 4)	Means of Verification	Sampling frequency	Location												
				Battambang and Pursat												
FA cantonment and MOE PA offices have plans for development of community-based forest management	<p>FA cantonments corresponding to Kampong Speu, Kampong Chhnang, Battambang and Pursat provinces have plans</p> <p>Management plans of 10 CPAs in Aural and Samkos Wildlife Sanctuaries reflect regional considerations and provisions of overall PA management plans</p> <p>125 CFs covering 36,000 ha have completed all legalization requirements to operate</p> <p>All 34 existing CPAs in Kampong Speu, Kampong Chhnang, Battambang and Pursat, covering 23,673ha, have completed all procedural requirements to operate</p>	CF and CPA records in FA and MOE	Annually	Kampong Chhnang, Kampong Speu, Battambang and Pursat												
<b>Outcome 3</b>																
Increase in number of cook stove production centres	6 fully functioning cook stove production centres															
Increase in income of stove producers (breakdown by gender to be determined at project start-up)	To be determined at project start-up															
Increased market share of improved technologies	<table border="1"> <thead> <tr> <th>Technology</th> <th>Number sold per year</th> <th>Market share</th> <th>tCO2e per year</th> </tr> </thead> <tbody> <tr> <td>NKS</td> <td>180,000</td> <td>17%</td> <td>39,600</td> </tr> <tr> <td>Palm Sugar Stove</td> <td>800</td> <td>4%</td> <td>1,520</td> </tr> </tbody> </table>	Technology	Number sold per year	Market share	tCO2e per year	NKS	180,000	17%	39,600	Palm Sugar Stove	800	4%	1,520	Market surveys/VER reports	Annually	Nationwide
Technology	Number sold per year	Market share	tCO2e per year													
NKS	180,000	17%	39,600													
Palm Sugar Stove	800	4%	1,520													

Risks

Table 16. Risk matrix

Risk	Level	Mitigation strategies
Insufficient economic gains for households participating in community-oriented natural resource management	Low to Medium	<p>Focus on practices identified by local communities themselves as socio-economically attractive, with a market, and sustainable, for adoption on a broader scale</p> <p>Promotion and facilitation of the establishment of forest-based businesses capable of maximizing the realization of the environmentally and socially sustainable productive potential of the forest, include private sector partnerships where possible</p> <p>Tailoring of forest management to forest characteristics and productive potential in each site; strengthening resource access to and management of less degraded forests that can provide benefits in the short to medium term.</p> <p>Development of capacities of stakeholders to engage in carbon markets.</p>
Multi-stakeholder and multi-level nature of project increases the project's transaction costs and reduces project impacts due to institutional complexities	Medium	<p>Development of a strong coordination mechanism at provincial and local level for SFM.</p> <p>The project is built on the strong interest of the stakeholders and, therefore, has their strong support.</p>
Inadequate level of coordination among provincial stakeholders	Low to Medium	<p>Development of a sound coordination mechanism for stakeholders at national, inter-provincial, provincial and local levels.</p> <p>Capacity building, supported by knowledge management, to raise the awareness on the importance of regional approaches at the landscape level to SFM, especially the rehabilitation of degraded forestlands.</p>
Land grabbing and the expansion of Economic Land Concessions.	Medium	<p>Support to the formalization of communities' occupancy and use rights to forests, in accordance with the legal procedures defined by MAFF and MOE regulations.</p> <p>Support to the active use of forests by local communities in order to demonstrate their occupancy in practice</p> <p>Support to the development of networks and clusters between CFs and CPAs, and links with private sector business interests, in order to increase communities' lobbying power against this risk.</p> <p>Raise awareness of the provisions of PM Circular 2 of 2007 to combat illegal occupation of state land</p> <p>Provision of (non-financial) motivation to staff who interact effectively with communities regarding issues such as ELCs as feed back information accordingly to Phnom Penh</p> <p>Use of the Project Board as a channel for raising concerns at high level in relation to ELC proposals</p>
Inadequacy of local governance conditions and capacities of local communities for countering threats to forests, and for sharing forest benefits and	Medium	<p>Training and capacity development directed specifically at local communities</p> <p>Exploration and development of financing mechanisms to support enforcement</p>

ZK

undertaking forest management and businesses		
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### *Financial modality*

208. GEF funds will be provided as a grant to support the development of sustainable capacities among national institutions and local stakeholders. In addition, UNDP co-financing will be used to provide direct financial grants and establish risk-sharing mechanisms for the provision of loans by micro-finance institutions, for the start-up of small businesses related to sustainable forest management and energy efficiency.

### *Expected global, national and local benefits*

209. The project will deliver the following global benefits:

- **Biodiversity:** improvements in the conservation status of globally important biodiversity in a total area of 3693200 ha (the total of 4 pilot provinces- please see Annex 1 for more details). This area includes the mountains of south-western Cambodia are a moderate centre of endemism with many unique plants and animals such as the chestnut-breasted partridge (*Arborophila mandellii*) and the Cambodian laughing-thrush (*Garrulax ferrarius*). The Phnom Aural massif contains some species that have not been found anywhere else, such as the Aural horned frog *Megophrys auralensis*. Fish and plant collecting expeditions have found dozens of species never before recorded in Cambodia, and many species are awaiting names. The endemic species are chiefly at high elevations or in the species-rich lower evergreen forests, and a few lower plants and invertebrates may be endemic to the hot spring. It is expected that ecosystem health, diversity and condition in target community-managed forests will remain at least at baseline levels and that there will be a reduction of 10% in the baseline rates of deforestation in the provinces in which the project will directly at field level. These benefits will subsequently be extended to national level in the years following the project, as a result of the replication processes to be set under way by the project.
- **Land degradation:** improvement in the biological and productive functioning of forests in the provinces in which the project will work directly at field level, measured in terms of improvements in canopy density and structure. Baseline and target values will be determined at project start-up through satellite imagery and aerial photographs, backed up by ground-truthing. The work of the project to establish woodlots on degraded lands will also contribute to halting land degradation.
- **Climate change:** the project will result in reductions in CO<sub>2</sub> emissions due to the increased use of efficient cook stoves (under Outcome 3) and the establishment of woodlots, charcoal kilns and rural energy-based services/enterprises (under Outcome 2). The reductions that are expected are presented in Table 17; see 275. Annex 5 for details of the CC impacts and other details of specific technologies. The total figure of CO<sub>2</sub> emissions reductions during the project lifetime is 82,486tCO<sub>2</sub>eq. This is rather lower than the 94,500 tCO<sub>2</sub>eq originally foreseen in the PIF; however this difference is offset by the fact that the project will result directly in continued annual reductions of 80,843 tCO<sub>2</sub>eq/year in years 5-12. In addition, on the supply side, the establishment of 617ha of planted woodlots is expected lead to avoided deforestation of natural forests, equivalent to avoided emissions of at least 4,510 tCO<sub>2</sub>eq/year<sup>45</sup>. The project will develop capacities within FA (as member of the Wood Energy Working Group) to maintain figures of woodlots and their corresponding CO<sub>2</sub> emissions reductions; and of MIME to maintain figures of cook stove production and uptake, as well as their corresponding CO<sub>2</sub> emissions reductions, based on figures which they would require the cook stove production centres to provide.

<sup>45</sup> Assuming average annual increment of 6.64m<sup>3</sup>/ha/year, 1m<sup>3</sup> wood = 0.6 tons wood, 1 ton wood = 1.835 tons CO<sub>2</sub>. This statement is not clear. Please re-visit the figures.

**Table 17. Reductions in CO<sub>2</sub> emissions expected as a result of the project**

	Total number disseminated during project	Total number in use at end of project	Total CO <sub>2</sub> emissions reductions during project (tCO <sub>2</sub> eq)	Numbers disseminated per year in years 5-12	Numbers in use every year in years 5-12	Annual CO <sub>2</sub> emissions reductions in year 5-12 (tCO <sub>2</sub> eq/year)	CO <sub>2</sub> emissions reductions in year 13 (tCO <sub>2</sub> eq/year)
1 Neang Kongrey Stove	270,000	270,000	79,200	180,000	360,000	79,200	39,600
2 Palm Sugar Stove	800	800	3,040	0	800	1,520	0
3. Efficient Charcoal Kilns	16	16	246	0	16	123	0
			82,486			80,843	39,600

**Local and National Benefits**

- **Income generation:**

210. In the 50 community forests in which the project will support the establishment and management of forest-based businesses, local communities will be able to generate income in a sustainable manner from forest resources. The magnitude of this benefit will be determined once the forest-based businesses that have been initially identified during the project preparation process are piloted at field level. This will contribute the Millennium Development Goal (MDG) 1 (eradicate extreme poverty and hunger).

- **Improvement in the status of women**

211. Women are very active in collecting, processing and marketing NTFPs. However, they are not adequately included in decisions related to community-based forest management. The project will promote the equal participation of both men and women in the committees of community based forest management. The project will mainstream gender issues and improvement in the status of women in various stages and activities of project implementation.

212. The establishment of businesses based on the sustainable management and use of non-timber forest products (NTFPs) has particular potential to improve the economic status of women (and will feature in the benefit sharing arrangements) and their influence over how natural resources are used, given that many NTFP processing activities can be inserted relatively easily into their other productive activities, thereby contributing to MDG 3 (promote gender equality and empower women). In addition, increases in the use of improved cook stoves improve women's physical wellbeing by reducing their exposure to smoke and the amount of time that they need to spend collecting firewood, or the impact on family budgets of purchasing fuel wood.

- **Improvement in human development**

213. UNDP's Human Development Report in 2007 on "Expanding Choices for Rural Poor" looked at the relationship between forest and livelihoods of the poor. It is stated that rural people's livelihoods in many provinces have traditionally been closely associated with the forests, for firewood, building material, timber, twigs, resins, gum, medicinal herbs, leaves, rattan, small animals, insects, reptiles and similar products. Populations in the northeast, parts of the west and mountain areas perennially depend on the forest for their livelihoods. In addition, those rural households with few other income alternatives, households dependent on single female workers, as well as older workers and children are regularly used to collect forest products to minimise labour costs. Like fishing, gathering of forest products provides activities that can buffer the effects of crop damage arising from droughts or floods. In some areas, these workers market forest products as well,

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and selling minor forest produce fetched them 1,500 to 2,000 riels per day (data for early 2000s). It is estimated that about a third of total households in forest villages (mainly in provinces in the northeast and northwest) gather and forage at some time during the year.

214. In addition, UNDP's study on Land and Human Development in Cambodia (2007) suggests that the risk for household poverty is reduced with increased access to land, in particular when this land is secured by a title. There are ample opportunities for the rural economy to increase its contribution to economic growth and improvements in human development if access right and land titling are provided to rural people. It is estimated that land allocation in rural area could contribute 26% of the poverty reduction target.

215. The project will contribute to the enhancement of community based forest management to human development through securing better access rights of local community both men and women to forest resources, enhance the productive and sustainable use of forestry resources and income generation opportunities (through small) business and markets development.

- **Improved access to ecosystem goods and services, and reduction in environmental risk:**  
216. The definition and implementation of sound management prescriptions will make it possible for forests to continue to provide rural communities with subsistence products, and environmental services such as water supply and buffering of extreme environmental events and climate change, while at the same as being managed to generate income. In addition to safeguarding the physical 'buffering' role of forests against climate change (for example by reducing the 'flashiness' of stream flows during extreme high or low rainfall events), the support by the project to the realization of the productive potential of forests would contribute to the diversification of rural livelihoods, thereby reducing the risk of net negative impacts on income and food security of possible climate-related failures of annual crops. This will contribute to the achievement of MDG 7 (ensure environmental sustainability).

- **Improvements in the rights of the poor**  
217. The Forestry Law of 2002 and Protected Areas Law (2008) contain provisions for community based forestry to be officially recognised. They offer indigenous and non-indigenous communities opportunities to obtain user and management rights to forest and natural resources in protected areas (15-year renewable agreements). According to the provisions of the law, certain forest areas are included in the collective immovable property of community and indigenous minorities. The project will promote human right based approaches through:

1. Developing capacities (among staff of FA, MOE and commune councils) to provide better services and support to the right holders including process of legal community based forest areas, and to support community based management plan and business development.
2. Developing the capacity of right holders such as women groups, small business groups, members of community forestry and community protected areas to have better understanding and better capacity in terms of planning, and to provide them with forums and participatory processes to raise their voices and demand for better responses from responsible entities. During the implementation of project activities, clear roles and responsibility between various actors will be clarified and strengthened

#### *Cost effectiveness*

218. One of the major thrusts of the project is to involve local communities to lead sustainable forest management in Cambodia. This is considered a more cost-effective means of achieving global conservation values than if just the government attempts to conserve the forests or they are primarily managed by the private sector. This is because local communities' livelihoods are intimately linked to the forests and any attempt to exclude them would alienate them from such resources, leading to conflict and possible sabotaging of any SFM efforts. Investment in "keeping people out" would be more costly and counterproductive to SFM than involving them as they have better knowledge of local environment, are likely to be more conservative in their use of forest resources (when appropriate incentives and support are available) and thus produce better global biodiversity outcomes cost-effectively. Furthermore, the project



has will undertake the following strategies to maximize cost-effectiveness in the generation of global environmental benefits:

- 1) **Inclusion of a business-based approach to SFM and energy efficiency.** This pragmatic approach recognizes that sustainability and large-scale effective replication of SFM and energy-efficiency practices can only be achieved if these are economically viable and attractive to local people. During the project development phase a number of summary business models have been developed which provide indications of this economic viability (see 275. Annex 7).
- 2) **Development of partnerships with institutional actors with existing experiences.** In each of its pilot sites, the project will work with actors (mainly NGOs and international agencies that support Government institutions) that have already developed significant experiences in diverse aspects related to community forestry. This will allow GEF resources to be focused on truly incremental aspects and to achieve impacts in the short term, rather than having to start from scratch and invest in establishing relations with communities.
- 3) **Tailoring community forestry modalities to needs.** The project, working with institutional partners, will support a range of different community forestry modalities ranging from “commercial community forestry” to “community protected areas”. By ensuring that these different models are appropriately targeted at and tailored to diverse circumstances, the project will maximize the probability of their environmental, social and economic feasibility and thereby optimize the utilization of the resources invested in them in generating global environmental benefits.

219. Cost effectiveness will further be ensured by focusing on those technologies with highest potential to generate savings in carbon emissions. These are, in descending order, household cook stoves, rural energy service enterprises, efficient charcoal production and community forestry based on the thinning of existing forests to optimize timber production. The inclusion of activities related to the industrial use of fuel wood was considered but rejected as this would have required the dedication of a significant proportion of the available project funds with relatively limited additional benefits.

#### ***Sustainability***

220. The **environmental** sustainability of the project’s impacts will be assured by supporting the incorporation of environmental considerations into the location and design of community-based forest management, including landscape-level biological processes, the location of vulnerable globally-important biodiversity and the ecological characteristics and regenerative capacity of the resource.

221. The **financial** sustainability of the project’s impacts will be assured by the project’s focus on a business-based approach to SFM and to energy efficiency technologies, where feasible and appropriate, which will make such activities self-supporting, and by the investigation and development of alternative financing mechanisms such as revolving funds and REDD.

222. The **institutional** sustainability of the project’s impacts will be promoted by the strengthening of technical capacities of the management committees of CFs and CPAs as well as permanent Government institutions, which will be closely involved in project activities even when these are led by external NGOs, by developing financial mechanisms such as REDD which have the potential to cover at least part of the recurrent costs of Government institutions in relation to SFM, and by working with and strengthening existing local organizations and institutions such as commune councils, rather than inventing new project-specific entities.

223. **Social** sustainability and equity in benefit sharing will be promoted by ensuring the community-based SFM activities are developed on the basis of fully participatory exercises of situation analysis, planning, monitoring and management, as proposed in the Stakeholder Participation Plan in 275. Annex 12 **Error! Reference source not found.**

### *Replicability*

224. The project will generate and promote models of community-based forest management and conservation that will be replicated at national level. The pilot areas on which activities under Component 2 will focus have been specifically selected by virtue of their potential for the generation and demonstration of such models, due to the diversity of biological, physical and social conditions, the existence of a solid and diverse baseline of activities in relation to community-based forest management and conservation and the presence of diverse institutional actors.

225. The following strategies will be used in order to maximize the replication of models and good practices:

- Close coordination with the secretariat of the TWG (F&E), which is the umbrella body responsible for coordinating Government and agency initiatives in issues related to SFM. It is proposed that the Project Manager, Chief Technical Advisor and Administrator/Assistant of the present project will be physically located in the office of the Secretariat of the TWG (F&E), which in turn is located in the headquarters office of the Forestry Administration. Project work plans will be harmonized with those of the TWG (F&E).
- Use of pilot areas supported under Component 2 as case studies for the capacity development activities proposed under Component 1, including field visits for practice-based training.
- Establishment and use of sustainable financing mechanisms (including carbon funding) in order to permit the start-up of new forest-based businesses without direct project support.
- Promotion of the formation and functioning of national and/or provincial organizations of actors involved in forest management, forest-based businesses and businesses based on energy efficient technologies.
- Concrete participation of actors from diverse institutions in the project: in the case of Government institutions, UNDP funds will be used to cover DSA where necessary in order to facilitate participation of their staff members, and in the case of NGOs partnership strategies will be developed as proposed in 275. Annex 15. There is in addition a high likelihood that the contractor(s) that will execute activities under Outcomes 1-3 will be one or more of the NGOs already working in support of CF and CPA in the country, and that has field operations outside of the project's target provinces, allowing them to function as a direct channel for replication of experiences
- Generation of easily-accessible and widely-distributed systematization and socialization documents regarding lessons learnt at field level (such as viable forest-based businesses and management models).

226. The magnitude and nature of the replication effects of the project will be monitored through the following mechanisms:

- UNDP Results Based Management activity results and indicators
- The TWG (F&E), which includes wide representation of Government, donor agencies and NGOs
- The National Coordinating Committee on Community Forestry (NCCCCF), which the project will help to revitalize
- Review of progress reports of institutional partners
- Periodic national seminars (it is provisionally proposed that one will be held just prior to or during the two external reviews of the project) to discuss progress with community-based approaches to forest management and conservation

### 3. STRATEGIC RESULTS' FRAMEWORK:

This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD: By 2015, National and local authorities, communities and private sector are better able to sustainably manage ecosystems goods and services and respond to climate change.

Primary applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one): 1. Mainstreaming environment and energy and 4. Expanding access to environmental and energy services for the poor.

Applicable GEF Strategic Objective and Program: LD-SP 2, CC-SP1, CC-SP 4, BD-SP4

**Applicable GEF Expected Outcomes:**

- LD-SP2: Forest resources in humid forest margins, forest fragments and woodland resources in semi-arid and sub-humid ecosystems are managed sustainably as part of the wider landscape
- CC-SP1: Increased market penetration of energy-efficient technologies, practices, products, and materials in the residential and commercial building markets
- CC-SP 4: Adoption of modern and sustainable practices in biomass production, conversion and use for modern energy
- BD-SP4: Policy and regulatory frameworks governing sectors outside the environment sector incorporate measures to conserve biodiversity.

**Applicable GEF Outcome Indicators:**

**LD-SP2:**

- Each partner country adopts a new harmonized policy for SFM and/or a national land use policy adopted
- % of extension programs offered by key institutions reflects ecosystem principles and concepts in wider landscape management, including forest and woodland resources
- % increase in allocation of resources to sector ministries dealing with forest and woodland resources
- % increase in net and *per caput* access of forest and woodland dependant land users to rural credit facilities and/or revolving funds
- % increase in area where SFM best practices are applied

**CC-SP1:**

- Tons CO<sub>2</sub>eq avoided

**CC-SP 4:**

- Tons CO<sub>2</sub>eq avoided

**BD-SP4:**

- The degree to which polices and regulations governing sectoral activities include measures to conserve and sustainably use biodiversity as measured through GEF tracking tool

Strategy	Indicator	Baseline	Targets	Source of verification	Risks
<b>Project Objective:</b> to strengthen national SFM policy, integrate community-based sustainable forest management into policy, planning and investment frameworks and create markets for sustainable bio-energy technologies that reduce CO <sub>2</sub>	Stability of indices of ecosystem health, diversity and condition in target community-managed forests	To be determined as part of participatory resource assessment at project start-up	Indices remain at 100% of baseline levels	Participatory resource assessments carried out by community members	<ul style="list-style-type: none"> <li>- Exclusion of local communities from Economic Land Concession areas or expansion of ELC into potential CF areas</li> <li>- Inadequacy of local governance conditions to</li> </ul>
	Reduction in the deforestation rates in Kampong Speu, Kampong Chhnang, Battambang and Pursat provinces, due to increases in the effectiveness of combating of threats due to strengthened community-based management, and reductions in demand for wood energy	Current average deforestation rate in Kampong Speu, Kampong Chhnang, Battambang and Pursat provinces to be determined at project start-up through analysis of satellite imagery	Average between years 1 and 4 is 10% below existing rates in Kampong Speu, Kampong Chhnang, Battambang and Pursat provinces	Satellite and/or aerial photography cross-checked with woodflow analyses and interviews with provincial staff and community forestry associations	

emissions	Improvement in the canopy density and structure of forests in Kampong Speu, Kampong Chhnang, Battambang and Pursat provinces, due to improved management and protection by forest communities and reductions in the levels of demand for wood energy	<b>Current extent and status of degraded forest</b> , in Kampong Speu, Kampong Chhnang, Battambang and Pursat provinces to be determined at project start-up through analysis of satellite imagery	Target value for extent and status of degraded forest in Kampong Speu, Kampong Chhnang, Battambang and Pursat provinces to be determined at project start-up through analysis of satellite imagery	Satellite and/or aerial photography	allow threats to forests to be effectively combated - Failure by institutional partners to deliver or commit to the project and SFM
	Reduction in CO <sub>2</sub> emissions nationally due to adoption of improved cook stoves	Total emissions from cook stoves are <b>500,000tCO<sub>2</sub>e</b> per year	Total emissions are <b>438,957 tCO<sub>2</sub>e/year</b> (a reduction in emissions of 61,043tCO <sub>2</sub> e/year)	Official VER emission reduction audit reports	- Limited use of cook stoves once purchased - Limited capacities in local communities to participate effectively in project activities
<b>Outcome 1:</b> National capacities and tools exist to facilitate the widespread implementation of sustainable community-based forest management and technologies that reduce demand for fuel wood	Improvement in institutional capacities in FA and GDANCP, as combined rating measured by UNDP capacity development scorecard	12.5/33	31/42	Evaluations by groups of experts	-
	A supportive legal framework exists for all models of community-based forest management and conservation mentioned in the NFP	-	-	Legislative instruments	- Failure of sector institutions to collaborate effectively
	Enhanced national capacities and political will in FA and GDANCP to coordinate & integrate development of CFs and CPAs in a decentralised landscape-based approach, integrating commune land use planning	Land Use planning by local authorities does not include attention to SFM	Communal land use planning in communes where the project supports CFs and CPAs in Kampong Speu, Kampong Chhnang, Battambang and Pursat provinces reflects SFM by integrating CF and CPA development and sustainability	TWG F-E Action Plan and Annual Reports	- Limited political will for forest demarcation development - Limited financial support for forest demarcation development due to high costs
	No. of Ministerial sub-decrees and declarations (prakas) for: (a) Community Forestry in Production Forests; and, (b) Community Protected Areas by Year 4	2 <sup>46</sup>	FA Division staff and PA staff in 4 target provinces collaborate with local commune councils in integrating SFM into local land use planning and local budget support 5 <sup>47</sup>	Interviews with commune councils	

<sup>46</sup> Ministerial sub-decrees and declarations on: (1) Community Forestry in Production Forests; and, (2) Community Protected Areas.

<sup>47</sup> Additional Ministerial declarations on (1) Production-Based Community Forestry; (2) Community Conservation Forests; and, (3) Partnership Forests.

	No. of local development plans that were designed and approved by consensus among the local government institutions by Year 4				
	No. of approved local land use plans that are incorporated SFM principles by Year 4				
	No. of budgeted local land use plans that incorporates specific provisions for SFM by Year 4	0	X	Inspection of development budgets	
	No. of CF and CPA development plans that incorporates SFM by Year 4	0 CPAs or CFs	20 CFs and 10 CPAs		
	Capacities enhanced in FA and GDANCP to clarify forest tenure and user rights enhanced			TWG F-E Action Plan and Annual Reports	
	National Wood Energy Implementation Strategy exists, incorporating private sector modalities	0	X Qtr Year 4	Draft Strategy document	
	No. of wood lots established under the implemented National Woodlots Programme by EOP	0	X <sup>48</sup>	Review of Programme document and agreements	
	Annual volume of sustainable fuel wood produced from the wood lots starting Year X	0	X	Review of fuel wood production and sales from wood lots	
	Average time for MAFF to issue declarations on Community Forests nationwide by EOP, months	> 6	< 4	FA records	
	Financial strategies in MAFF and MOE to support SFM, including opportunities for REDD and carbon financing for sustained funding to support community-based forestry by Year 4	0	X Qtr Year 4	Draft Strategy documents	
	Financing generated from forest/wood energy related carbon credits by EOP	500,000	1,500,000		
	Financing generated from other funding sources (banks, green funds, etc.) by EOP	Near zero	500,000		
<b>Outcome 2:</b> Community-based sustainable forest	No. of FA cantonment and MOE PA offices that have community-based forest management	- 0	- 4 <sup>49</sup>	CF and CPA records in FA and MOE	- Limited private sector

<sup>48</sup> Programme under implementation, with collaboration arrangements formalized by all participating institutions

<sup>49</sup> FA cantonments of Kampong Speu, Kampong Chhnang, Battambang and Pursat provinces

management is being implemented effectively within a context of cantonment, province, district and commune level planning delivering concrete benefits to local communities	development plans by EOP					commitment to forest-based businesses due to unproven business potential  - Limited productive options in target forests  - Limited commitment among community members to organization and entrepreneurship  - Internal rules for benefit sharing violated  - Limited commitment among private sector and CBOs to develop relationships
	No. of management plans for CPAs in Aural and Samkos Wildlife Sanctuaries by EOP	- 0	- 10 <sup>30</sup>			
	No. of CFs that have completed all legalization requirements to operate by EOP	- 0	- 125 <sup>31</sup>			
	No. of CPAs that have completed all procedural requirements to operate by EOP	- 20	- 34 <sup>32</sup>			
	No. of community-managed forests nationwide, supported by the project, that have businesses based on the sustainable management of forest resources, which take into account management plan provisions and have business operations ongoing by EOP  - Charcoal & Timber business - Ecotourism business	- 1 (Tram Kak CF) - 1 (Kirirom CPA)	20 <sup>33</sup> 10 <sup>34</sup>		CF and CPA management and business plan documents Visits to CFs and CPAs and assessments using standardized monitoring tools (to be developed at project start-up)	
	No. of community forests (CFs and CPAs) are managed in accordance with management plans that provide for environmental and financial sustainability and opportunities for business development by EOP	0 CFs and CPAs	20 CFs and 10 CPAs <sup>35</sup>		CF and CPA management and business plan documents Visits to CFs and CPAs and assessments using standardized monitoring tools (to be developed at project start-up)	
	Area of woodlots managed by local communities in Kampong Chhnang for the sustainable production of wood energy by EOP, has	0	617		FA records and field visits	
No. of households in target forest communities that earns income from profitable enterprises based on the sustainable management of	X	X		Focus groups, interviews with forest users, Sustainable Livelihoods Framework tools,		

<sup>30</sup> Management plans of 10 CPAs in Aural and Samkos Wildlife Sanctuaries reflect regional considerations and provisions of overall PA management plans

<sup>31</sup> This cover 36,000 has. area

<sup>32</sup> This covers all existing CPAs in Kampong Speu, Kampong Chhnang, Battambang and Pursat, covering 23,673has. are a.

<sup>33</sup> In Kampong Speu, Kampong Chhnang, Battambang and Pursat provinces (with project support), covering 8,000ha

<sup>34</sup> Elsewhere in the country (with project support), covering 4,000ha

<sup>35</sup> In Kampong Speu, Kampong Chhnang, Battambang and Pursat provinces, covering 6,000has. CFs and 7,500 has. CPAs

	forest resources by EOP			UNDP tool	
	Average annual income of households in target forest communities from profitable enterprises based on the sustainable management of forest resources by EOP, US\$	X	X		
<b>Outcome 3:</b> Strengthened demand and supply chain for energy efficient cook stoves	Increased market share of improved technologies			Market surveys	<ul style="list-style-type: none"> <li>- Emergence of alternative technologies with which energy efficient cook stoves are unable to compete in the market</li> <li>- Failure of carbon mechanisms (e.g. REDD) to function as expected</li> </ul>
	No. of units sold - NKS	30,000 20	90,000 in year 3 and 180,000 in year 4 (Additional) 800 in year 3 (Additional) 16 in year 3 (Additional)		
	- Palm Sugar Stove - Efficient charcoal kilns				
	% market share by EOP, % - NKS - Palm Sugar Stove	1.7 0.1	17 4		
	Annual CO2 emission reduction in year 4, tons - NKS - Palm Sugar Stove - Efficient charcoal kiln	0 0 0	59,400 1,520 123		
	No. of fully functioning improved cook stove production centres by EOP	1	6 additional	Field inspections	
	% increase in income of stove producers by EOP, %	\$40/month	\$60/month	Producer surveys	

Total budget and work plan

<b>Award ID:</b>	00060049	<b>Project ID:</b>	00075402
<b>Award Title:</b>	Cambodia		
<b>Business Unit:</b>	<i>Energy and Environment</i>		
<b>Project Title:</b>	Strengthening sustainable forest management and bio-energy markets to promote environmental sustainability and to reduce greenhouse gas emissions in Cambodia		
<b>PIMS no.</b>	4136		
<b>Implementing Partner (Executing Agency)</b>	Forestry Administration		

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Total (USD)	See Budget Notes below		
Outcome 1: National capacities and tools exist to facilitate the widespread implementation of sustainable community-based forest management and technologies that reduce demand for fuel wood			GEF	72100	Contractual Services - Companies	197,160	197,160	131,440	131,440	657,200	1-5		
					<b>Sub-total GEF</b>	<b>197,160</b>	<b>197,160</b>	<b>131,440</b>	<b>131,440</b>	<b>657,200</b>			
					UNDP/ Unfunded	72100	Contractual Services - Companies	28,000	28,000	28,000	28,000	112,000	6-7
							<b>Sub-total UNDP</b>	<b>28,000</b>	<b>28,000</b>	<b>28,000</b>	<b>28,000</b>	<b>112,000</b>	
							<b>Total Component 1</b>	<b>225,160</b>	<b>225,160</b>	<b>159,440</b>	<b>159,440</b>	<b>769,200</b>	
Outcome 2: Community-based sustainable forest management is being implemented effectively within a context of cantonment, province, district and commune level planning delivering concrete benefits to local communities			GEF	72100	Contractual Services - Companies	195,630	195,630	130,420	130,420	652,100	8-10		
					<b>Sub-total GEF</b>	<b>195,630</b>	<b>195,630</b>	<b>130,420</b>	<b>130,420</b>	<b>652,100</b>			
					UNDP/ Unfunded	72100	Contractual Services - Companies	501,906	466,906	466,906	466,906	1,902,624	11-16
							<b>Sub-total UNDP</b>	<b>501,906</b>	<b>466,906</b>	<b>466,906</b>	<b>466,906</b>	<b>1,902,624</b>	
							<b>Total Component 2</b>	<b>697,536</b>	<b>662,536</b>	<b>597,326</b>	<b>597,326</b>	<b>2,554,724</b>	
Outcome 3: Small and Medium Enterprises ensure long term increases in adoption of efficient technologies that reduce fuel wood demand.			GEF	72100	Contractual Services - Companies	254,200	254,201	169,467	169,467	847,335	17-19		
					<b>Sub-total GEF</b>	<b>254,200</b>	<b>254,201</b>	<b>169,467</b>	<b>169,467</b>	<b>847,335</b>			
					UNDP/ Unfunded	72100	Contractual Services - Companies	82,360	82,360	82,360	82,360	329,440	20-22
							<b>Sub-total UNDP</b>	<b>82,360</b>	<b>82,360</b>	<b>82,360</b>	<b>82,360</b>	<b>329,440</b>	
							<b>Total Component 3</b>	<b>336,560</b>	<b>336,561</b>	<b>251,827</b>	<b>251,827</b>	<b>1,176,775</b>	
Outcome 4: MONITORING, LEARNING, ADAPTIVE			GEF	71200	International Consultants	-	27,500	-	27,500	55,000	23		



FOLLOW-UP & EVALUATION	UNDP/ Unfunded	71300	Local Consultants	-	4,000	-	4,000	8,000	24			
		<b>Sub-total GEF</b>			-	<b>31,500</b>	-	<b>31,500</b>	<b>63,000</b>			
		71200	International Consultants	11,000	-	-	-	11,000	25			
		71600	Travel	-	8,822	-	8,822	17,644	26			
		72100	Contractual Services - Companies	8,000	8,000	8,000	8,000	32,000	27			
		72300	Materials and Goods	7,142	1,250	1,250	1,250	10,892	28			
		<b>Sub-total UNDP</b>			<b>26,142</b>	<b>18,072</b>	<b>9,250</b>	<b>18,072</b>	<b>71,536</b>			
		<b>Total Component 4</b>			<b>26,142</b>	<b>49,572</b>	<b>9,250</b>	<b>49,572</b>	<b>134,536</b>			
		Project management	GEF	Contractual Services - Companies			36,000	36,000	36,000	36,000	144,000	29
				<b>Sub-total GEF</b>			<b>36,000</b>	<b>36,000</b>	<b>36,000</b>	<b>36,000</b>	<b>144,000</b>	
UNDP/ Unfunded	71300		Local Consultants	14,400	14,400	14,400	14,400	57,600	30			
	71600		Travel	2,500	2,500	2,500	2,500	10,000	31			
	72400		Communication and audio-visual equipment	1,200	1,200	1,200	1,200	4,800	32			
	72800		Information technology equipment	12,000	-	-	-	12,000	33			
	<b>Sub-total UNDP</b>			<b>30,100</b>	<b>18,100</b>	<b>18,100</b>	<b>18,100</b>	<b>84,400</b>				
<b>Total Project Management</b>			<b>66,100</b>	<b>54,100</b>	<b>54,100</b>	<b>54,100</b>	<b>228,400</b>					

#### Summary of project funding:

Source	Year 1	Year 2	Year 3	Year 4	Total
GEF in cash	682,990	714,491	467,327	498,827	2,363,635
UNDP in cash	401,108	368,063	362,771	368,058	1,500,000
Unfunded <sup>56</sup>	267,400	245,375	241,845	245,380	1,000,000
DANIDA co-financing (parallel)	750,000	750,000	750,000	750,000	3,000,000
UNDP co-financing (parallel)	175,000	175,000	175,000	175,000	700,000
GERES co-financing (parallel)	200,000	200,000	200,000	200,000	800,000
FA in-kind contribution	150,000	150,000	150,000	150,000	600,000
<b>Total</b>	<b>2,626,498</b>	<b>2,602,929</b>	<b>2,346,943</b>	<b>2,387,265</b>	<b>9,963,635</b>

<sup>56</sup> Unfunded budget will be mobilized by UNDP and Implementing Partner during the project implementation. In the situation where resource cannot be mobilized to address the shortfall, the project results framework will be revised during the mid-term review to accommodate the budget availability.